IOWA HIGH SCHOOLS: MEETING THE CHALLENGES OF EDUCATING LIMITED ENGLISH PROFICIENT STUDENTS

A Dissertation
Presented to
the School of Education
Drake University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by Sachiko Tamura Murphy
May 2002
IOWA HIGH SCHOOLS: MEETING THE CHALLENGES OF EDUCATING LIMITED ENGLISH PROFICIENT STUDENTS

by Sachiko Murphy

May 2002

Approved by Committee:

Dr. Kathy Fejes

Dr. Catherine Gillespie

Dr. Richard King

Dr. James Romig

Dean of the School of Education
The recent influx of immigrants and refugees in Iowa has caused an increase in the population of Limited English Proficient (LEP) students in the schools of Iowa. The condition of education of Iowa secondary LEP students in mainstream classrooms has not been studied extensively. Valid and reliable tools for studying the education of LEP students have not been developed.

In this study, the author developed a survey tool that measures how much mainstream teachers perceive themselves to be following the best practices as suggested by research in the areas of school policies and organization, curriculum issues, and instructional techniques.

The survey was sent to nine high schools in five school districts in Iowa. One hundred twenty-two teachers responded to the survey.

The results of the survey indicated that the participating Iowa high school teachers perceive themselves to be making efforts to accommodate LEP students in the area of instruction, whereas some improvement needs to be made in the area of curriculum accommodation. Needed most in Iowa secondary schools are curriculum articulation and collaboration between mainstream and ESL teachers, staff development opportunities for mainstream teachers, and a school system and structure that allows for these practices.

Content validity, parallel form reliability, and construct validity of the research tool were established in this survey. The results indicated that the survey tool is fit to be used for identifying the areas that need improvement in education of LEP students, and should be used in further educational research.
Table of Contents

List of Tables........................................................................................................ iii

Chapter.................................................................................................................. 1

1. INTRODUCTION................................................................................................. 1

   Problem.................................................................................................................. 2

2. REVIEW OF LITERATURE................................................................................ 14

3. MEHTOD............................................................................................................ 45

   Purpose............................................................................................................... 45

   Research Questions............................................................................................ 45

   Subjects.............................................................................................................. 48

4. ANALYSIS OF THE DATA.............................................................................. 61

5. DISCUSSION AND RECOMMENDATIONS............................................. 82

References.......................................................................................................... 100

Appendixes.......................................................................................................... 111

A. A Sample Letter to ESL Educators......................................................... 112
B. Mainstreaming of Secondary Limited English Proficient (LEP) Students
   Criteria List.......................................................... 114

C. Mainstreaming of Secondary Limited English Proficient (LEP) Students
   Teacher Survey.......................................................... 118

D. A Sample Letter to Principal............................................ 123

E. Cover Letter for Teacher Survey...................................... 126

F. Cover Letter for the Second Survey................................... 128

G. Mainstreaming of Secondary Limited English Proficient (LEP) Students
   Teacher Survey (2)...................................................... 129
Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Respondents Percentage by School.</td>
<td>50</td>
</tr>
<tr>
<td>2. Respondents Percentage by Subject.</td>
<td>51</td>
</tr>
<tr>
<td>3. Content Validity Test.</td>
<td>63</td>
</tr>
<tr>
<td>4. Response Mean, Standard Deviation, Median, and Mode.</td>
<td>66</td>
</tr>
<tr>
<td>5. Response Numbers and Percentages.</td>
<td>69</td>
</tr>
<tr>
<td>6. Parallel Form Reliability Test.</td>
<td>72</td>
</tr>
<tr>
<td>7. Construct Validity Test: 0-3 Hours of Training vs. 3-9 Hours of Training</td>
<td>75</td>
</tr>
<tr>
<td>8. Construct Validity Test: 3-9 Hours of Training vs. Over 9 Hours of Training</td>
<td>76</td>
</tr>
<tr>
<td>9. Construct Validity Test: 0-3 Hours of Training vs. 0-3 Hours of Training</td>
<td>78</td>
</tr>
</tbody>
</table>
INTRODUCTION

Among the many issues public schools in the U.S. face today, the education of Limited English Proficient (LEP) students is one of the most formidable. With recent dramatic increases in the immigrant and refugee populations, U.S. schools have seen an influx of LEP students from almost every corner of the world. According to the U.S. Census Bureau, the foreign-born population nearly doubled, from 4.8% of the U.S. population in 1970 to 8.7% in 1994 (Crawford, 1997). LEP students accounted for 8.0% of the U.S. public school population and 1.2% of the private school population in 1998 (National Clearinghouse for Bilingual Education, 1998).

This influx has not been limited to a few coastal states. Since the arrival of the first group of refugees from Southeast Asia in 1975, Iowa has been one of the destinations for many refugees and immigrants from all over the world. According to the Iowa Refugee Center, as of September 1999, 21,987 refugees have entered Iowa since 1975 (W. Johnson, personal communication, March 2000). This number, however, does not include legal and illegal immigrants, as well as refugees who moved to Iowa from other states. Iowa has a large population of immigrants from Latin America. Iowa's agricultural industries have been drawing immigrants and foreign workers to low-skilled jobs in the corn and bean fields and meatpacking plants. The labor-force lead by immigrants has been essential for the sustaining agricultural economy in Iowa, where population
growth has been stall for a decade (Des Moines Register, Jan. 12, 2000). The Governor of Iowa, Tom Vilsack has acknowledged the economic potential immigrants bring to Iowa, and encourages inviting more immigrants to Iowa (Vilsack, 2000). With the public and private initiatives, the growth of immigrants in Iowa will likely continue in the future.

Problems

The influx of immigrants and refugees in Iowa means an increase in the Limited English Proficiency (LEP) student population in schools. In the 1997-1998 school year, there were 9,160 LEP students enrolled in public and non-public schools in Iowa (Iowa Department of Education, 1999a). Classrooms in many towns in Iowa have seen an increase in refugees and immigrant children. As the trend continues, more Iowa schools will face the challenge of educating LEP children. Are Iowa schools prepared to meet the challenge? Are schools making an effort to accommodate LEP students by adapting new approaches and techniques that are appropriate?

Education of LEP students is a formidable task for schools, especially for those with limited resources. In the urban areas, where a large number of refugees and immigrants settle first, the sheer number of languages and cultures LEP students bring to school is overwhelming. For example, in the 1999-2000 school year, as many as 36 languages were represented among 2,240 LEP students in Des Moines school district (Des Moines Independent Community
School District, 1999a). Des Moines school district has hired English As Second Language (ESL) teachers since the beginning of influx of immigrant and refugee students. However, the number of ESL teachers is not enough for the quickly expanding LEP student population. While the number of LEP students has increased by nearly 200%, the number of ESL teachers has grown only 33% in 10 years.

LEP students also bring various family and educational backgrounds, which require special considerations for schools. Nationally, the majority of the families of LEP students are in the low economic status, qualifying them for free lunch (Fleischman & Hopstock, 1993). Low-income families including those of LEP students tend to concentrate in the inner-city areas, where schools struggle for funding and resources. A national study cites that heavy concentration of LEP students in under-funded inner-city schools often causes educational inequity for LEP students (Crawford, 1997).

The educational background of LEP students prior to entering the U.S. is also one of the concerns for schools. Some LEP students received formal education prior to coming to the U.S., either in their native countries or in the refugee camps where they were relocated. Many LEP students enter the U.S. with little or no education in their native countries owing to the wars and the economic problems. Their schooling having been interrupted, many LEP students do not have the educational levels equivalent to those of their peers in schools in the U.S. (Short, 1994).
LEP students lag behind their English-speaking peers in academic achievement. No matter what criterion is used, such as grades, tests scores, or dropout rates, LEP students do not perform as well as their English peers (McLeod, 1994). Considering their English proficiency levels, many school districts do not include LEP students in standardized testing (Crawford, 1997). In one instance that standardized tests were given to LEP students, the results indicated that the majority of LEP students were a year or more behind their English speaking peers in reading, math, and science (Des Moines Independent Community School District, 1999b).

Variables that affect academic achievement of LEP students have been studied by many researchers. In the past, low achievement of LEP students was thought to be related to their linguistic and cultural backgrounds. Some argued that the lack of compatibility of language and culture between LEP students and the dominant group in school influences LEP student's academic achievement (Tharp, 1988; Philips, 1972; Wong-Fillmore, 1986). Others pointed out that the mode of entry to the U.S. (Ogbu, 1987), the degree of attachment to their native culture (Vadas, 1995), literacy level in their first language (Cummins, 1984a, 1984b, 1995), and the length of residence in the U.S. (Rumbaut, 1996), all influence LEP students' academic achievement. Their arguments are reviewed elsewhere in the review of literature section.

While studies in the past attributed LEP students' backgrounds to school difficulties, recent research suggests that the causes of low academic
achievement of LEP students lies beyond the variables that characterize LEP students. Studying schools and classrooms where LEP students are placed, researchers found a number of cases of inappropriate and inadequate curriculum and teaching practices (Clair, 1995; Constantino, 1994; Harklau, 1994; Penfield, 1987), and believed that curriculum and instructional practices are at least partly to be blamed for low achievement of LEP students (Wong-Fillmore & Meyer, 1992). Attention has been given to school policies and structure as well. Researchers point out that LEP students are not gaining an equity in education in the absence of school policies that are inclusive to LEP students and school structure that enables teachers to carry innovative approaches for LEP students (Berman, Minicucci, McLaughlin, Nelson, & Woodworth, 1995).

Thus, rather than blaming linguistic and cultural "deficit" of LEP students for their academic achievement, researchers and educators began to turn their focus on improving schools and instructional practices to meet the needs of LEP students. The pivotal point of change came with the realization among researchers and educators that language learning and content learning should be integrated in educating LEP students.

Language learning and content learning had been considered to be separate issues in the past. Educators believed that LEP students should learn language in the English as a second language programs, and learn subject area knowledge in the mainstream content area classes. Mainstream content area teachers considered that they are there to teach subjects, not English, and felt
that teaching English and communicating with LEP parents are the responsibilities of ESL teachers (Penfield, 1987). Some mainstream teachers felt that LEP students should master English before they are placed in mainstream classes (Penfield). However, the optimal point for LEP students to leave English as a second language instruction and enter content area classes has not been empirically proven (Gersten, 1999). Language learning is a continuous process that does not end in several years of ESL instruction. Research shows that it takes 4 to 7 years for LEP students to be proficient in academic English at the levels of their peers in school (Collier, 1987, 1989). The process of language acquisition continues while LEP students are in mainstream classes, and researchers believe that educators can assist that process by employing adequate and appropriate instructions in content areas.

Another rationale for integration of language and content teaching is the notion that language is learned most effectively when meaningful, purposeful social and academic context is provided (Snow, Met, & Genesee, 1992). The purpose of learning language is not to talk about the language itself, but to use it to gain and exchange information. Academic subjects are rich in contexts and information, which provide substantial basis for meaningful communication. Describing the language learning process through meaningful communication, Snow et al. call cognitive base as "hangers" (Snow et al., 1992, p28), on which language structures and functions can be hung. They also argue that language
learning takes place when content has some value to the learner, thereby motivating learners to learn the language to gain the access to the content.

Another force that was instrumental to the new approach of integration of language and content comes from the critics of bilingual education. Advocates of bilingual education believed that developing children's literacy in the first language is crucial to academic achievement in the second language (Cummins, 1984a, 1984b, 1992, 1995). Although the approaches to bilingual education differ greatly from school to school, generally in bilingual education, students learn subject area knowledge in their native languages while receiving little instruction in English. Opponents of bilingual education claim that bilingual education has failed to produce the evidence that it works (Gersten, 1999), and that children in bilingual education do not receive enough English instruction, thereby causing a delay in acquiring English. Without the bilingual programs, LEP students are placed in few hours of ESL to learn English and many hours of mainstream content area classes. Critics of bilingual education argue that LEP children can learn both language and content effectively in mainstream classes with adequate and appropriate curriculum and instruction.

With the pressure from the opponents of bilingual education and lawsuits filed by the discontent parents of the LEP children placed in bilingual education, some states like California have given up bilingual education policies and begun integrating LEP students in mainstream English classrooms.
Thus, the focus of LEP student education has shifted from providing native instruction to finding the best approach for teaching both language and content in mainstream classrooms and creating an educational environment that promotes further integration of LEP students in school and classrooms. Rather than blaming "deficits" of LEP students for their academic achievement, the new task for educators is to examine school structure, curriculum, and instructional practices to assure they are adequate and appropriate to educate LEP students.

The need for examining school structures, policies, curriculum, and instructional practices is especially strong in high schools where LEP students have to master content level knowledge as well as English in a very limited time. Research shows that it takes 4 to 7 years for LEP students to read and write in academic English at the level of their native English speaking peers (Collier, 1987, 1989). For many high school LEP students, schooling is a battle against time, and they need effective content area education more than anyone else.

Unlike elementary schools, high schools are often departmentalized and collaboration among teachers across the departments does not take place frequently. Yet, collaboration is one of the recommended practices repeatedly pointed out by educational experts and researchers. In order to create better educational environments for LEP students, high school teachers are urged to self-examine and identify areas that need improvement.

Self-evaluation of school policies, curriculum, and instructional practices is urgent in Iowa high schools, where the LEP student population is rapidly
increasing. However, no systematic approach to self-evaluation has been reported in Iowa so far.

What is the best approach to evaluate school structure, curriculum, and instructional practices to identify the areas that need improvement? The author believes that one of the best tools for evaluation is a self-check list that allows teachers and educators to reflect on their practices by comparing them to the nationally proven effective policies, methods and practices of teaching LEP students in mainstream classrooms. Although limited in number, several major studies on mainstreaming LEP students have been published recently. Those studies describe successful approach schools and classroom teachers have taken to educate LEP students in mainstream classrooms. For example, Berman et al. (1995) list a collection of best practices in teaching LEP students they have found through extensive research that involved 156 schools across the country. Although socio/economic/geographic features differ greatly among schools they selected, there are strands of common features running through those schools that successfully educate LEP students.

The purpose of this study is to identify areas that need improvement in mainstreaming secondary LEP students. A check list that includes nationally recognized school policies, curriculum, and instructional approaches may provide an opportunity for educators and teachers to reflect upon themselves, learn from the best examples, and set new goals for further improvement. In order to use the check list, it is imperative that credible educational experts in the field of LEP
Two groups of experts, secondary school ESL teachers and ESL specialists in the state organizations and educational institutions, will suit this role. ESL teachers are trained specialists in the field of language acquisition. They not only possess theoretical and pedagogical knowledge on teaching LEP students, but practical knowledge of how LEP students learn in school. They also understand LEP students’ emotional and physical needs through their close day-to-day contact with them. ESL specialists in state organizations such as the State Department of Education, and in the educational institutions such as educational department in state colleges are well informed of current research trends, state policies, and up-to-date data on LEP student population in the state and the nation. Thus, LEP specialists, as well as high school ESL teachers, are best fitted to validate the list that is created for evaluating school policies, structure, curriculum, and instructional practices for mainstreaming LEP students.

The purpose of this study is to identify the areas that need improvement in school policies, structure, curriculum, and instructional strategies in teaching mainstreamed secondary LEP students. This author has created a list of best practices in an attempt to produce a set of criteria that educators can use as a basis for self-examination. Each criterion is discussed in detail in the review of literature section.

In order to use the list as a survey tool for this study, validity of the list needs to be established. Among various aspects of validity, face validity is
concerned with the degree to which a test or a survey appears to measure what it purports to measure (Borg & Gall, 1989). Since all the criteria in the list are drawn from multiple research studies of teaching LEP students in mainstream classes, the list has its face validity. Content validity is the degree to which the items on a survey represent the content that the survey is designed to measure ((Borg & Gall, 1989). In order to establish the content validity, the list will be examined by two groups of experts in LEP student education. Validation of the list is discussed in detail in the method section.

Criteria for Successful Mainstreaming of LEP Students

Policies and School Structure.

1. A comprehensive school-wide vision includes LEP students. (Berman et al., 1995; Carter & Chatfield, 1986; Grey, 1990; Minicucci & Olsen, 1992; Stedman, 1987)

2. Administrators, teachers, and school support staff share a belief of high expectations for LEP students. (Grey, 1990)

3. A school-wide approach is implemented to restructure school units, time, decision making, and external relations for LEP students. (Berman et al., 1995)

5. School provides on-going staff development opportunities for content area teachers who teach LEP students. (Castenada, 1993; Clair, 1995; Constantino, 1994; Flores, 1996; Kaufman & Brooks, 1996; Penfield, 1987)

Curriculum Issues.

6. LEP students take content courses as well as ESL classes. (Wong-Fillmore, 1992)

7. Curriculum articulation is developed between ESL and content area classes. (Grey, 1990; Klassen, 1986)

8. Content learning and English language skill development are integrated in content area curriculum. (Short, 1994; Snow et al., 1989)

9. Academic subject teachers use thematic approaches that unify several academic disciplines. (Berman et al., 1995; Farr & Trumbull, 1997)

10. A limited number of topics are taught for in-depth study in academic subject area classes. (Anstrom, 1997; Chamot, 1993; Mohan, 1986)

Instructional Techniques for Mainstream Classroom Teachers.

11. Concepts taught in content area classes are related to LEP students' previous knowledge and experiences. (Anstrom, 1997; Chamot, 1993; Geleman, 1995; King, Bratt, & Baer, 1992; McPartland & Braddock, 1993)

12. The language and discourse patterns commonly used in the content areas
are explained to LEP students. (Corasaniti Dale & Cuevas, 1992; Kessler, Quinn, & Fathman, 1992)

13. Teacher speeches are modified by simplifying complex sentences.
14. Teacher speeches are modified by limiting new terminology to a manageable number.
15. Teacher speeches are modified by interspersing more questions to find out what LEP students know. (Anstrom, 1997; Harklau, 1994; Saunders, O'Brian, Lennon, & McLean, 1998)
16. Teacher gives feedback on LEP student's use of English by restating their comments. (Penfield, 1987; Reyes, 1992)
17. Activities for heterogeneous small groups are employed. (Anstrom, 1997; August & Pease-Alvarez, 1996; Fathman, 1992)
18. Cognitively higher level questions are asked to LEP students, as well as to non-LEP students. (Cummins, 1992; Harklau, 1994; Richard-Amato & Snow, 1992)
19. Visuals and realia are used for instructional purposes. (Anstrom, 1997; Fathman, 1992; King et al., 1992)
Chapter 2

REVIEW OF LITERATURE

In this section, literature related to mainstreaming of LEP students is reviewed in detail. This review of literature is divided in two sections; literature dealing with the variables that are related to academic achievement of LEP students, and literature dealing with mainstreaming of LEP students.

Variables That Are Related to Academic Achievement of LEP Students

Limited English Proficient students share characteristics that separate them from native English speaking students. They speak their native languages at home and social functions in their ethnic community. They carry their native traditions and culture within their home and community, while struggling to adjust to the American culture that surrounds them. Many of them are from lower socioeconomic backgrounds. A survey in 1991 indicated that 77% of LEP students of all grade levels qualified for free or reduced-price lunches (Fleischman & Hopstock, 1993). Many LEP students have come to the U.S. with little or no formal education, and a large percentage of students entering America at secondary level are under-prepared for grade-level school work (Short, 1994).

Among various conditions which characterize LEP students, researchers identified the following as variables that may affect LEP students' academic success: (1) the compatibility of the language and culture between those of LEP students and the dominant group in school (Phillips, 1972; Tharp, 1988; Wong-
Fillmore, 1986), (2) the mode of entry to the U.S. (Ogbu, 1987), (3) the degree of attachment to their native culture (Vadas, 1995), (4) their educational aspiration (Rumbaut, 1996; Suarez-Orozco, 1987), and (5) level of native and the second language acquisition (Collier, 1987, 1989; Cummins, 1984a, 1984b, 1995; Thomas & Collier, 1997). A review of studies on those variables reveals the following.

Cultural and Linguistic Compatibility

In the earlier stages of LEP studies, researchers focused on the ethnicity of LEP students and the compatibility of languages and culture between those of LEP students and those of the dominant group in school. They argued that cultural and language differences were related to the failure of LEP students in school (Philips, 1972; Tharp, 1988; Vadas, 1995; Wong-Fillmore, 1986).

In her study of Indian students in the reservation schools, Philips (1972) found that Indian student communication patterns and the classroom participation structure were very much different from those of the non-Indian students. The children of the Warm Springs Indian reservation had a higher rate of school failure than did non-Indian students. Investigating Indian children in school, Philips found that their culture was different from that of the school's in regard to adult-children interaction, peer relationships, and self-reliance. In their community, the Indian children were taught to silently observe the daily chores and rituals adults performed, and the children demonstrated their acquired skills
and knowledge when they felt they were ready to do so. They also identified themselves with their peer groups, and favored frequent inter-group competition. Those characteristics were reflected in their behavior in school, where the Indian children were very quiet and rarely volunteered for answers while talking to their Indian peers constantly. Philips concluded that culture-bound behaviors were incompatible with those of the dominant group in school, and thus related to the failure of Indian students.

Cultural compatibility was examined further by Wong-Fillmore (1986) in her four-year study comparing LEP children of two ethnic groups, Chinese and Hispanics, on the effects of teachers' instructional practices. The Chinese children in her study performed relatively well even when teachers were less skilled in teaching. They became more attentive when teacher instruction was confusing, and they did not mind doing mechanical drill works. Meanwhile, the Mexican children did well in highly meaningful activities, but they lost interest in doing mechanical drills and practices. As a result, the Chinese children in her study generally performed better in school than the Hispanic children did. Wong-Fillmore concluded that the compatibility of LEP student's culture and that of the schools played an important role in the performance of LEP students.

Studies report the success of programs designed to allow LEP students to engage in inter-actions compatible to those of their own culture. Tharp (1988) reports that reading levels of at-risk Hawaiian children improved after they received instructions through a program that allowed children to interact in the
ways compatible to their own culture, which included overlapping speech, joint performance, informal turn-taking, rapid-fire responses, liveliness, mutual participation, interruptions, and joint narration.

The Mode of Entry in the U.S.

In contrast to the theory of cultural and linguistic incompatibility, Ogbu (1987) pointed out that some minority groups do well in schools in spite of not sharing the language and culture with those of the host schools. Studies repeatedly reported that Asian-Americans, Hispanics of Central and South American origins, as well as those of Cuban origin did better in school than Native Americans, Mexican-Americans, Native Hawaiians, and Puerto Ricans (Ogbu & Matute-Bianchi, 1986). The differences in performance among LEP students existed in other countries as well. East Asian students in Britain and Polynesian immigrants in New Zealand also did better in school compared to other cultural and linguistic minority groups in their countries (Ogbu & Matute-Bianchi, 1986).

In an attempt to explain those differences in school performance among linguistic minorities, Ogbu categorized minorities into cast-like or involuntary minorities and autonomous or voluntary minorities. The caste-like minorities had become incorporated into a society by means of slavery, conquest, or colonization, while autonomous immigrants have moved more or less voluntarily to the U.S. because of their political freedom and/or economic well-being. Ogbu
theorized that cast-like minorities experience the most difficulty in schools, due to their perception and definition that school learning is an instrument for replacing their cultural identity with those of the "oppressors". (Ogbu & Matute-Bianchi, 1986; Ogbu, 1987). On the other hand, autonomous and voluntary minorities see the cultural difference as barriers to be overcome in order to achieve their long-range goals. When they encounter discrimination, they tend to rationalize it by saying it is because they are the "guest" of the society (Ogbu, 1987).

**Degree of Cultural Attachment**

Research points out that a higher degree of attachment to the native culture is also one of the variables for LEP students' academic success.

Studying children of immigrants in California from Vietnam, China, Cambodia, and Laos, Rumbaut identified parents' sense of ethnic resilience and reaffirmation as significant predictors of the child's GPA (Rumbaut, 1996). Rumbaut interviewed 739 adults from Indochinese ethnic groups in 1983, and analyzed the effects of parental and family characteristics on their children's academic achievement three and six years later. The majority of Cambodian, Hmong, and Lao children, and less than half of Chinese and Vietnamese children were LEP students. Rumbaut found that parents' sense of ethnic resilience and reaffirmation was one of the variables strongly associated with students' GPA. Those parents who indicated higher level of ethnic reaffirmation believed that
their ethnic group must stay together for social support and mutual assistance, and preserve their own culture and identity within the context of American life.

A study of Punjabi Sikh immigrant students presents an exemplary case of immigrant students' success attributed to ethnic reaffirmation and parental support (Margaret Gibson's ongoing study cited in Rumbaut, 1996). In spite of verbal and physical abuse and discrimination by fellow students at "Valleyside High" in Northern California, Punjabi Sikh students generally exhibited better school performance than the Anglo students who were the majority in school. Punjabi parents urged their children to maintain their cultural tradition by limiting contact with non-Punjabi peers, and encouraged them to be successful in the American society while maintaining strong roots in the Indian community.

Another study also found strong attachment to culture as one of the variables to language minority student's success. In his study of Navajo Indian students in Navajo Indian reservation, Vadas identified a positive correlation between Navajo students' academic success and their levels of attachment to Navajo culture (Vadas, 1995). Navajo students who demonstrated higher levels of attachment to Navajo culture in Vadas' survey did better in school than Navajo students who had lower levels of cultural attachment. Further, Vadas found that school curriculum played an important role in cultivating cultural attachment. The Navajo students who demonstrated higher levels of attachment to Navajo culture attended a school that offered classes for Navajo culture, Navajo history studies, and Navajo reading and writing in bilingual programs. The students who
attended the school with those culturally enriched classes had the highest level of attachment to Navajo language, the Navajo's view of the world, and the Navajo way of home and family life.

Regarding cultural incompatibility, Vadas found that a majority of Navajo students possessed characteristics suggesting incompatibility with the Anglo school curriculum and instruction. However, Vadas's research indicates that even in a school where two seemingly incompatible culture exists, students can succeed with heightened cultural pride nourished by the school curriculum. Punjabi Sikh students in Rumbaut's study encountered a culture that was hostile and unwelcoming to them, but cultural pride supported by parents helped them to succeed in school. The two research studies indicate that support systems, either within or outside the school, can help LEP students navigate through two seemingly incompatible cultures in school, and to succeed academically.

Educational Aspiration

Research dealing with the educational aspiration of immigrant students indicates that most of the immigrant students have high educational and occupational aspirations in spite of the hardships they face in their new lives in America (Suarez-Orozco, 1987), and aspiration is associated with their academic outcomes (Rumbaut, 1996). However, those aspiration decrease as they settle longer in the U.S., and assimilate into the American way of life (Rumbaut, 1996).
Studying 50 newly arrived LEP students from El Salvador, Guatemala, and Nicaragua in two inner city high schools containing over 600 immigrants from Central America, Suarez-Orozco (1987) found that LEP students had a strong desire to achieve and do well in school, which was supported by the remarkable sense of duty to their parents and family members for their suffering. They wanted to make their struggle worthwhile by "Llegando a ser alguien" (becoming somebody), in order to repay their parents and relatives (Suarez-Orozco, 1987, p.293).

Rumbaut studied the educational progress of 2,420 first and second generation immigrant students from Mexico, Philippines, Vietnam, Cambodia, Laos, and other Asian and Latin American countries (Rumbaut, 1996). He found that family socio-economic status and parents' education had strong positive effects on math and reading test scores and educational aspirations. Hours spent on homework and having a peer group made up of co-ethnic friends who are also children of immigrants had positive effects on student's Grade Point Average (GPA). He concluded that a significant association exists between achievement outcomes and an "immigrant ethos that seems to be affirmed within the context of co-ethnic peer groups and intact immigrant families" (Rumbaut, 1996, p.4).

Interestingly, longer residence in the U.S. and second-generation status had negative effects on academic achievement and aspiration. Although newly arrived immigrants may show strong pride in their culture and hold high
aspirations and expectation in education, as pointed out by Suarez-Orozco (Suarez-Orozco, 1987), their American born children are more likely to loose their parent's sense of ethnicity and aspiration as they assimilate into American society. Rambout argues against the conventional notion of linear assimilation, the belief that immigrant students will do better in school as they are more Americanized and assimilated into the American society. Instead, he argues that a rapid Americanization process is to some extent subtractive, and may be counter-productive for educational attainment (Rambout, 1996, p.6).

A study on the effect of schooling on immigrant students' cognitive styles casts some light on the process of Americanization (Timm, Chiang, & Finn, 1998). Studying 150 Hmong student from 10 to 18 years old whose residency in the U.S. varied from less than 2 years to more than 15 years, Timm et al. found that students' cognitive styles change from a field sensitive to a field independent style as the years of schooling in America increase. They also found that boys shift from a field sensitive to a field independent cognitive style faster than girls. They point out that the challenge of integrating mainstream American values with traditional Hmong values has resulted in the alienation of some Hmong youth, rendering them at risk in both cultures (Timm et al., 1998, p.35).

Level of Language Acquisition, Native and the Second Language

Studies on bilingual education have made significant contributions to understanding the education of linguistic minorities. Learning from Canadian
bilingual projects, Cummins (1984a) concluded that children's literacy skills in their first language affected the acquisition of the second language. Young children in bilingual education who had opportunities to develop their cognitive skills in their native language performed better in English classes than those who were in English-only classes (Cummins, 1984a, 1984b, 1995). Cummins theorizes that learners are equipped with underlying cognitive skills that are transferable from the first language to the second. Children in bilingual classes thus develop their cognitive skills in their first language, and apply them successfully in the second language. With the theory of cognitive skill transfer supported by empirical data, Cummins advocates bilingual education for both LEP students and students who learn the second language.

In addition to research findings on the significance of cognitive development of children in their first language, findings on the time it takes for linguistic minority children to learn English cast another light on the education of linguistic minorities. Researchers point out that there are differences between the language skills required for everyday social situations and those for functioning in school (Collier, 1987; Wong-Fillmore, 1982, 1985). Acquisition of the language skills for school functions presents more of a challenge to linguistic minorities because the language used in school is more abstract, and situations provide fewer contextual clues, and tasks are cognitively demanding. Moreover, different subject areas are characterized by specific genres or registers LEP students have to learn (Snow et al., 1989).
Thus, LEP students who appear to have mastered daily conversation in English have not necessarily mastered the use of academic English. Researchers found that LEP children develop their basic communicative skills in English in 2 to 3 years, but it takes 5 to 7 years or longer for them to reach an average level of performance comparable to native speakers in school. (Collier, 1989; Cummins, 1984a, 1984b).

Thomas and Collier conducted a comprehensive longitudinal study on the time it takes for LEP students to become academically comparable to native English speakers (Thomas & Collier, 1997). The sample consisted of approximately 42,000 LEP students records per school year, with from 8 to 12 years of data taken from five school systems. The results show that it takes 5 to 7 years for LEP students who have at least 2 to 3 years of schooling in home country to achieve 50th percentile on standardized test, and 7 to 10 years if LEP students had no schooling at all in home country.

One of the findings in the study by Thomas and Collier is that LEP students have a better chance of succeeding in school if they get cognitively complex academic instruction through their first languages as long as possible. This finding echoes the results of a study by Lucas and Katz, who studied 147 educators who were exemplary in terms of producing student outcome (Lucas & Katz, 1994). Lucas et al. found that the educators use of LEP students' native languages played significant roles in their learning. Native languages gave LEP students access to understanding academic content, participating in classroom
activities, and acting as a medium for social interaction and establishment of rapport. Lucas et al. suggest that mono-lingual educators incorporate students' native language into instruction in many ways to serve a variety of educationally desirable functions.

Opportunities to be in bilingual programs or having mainstream teachers who speak student's native languages, however, are rare for students entering U.S. schools at secondary level. For secondary LEP students, Thomas and Collier found three characteristics of programs that can make a significant difference in their academic achievement. Those are: (a) second language taught through academic content; (b) learning strategies that develop thinking skills and problem-solving abilities; (c) instructional approaches that emphasize students' prior knowledge, language, and culture, meaningful inter-active learning, and ongoing assessment using multiple measures (Thomas & Collier, 1997).

Criteria for Successful Mainstreaming

The following section of review of literature describes criteria for successful mainstreaming of LEP students. There are three categories of criteria; policies and school structure, curriculum issues, and instructional techniques. Each criterion in the three categories is followed by supportive arguments based on theory, research, and opinions papers related to LEP education.
Policies and School Structure

A comprehensive school-wide vision includes LEP students.

Researchers agree that a comprehensive, school-wide vision and approach that includes LEP students is one of the most significant elements for the educational betterment of LEP students. Minicucci and Olsen (1992) find that staffs in effective schools share a school-wide vision that includes LEP students. Carter and Chatfield (1986) find effective schools have common goals within and throughout the district. Stedman (1987) found that staffs in effective schools agree on purposes and approaches for educating LEP students, and continuously establish strategies to achieve their goals.

An extensive study of eight exemplary schools illustrates the importance of school reform based on a vision that is inclusive of LEP students (Berman et al., 1995). The study focused on language arts in grades 4 through 6 and mathematics and science in grades 6 through 8. Exemplary schools were nominated by educational experts, and then selected through the process of telephone interviews, preliminary field visits, and interviewing. Nominations by experts were based on three criteria: (a) high quality language arts, mathematics, or science programs for LEP students; (b) significant school restructuring; and (c) implementation of a well-designed English language acquisition program.

The results of the study underline the importance of school reform efforts inclusive of LEP students. The study found that (a) schools can develop
outstanding LEP education; (b) a comprehensive school-wide vision provides a foundation for outstanding LEP education; (c) restructuring of school units, time, decision making process and external relations create high quality educational settings; (d) external help improves LEP education; and (e) school districts play a critical role in supporting LEP programs.

Lack of policies and programs inclusive of LEP students leads those students to isolation and ultimate failure in school. An example of such a situation is illustrated in a study of a racially mixed high school in a Midwestern town (Grey, 1990). In a vacuum of policies and structures that encourage interaction among the school's ethnic groups, LEP students were left isolated and ESL program was given marginal status among the school population. LEP students felt that native English speaking students regarded them as "lower class", while native English speaking students regarded LEP students as not serious, and not involved in school.

However, only few LEP students spoke English sufficiently well enough to express their frustration about their place in the school, and their voices did not reach to those who could influence changes. Parents of Asian LEP students had some influence in school, but Hispanic LEP students did not have any representations in the community, which might have promoted their causes in school.

The study concluded that the lower expectations for LEP students and the lack of explicit goals and directions for ESL programs, and the lack of a school-
wide effort to include LEP students, caused a marginal status for ESL programs and its students and staff.

Administrators, teachers, and school support staff share a belief in that they hold high expectations for LEP students.

Limited English Proficient students are often expected to achieve less in schools because of their English skills and complex backgrounds. Lower expectations, however, separates LEP students from the rest of school and prevent LEP students from being included in the school-wide reform effort.

Grey (1990) documented in his ethnological study of a high school that teachers had low expectations for LEP students' achievement, and allowed high school LEP students to pass their classes knowing their reading and writing skills are at or below a third grade level. Graduation diplomas for LEP students were considered to have less "value" than those of mainstream students. Mainstream teachers were not motivated to help LEP students in mainstream classes since they knew that LEP students were allowed to graduate regardless to their levels of mastery of subject matters. With no clearly defined goals and objectives, ESL programs were neither intensive language training nor a sheltered-English content program. For those reasons, mainstream teachers had difficulty defining their relationship with the ESL program and support for its students and staff.

Thus, Grey suggests that school policies need to be established that clearly define English proficiency levels for LEP student high school graduation.
A school-wide approach is implemented to restructure school units, time, decision making, and external relations for LEP students.

A school-wide vision based on the higher expectations for LEP students must be communicated through school policies and carried out with the collaboration of entire staff. A successful example of such a case is illustrated in the study of Berman et al. (1995). Horace Mann middle school in San Francisco has a population of 20 to 25% LEP students. The students and faculty in Horace Mann are placed into one of six "families", which is further divided into two cohort groups. LEP students are also placed in "families", in which trained teachers help them make smooth transition from middle school to high school. Teachers of each "family" have a common planning period every day for collaboration. Each family operates an after-school program for special needs students including LEP students. Students in Horace Mann middle school report that after-school programs help them learning math and English, and they enjoy the structure of "family" that gives them sense of belonging. Horace Mann has a block schedule in which students have two academic blocks each day, and alternate school wide electives and "family" electives. Horace Mann middle school is structured considering the needs of LEP students as well as mainstream students, and the school board and community support the school's decisions.

Content area teachers and ESL teachers collaborate.
Researchers agree that collaboration between ESL and mainstream teachers is vital in the education of LEP students. However, teacher collaboration across the departments in departmentalized American secondary schools has not come easily.

A 1987 survey of 162 mainstream teachers conducted by Penfield reflects the sentiment of the mainstream teachers, who demand a division of labor between ESL teachers and themselves. They believed that it was not their responsibility to learn how to teach LEP students in their content areas, and that communication with the parents of LEP students was the job of the ESL teachers only (Penfield, 1987).

Addressing the issue of mainstream teachers unwillingness to be involved in teaching English to LEP students, Klassen (1986) suggests that secondary school teachers are territorial in their areas of expertise, and do not like to intrude into other teachers territories by teaching other disciplines. He also suggests that teaching English to LEP students is considered to be "remedial" work, and schools neglect to establish mechanisms and responsibilities for remedation.

Lack of collaboration between ESL and mainstream teachers creates disalignment of educational objectives. An evaluation study of high school ESL programs in New York City, Mei (1987a, 1987b) found that the ESL programs met language objectives, but the results did not translate into improved achievement in content area learning. The study suggests that greater
articulation of goals between ESL and mainstream classes needs to be promoted as well as collaboration between teachers of both programs.

Aside from articulating programs, ESL and mainstream teachers can help LEP students in various other areas. Snow et al. (1989) suggests that ESL and mainstream teachers should pinpoint the linguistic needs of the learner and jointly plan curriculum and assessment. Klassen (1986) believes that effective pedagogy for mainstream classes is built upon teacher's sensitivity toward the function of language; or how language is used in content area and in classroom interaction between teacher and students.

Kaufman & Brooks (1996) reported on a successful collaboration project between pre-service ESL teachers and mainstream teachers. They found that the collaboration contributed to their professional growth as teachers and heightened the motivation and enthusiasm of ESL students.

_School provides on-going staff development opportunities for content area teachers who teach LEP students._

Inclusion of LEP students in mainstream content area classes requires much effort from mainstream teachers. Their tasks include adapting new approaches and instructional techniques, and providing context that is culturally sensitive and appropriate for LEP students. However, mainstream teachers have little or no opportunities for learning how to educate LEP students in their classrooms. Penfield (1987) finds that mainstream teachers have little
knowledge of how to integrate content and second language development. She reports that grades 9-12 teachers need more training on how to teach content to LEP students. Kaufman & Brooks (1996) point out that ESL teachers and mainstream teachers do not have enough training for each other's areas. They find that 37 states require ESL certificate or endorsement, but those states require only little preparation in teaching content areas such as reading, science, or mathematics.

Constantino (1994) reports that teacher education programs in secondary education have been slow to change in spite of the increased demand for training of mainstream teachers for LEP students. For the reasons she lists that pre-service teachers are loaded with the study of content area and other methods, and that there is virtually no research base for organizing course work in teacher education designed to prepare mainstream teachers for teaching LEP students.

In the absence of pre-service teacher training for LEP students in mainstream classroom, in-service staff development bears greater importance. Clair (1995) argues that in-service professional development must be provided for mainstream teachers to explore beliefs, pose questions, and gain new knowledge of LEP students. Clair suggests that although it may be difficult, ESL teachers should work with administrators and take the initiative in promoting ongoing in-service and staff development for teaching LEP students.

Flores (1996) finds in a survey of 80 ESL and 144 mainstream teachers in the Midwest that mainstream teachers agree that they need training in teaching
LEP students, especially in the areas of instructional techniques, assessment strategies, and communication strategies with LEP students and their parents.

A study in 1993 finds that mainstream teachers who received appropriate training are able to create instructional environments supportive of LEP students in content learning (Castenada, 1993). Cooperative grouping strategies, sheltered ESL approaches, and collaboration between mainstream and bilingual staff were perceived to be most helpful by mainstream teachers.

Curriculum Issues

**LEP students take content courses as well as ESL classes.**

Researchers point out that it does disservice to LEP students to provide them with only language instruction and little or no subject area content instruction. Wong-Fillmore (1992) found that it is a common practice for schools to delay challenging LEP students with content until they have been taught basic English. In some cases, LEP student's course work is reduced to several courses of ESL and a few linguistically less demanding, non-academic courses, such as physical education, arts, and keyboarding. Wong-Fillmore points out that such arrangement provide little intellectual substance, which does not prepare them sufficiently for learning complex concepts in mainstream classes.

Content area classes designed specifically for LEP students have been developed and included in ESL curriculum in many school districts across the states. Sheltered ESL math and social studies classes, in which instruction is
given in simpler English and the textbook is written in easier English, help LEP students comprehend content area knowledge. Researchers, like Wong-Fillmore, stress the significance of those ESL content area classes.

*Curriculum articulation is developed between ESL and content area classes.*

Klassen (1986) argues that isolated language classes that do not teach the concepts and terminology in subject area content do not prepare LEP students sufficiently for mainstream classes. He believes that goals and objectives of ESL programs should reflect the notion that language and content is integrated in teaching LEP students. Isolated English as second language programs that focus only in teaching of English could lead to alienation of its staff and students from the rest of school. In his ethnographic study of a Midwestern school, Grey (1990) reports that mainstream teachers had difficulty defining their roles in teaching LEP students and relating ESL programs as there were no clearly defined objectives for ESL programs. He believes that defining goals and objectives for ESL program is one of the important steps for eliciting collaboration from mainstream teachers.

*Content learning and English language skill development are integrated in content area curriculum.*
Researchers suggest that second language development for LEP students should be incorporated in the goals and objectives of mainstream classes. Based on the success of immersion programs, Snow et al. (1989) believe that LEP students can learn academic contents specific to subject areas while developing competency in English. Snow et al. argue that language is learned most effectively for communication in meaningful, purposeful, social, and academic context. She also concludes that integration of content with language instruction provides a substantive basis for language teaching. Snow et al. suggest that ESL and mainstream teachers jointly determine language objectives based on the contents of the subject area, and monitor progress of LEP students by on-going evaluation that identify LEP student's needs.

Short (1994) distinguishes three types of classes that integrate language and content. Content-based ESL, or content-based language instruction is the way language teachers integrate content objectives in language instruction. Sheltered instruction is the way content teachers integrate language and content instruction in ESL classes. ESL social studies and ESL math belong to this group. The third group is language sensitive content instruction, in which selected subject matter concepts are used as a vehicle for teaching language. The class is heterogeneous in this group with LEP students and native English speakers learning the same content. Snow et al. present a case of successful language sensitive content instruction, in which teachers of ESL and social studies collaboratively created a study unit that integrates language and content.
A limited number of topics are taught for in-depth study.

One of the strategies researchers suggest for accommodating LEP students in mainstream classes is to reduce the amount of topics covered in curriculum of subject areas. Anstrom (1997) notes that comprehensive coverage often results in superficial coverage of topics without giving students full understanding of the significance of topics. For LEP students, who must attend to both cognitive and linguistic tasks simultaneously, comprehensive coverage makes learning particularly difficult.

Chamot (1993) suggests that educators develop a "less is more", selective curriculum which include major principles and unanswered questions rather than an accumulation of random bits of knowledge. Mohan (1986) suggests cutting down teaching objectives by half and selecting the most important ones. Reducing the number of topics covered in curriculum gives educators the opportunity to teach LEP students important concepts in detail.

Macbeth and Meyer (as cited in Wong-Fillmore & Meyer 1992) present an example of such case, in which a teacher uses Shakespeare's *Romeo and Juliet* in a 9th grade English class with LEP students in San Francisco. LEP students in his class do not understand English, let alone Elizabethan literary language. For LEP students, the teacher explains, demonstrates, and dramatizes the work in simple English, and creates with them an ESL version of the drama. The teacher does not cover everything that he might otherwise include in a treatment
of *Romeo and Juliet* with LEP students in the class. Nevertheless, the powerful theme of Shakespeare's story is understood by LEP students.

*Teachers use thematic approaches that unify several academic disciplines.*

Farr and Trumbull (1997) found that thematic units serve as the predominant mode of organizing curriculum in schools where LEP students were particularly successful. In the thematic approach, students can derive a theme from a subject, make connections, and achieve a deeper understanding of the concept by studying it from several disciplinary views.

Berman et al. (1995) suggest the use of the thematic units as one of the successful approaches for teaching LEP students in mainstream classes. An example of successful use of the thematic units is described in the case of Hanshaw Middle School. A particular theme was drawn from the Martin Luther King speech "I Have a Dream". Students developed questions about the American dream, interviewed an immigrant, wrote essays about the immigrant's experiences, and investigated the immigrants' dreams concerning America. The theme brought together social studies and language arts, and gave students an opportunity to comprehend social events from various viewpoints.

*Instructional Techniques for Mainstream Classroom Teachers*
Researchers agree that the use of effective educational practices for LEP students in mainstream classrooms is a means to ensure that they have equal access to academic content (Anstrom, 1997). The following section describes effective practices and studies that support them, that enable LEP students to learn core curriculum while simultaneously developing English skills.

*Concepts taught in content area classes are related to LEP students' previous knowledge and experiences.*

Researchers point out that for the learning to make sense, contents of subjects taught in schools need to be related to student's real-life experiences. For LEP students who do not share the same history and cultural experiences with mainstream students, it is difficult to relate content that does not have any relevance to their real-life experiences. McPartland and Braddock (1993) believe that disadvantaged students, like the majority of LEP students, need to believe that schoolwork makes sense for their current and long-term welfare.

As an example of such connection between content and LEP student's life-experience, King and others (King, et al. 1992) present a unit on westward movement in the U.S., which is developed within the context of larger patterns of migration and immigration from overseas to the U.S. The unit lead LEP students to explore how they fit into these patterns of movement as newcomers to the U.S.
In science, in order to successfully learn a concept, students need to interpret the concepts in the light of their prior knowledge about it (Chamot, 1993). If lessons that cover a new concept do not account for student's prior knowledge of the concept, it is highly likely that students will ignore or misinterpret such lessons. Geleman (1995) points out that this tendency occurs more often with LEP students, when lessons are given in a language they are still learning. Anstrom (1997) recommends that teachers begin a science lesson by employing techniques that provide opportunities for them to learn about students' prior knowledge on a topic.

*The language and discourse patterns commonly used in the content areas are explained to LEP students.*

Researchers point out that vocabulary, terminology, and discourse patterns specific to subject areas cause problems for LEP students. In the fields of science and mathematics, where student's cognitive development is heavily dependent on their linguistic development, LEP students face formidable challenges. Corasaniti Dale & Cuevas (1992) point out that mathematics vocabulary, special syntactic structures, and discourse patterns typical of written text contribute to the difficulties many LEP students have when learning mathematics in English. Kessler et al. (1992) point out that discourse patterns common to science such as compare/contrast, cause/effect, and problem/solution require a high level of linguistic functioning. For LEP students
who have not developed linguistic ability to comprehend scientific language, Kessler suggest that mainstream science teachers incorporate opportunities to learn the English language into their lessons. She suggests supplemental language activities such as drawing and labeling diagrams or pictures related to science concepts; classify words into specific categories; fill in charts; order sentences in correct sequences; and use key vocabulary to answer questions.

Teacher speech are modified by simplifying complex sentences, limiting new terminology to a manageable number, and interspersing questions to find out what LEP students know.

In a three-year ethnographic study of a West Coast high school, Harklau (1994) found that mainstream teachers seldom adjust input in order to make it comprehensible to LEP students, and that they employ the familiar initiation-reply-evaluation sequence, which gives LEP students little occasion to practice communication strategies.

In order to make instruction more comprehensible to LEP students, researchers suggest simplifying student's linguistic tasks to meet their levels in English. Saunders et al. (1998) suggest limit core vocabulary to five to eight words in each lesson. Those core words should be selected based on the level of importance in terms of understanding teacher instruction and comprehending the topic of the lesson. Having examined the instruction of secondary level LEP students in mainstream social studies, science, mathematics and language arts
classes, Anstrom (1997) suggests the use of modified speech for helping LEP students comprehend contents of subject areas. She suggests that expressions in the passive voice, such as "Nutrients are needed by living things," can be shortened into the active voice, "Living things need nutrients". Importance concepts should be presented in number of ways and situations, and teachers can reinforce concept by repetition and paraphrasing.

Anstrom also suggests that teachers consciously intersperse more questions to find out what LEP students know. As Harklau describes in her study, LEP students in mainstream classrooms often withdraw from classroom interaction when they do not understand teacher speech. Anstrom suggest that teachers should ask questions to help students understand, to encourage critical thinking, to improve classroom interaction, and to help develop students inquiry skills. She suggests that teachers can create rich environment for language acquisition by using speeches that are varied for both linguistic and cognitive complexity.

*Teacher gives oral feedback on language through restatement.*

In Penfield's study (1987), mainstream content area teachers gave no feedback to LEP students in their use of English either in oral or in written forms. Reyes (1992) contends that feedback in the earlier stages of English development may not be necessary, yet providing error correction and feedback help language acquisition for LEP students. Anstrom (1997) suggests teachers
use restatement, not overt correction for language feedback. She argues that errors are natural in the process of second language acquisition, and should be dealt with by modeling correct forms through restatement.

Activities for heterogeneous small groups are employed

On a study of attributes for successful classrooms for LEP students, August and Pease-Alvarez (1996) found that providing opportunities for interaction between LEP and mainstream students is one of the more significant variables for success of LEP students. As one of the strategies to increase interaction between LEP and mainstream students, researchers suggest the use of small group activities. Anstrom (1997) points out that small group activities provide LEP students opportunities to develop communication skills in a supportive and non-threatening environment. In small group activities, LEP students receive instruction from peers that is catered individually according to their needs and levels of English. Compared to the traditional teacher oriented lecture-response type of learning, small group activities provide LEP students with ample opportunities to try active listening and speaking. Through the various forms of small group activities, such as role-playing and problem solving, LEP students can communicate their thoughts and ideas, and learn communication skills such as reporting out a group decision, and presenting findings to the class.
Fathman (1992) suggests cooperative learning approaches in the science classroom. They point out that LEP students have access to language unavailable in traditional teacher-directed settings when they are in cooperative groups and interact with native speakers in academic contexts. Lower level LEP students can participate by recording numbers on a chart or drawing pictures illustrating the group's findings, while students able to read and write English can record the results of an investigation.

_Cognitively higher level questions are asked to LEP students, as well as to non-LEP students._

Studying teaching practices of mainstream teachers, Harklau (1994) found that mainstream teachers were less likely to elicit output from LEP students than from the native speakers. Richard-Amato and Snow (1992) point out that some teachers are misled by LEP students' pronunciations, and think that they do not have cognitive levels high enough to answer challenging questions. However, by refraining from asking them cognitively higher level questions, teachers are inadvertently taking opportunities away from LEP students to practice critical thinking. Cummins (1992) suggests that academic proficiency in English needs to be developed as well as conversational proficiency for LEP students to achieve well in school. To learn academic proficiency, researchers suggest that LEP students need to be exposed to academic tasks that require higher order thinking skills, such as analysis, synthesis, and evaluation of information.
*Visuals and realia are used for instructional purposes.*

Visual presentation of a topic often helps LEP students comprehend information otherwise linguistically too difficult for them to understand. Anstrom (1997) suggests the use of visuals and realia that transcend language barriers in a classroom with LEP students. In social studies, historical artifacts such as costumes, tools, photographs, and record books encourage students to think about their own families and relate their experiences to the topics they study. LEP students may bring different perspectives based on their own experiences they had, which may contribute to discussion and new levels of understanding of topics for all students. LEP students will benefit from their contribution being acknowledged and respected as integral parts of the curriculum.

In science classes, researchers suggest that charts, graphs, outlines, and pictures should be used to convey a scientific process (Fathman, 1992; King et al., 1992). Fathman et al. recommend the use of visuals, gestures, models, drawings, graphs, and charts at the time of teacher demonstration. By using visual aides for demonstration, teachers can find students' prior knowledge on a given topic.
The purpose of this research was to study the condition of education of Iowa secondary LEP students in mainstream classrooms and to identify areas that need improvement. The author conducted a survey of Iowa secondary mainstream teachers on the topic of teaching LEP students. The survey measured how much teachers perceived themselves to be following the best practices as suggested by research in the areas of school policies and organization, curriculum issues, and instructional techniques. Analysis of the survey results documented teachers’ perceived areas of excellence, as well as those areas that need improvement.

The education of secondary mainstreamed LEP students demands greater attention because the LEP population is increasing steadily in Iowa schools. It is the sincere hope of the author that this study will help improve the condition of education of secondary LEP students in Iowa.

Research Questions

In order to establish content validity, the survey instrument that identified characteristics of best practices for secondary LEP students was examined by groups of experts. Two groups of experts, high school ESL teachers and ESL
specialists in state organizations or educational institutions examined the content. High levels of content validity would be achieved if there were little or no difference between the two groups of experts’ ratings of the importance of the items listed on the survey.

Thus, the first research question was;

1. Using the author’s criteria gathered from published research studies for the successful mainstreaming of secondary LEP students, do ESL teachers and specialists agree as to which are the most important?

If an item on the list of criteria has high content validity, both ESL teachers and specialists should rate it as highly important. The difference between the teachers’ and specialists’ ratings should be none or statistically insignificant. Thus, the first hypothesis was:

$H_0$ 1: There is no significant difference between the population of ESL teachers and specialists in rating importance of best practices of mainstreaming secondary LEP students.

If items were found to be statistically insignificant in their rating they would remain on the list. If items were found to be significantly different, they would be deleted from the list due to a lack of established content validity. Items that both groups of experts rated as low importance would be deleted from the list as well.

The self-evaluation tool validated by educational experts in the field of ESL education should allow mainstream teachers to compare their practices to those on the list. Thus, the second research question was:
2. To what extent does a sample of secondary teachers perceive themselves to be implementing best practices criteria for successfully mainstreaming LEP students?

Examination of validity and reliability should provide information as to whether the survey is fit to be used as a tool for examining perception of content area teachers in their practice of teaching LEP students in any educational organization.

Thus, the third research question read as follows;

3. Is the teacher survey for successful mainstreaming of secondary LEP students valid and reliable for use in educational organizations?

In order to answer the validity question, the responses of three groups of teachers with varied hours of ESL training were compared.

A hypothesis for a statistical test was made as follows;

\[ H_0: \text{To the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students, there is no significant difference between the population of content area teachers with more than 9 hours of ESL training and those with 0 to 3 hours of training, and 3 to 9 hours of training.} \]

Reliability of the survey was tested by comparing the responses of two parallel surveys from the same group of respondents. The hypothesis read as follows;

\[ H_0: \text{To the extent they perceive themselves to be implementing criteria} \]
for successful mainstreaming of secondary LEP students, there is no significant difference between the results of the first survey and its parallel form answered by the same group of content area teachers.

Subjects

The subjects in this study were 122 high school teachers who teach LEP students in mainstream classes. They were from five Iowa school districts enrolling more than 100 LEP students (Iowa Department of Education, 1999b). Districts with a small number of LEP students were excluded from this study since the percentage of mainstream teachers who have contact with LEP students might be limited. Participating school districts were: Davenport, Des Moines, Sioux City, Storm Lake, and Waterloo. Since the unit of sampling was a naturally occurring group of individuals, the method of sampling used in this study was cluster sampling (Borg & Gall, 1989).

Two hundred and thirty two surveys were sent to teachers in 9 high schools in the five school districts. Participating teachers were identified by school principals, counselors, or ESL teachers. One hundred and twenty three teachers from 8 schools responded to the survey. Return rate of the survey was 53%. One response was excluded from the study since the respondent taught only ESL students.

Of the 122 respondents, 50 were male teachers and 72 were female teachers.
Student enrollment in participating schools ranges from 630 to 2,295, and the district’s LEP student enrollment ranges from 2.62% to 41.25% of the student population. Sixty percent of the sample was from three schools in the Des Moines school district, the largest urban school district in Iowa. The largest group of subject area respondents was that of math teachers (20%), followed by vocational training (15%), social studies (13%), and science teachers (12%). Table 1 presents the percentage of respondents by school. Table 2 presents the percentage of respondents by the subjects.
Table 1
Respondents Percentage by School

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Des Moines North</td>
<td>27</td>
<td>22</td>
</tr>
<tr>
<td>Des Moines Hoover</td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td>Des Moines Roosevelt</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>Storm Lake</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Davenport West</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Sioux City North</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Sioux City West</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Waterloo West</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note.*  
N = 122.
Table 2
Respondents Percentage by Subject

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Social Studies</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Science</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>English</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Art</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Physical Education</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Music</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
<td>10</td>
</tr>
</tbody>
</table>

*Note.* N = 122. Others: drama, foreign languages, family and consumer science.
Validation of the Criteria List

A group of high school ESL teachers and a group of ESL specialists were selected to validate a list of criteria for successful mainstreaming of secondary LEP students. High school ESL teachers were selected on the basis of recommendation from ESL educators in Iowa who have received awards, such as Dan Chavez Award for Excellence in ESL Education for their outstanding services. Twenty three high school ESL teachers were selected, and the list of criteria was sent to them with a cover letter by e-mail. They were requested to rate the list and return it by e-mail.

For the specialists group, national level ESL experts and ESL specialists in public schools were identified. ESL researchers in federal organizations and universities were identified by their publications, and ESL coordinators for public schools were selected from a list of participants to an ESL workshop held in the Midwestern United States in 2000. The criteria list of 19 items with a cover letter was sent to 33 specialists by e-mail. They were asked to rate the list and return it by e-mail.

Two groups were asked to rate each item on the criteria list by degree of importance. Likert-type rating scales were used to indicate how much they agree on the importance of each item on the criteria list. The nominal scale is as follows:

A = High Importance
B = Moderate Importance

C = Little Importance

D = No Importance

No descriptions or definitions beyond these scale items were given to respondents.

The criteria list and cover letter are attached to this paper as Appendix A and B.

Content validity of the survey was measured in this study. Content validity is the degree to which the items on a survey represent the content that the survey is designed to measure. Content validity of this study was determined based on the agreement of ESL teachers and experts' judgement of how closely the criteria conform to best practice for teaching secondary mainstream LEP students.

The Chi-square test for goodness of fit was used for the statistical analysis. Chi-square test is a non-parametric technique that tests hypotheses about the frequency distribution (Gravetter & Wallnau, 1992). The two groups who validated the list were the selected high school ESL teachers and the selected ESL specialists in national organizations and educational institutions. Since there were no other population parameters that corresponded to those of the two groups, parametric statistical tests were not suited for this study. Data in this study were measured on ordinal scales, and the distribution of the data in
each category determined the results. Thus, a non-parametric Chi-square test was well suited to this study.

The null hypotheses were stated as follows:

**Ho 1:** There is no significant difference between the population of ESL teachers and educational specialists in rating importance of best practices of mainstreaming secondary LEP students.

The level of significance was set at alpha = .05

The degree of freedom was set at 3.

\[ df = (R - 1)(C - 1) = (2 - 1)(4 - 1) = 3 \]

Responses of secondary ESL teachers were compared to those of educational experts as observed frequencies and expected frequencies. The value of chi-square was examined to see if it exceeded the critical value. Null hypothesis is rejected if there is a significant degree of difference among two groups. In such a case, the criteria list would need to be modified. Validity of the criteria list is to be established when the value of chi-square stays within the critical value.

Creating the Survey

Once the validity of the criteria list was established, the list was converted to a teacher survey with appropriate format and wording. The teacher survey asked subjects to rate each item on the criteria list according to their frequency of implementation.
A Likert-type rating scale was developed as follows:

- a = Implemented most of the time
- b = Implemented some of the time
- c = Implemented not very often
- d = Not implemented

No descriptions on definitions beyond these scale items were given to respondents.

The teacher survey is attached as Appendix C.

**Contacting Subjects.**

Content area teachers in five school districts in Iowa were included in this study. A request for conducting research was approved by each of the five school districts. Upon receiving permission from the districts, a letter of intent was sent to high school principals of each district. Principals were asked to send a list of content area teachers who teach LEP students. Telephone calls, e-mail messages, and fax messages followed the letter of intent for those schools who did not respond in two weeks. The letter of intent to principals is attached to this paper as Appendix D.

**Sending the Survey**

To insure a higher return, each survey was marked by a number that corresponded with a teacher in each school. This allowed the researcher to
identify the subjects who had not returned the survey, and later send a reminder to them.

A set of marked survey forms, a cover letter, a list of the names of teachers, and return envelopes were sent to the participating schools. The cover letter contained all the required elements of informed consent, and was approved by the Drake University's Human Subjects Research Review committee. A brief description of the survey and instructions were written in the cover letter. Confidentiality of the participants responses was assured in the letter as well. A cover letter is attached to this paper as Appendix E.

A contact person identified by schools was asked to deliver the surveys, collect them, and return them in a self-addressed, stamped envelope. Contact persons varied depending on schools. They included principals, ESL teachers, ESL counselors, and school secretaries. They were responsible for reminding teachers to return the surveys. In two schools, the researcher delivered the surveys to a secretary with a box to return the surveys in, and retrieved them after one week.

Measurement Tools

The data from the teacher survey were summarized using descriptive statistics. Means and medians were calculated and inferences were drawn from the results.
Concurrent validity, which measures the level of correspondence between two measurements, was not dealt with in this study since quantitative studies of secondary LEP students and their mainstream teachers has been quite limited, and no measurement that corresponds to the measurement in this study has been identified so far. Predictive validity, which measures future behavior of the subjects who participate to the study, was not dealt with in this study because of the limitations of time and resources that were imposed on this study.

Construct validity of the teacher survey was determined by comparing scores of two sub-groups of subjects; those with over nine hours of staff development or training for teaching LEP students, and those with zero to three hours of training.

Construct validity is the extent to which a particular test can be shown to measure a hypothetical and theoretical construction about the nature of human behavior (Borg & Gall, 1989). Theoretical construction in this survey was the high school mainstream teachers’ perception of best practices for teaching LEP students, and each item on the survey was a component of what makes up the perception of best practices. Construct can be examined by testing hypothesized relationships (Kerlinger, 1986). In this study, the hypothesized relationship between teacher perception and hours of training they had for teaching LEP students in mainstream classes was employed as a theoretical basis. The hypothesis was that the teachers who have more hours of training for teaching LEP students should be familiar with the best practices more than those who
have less hours of training, and perhaps, implement best practices more often than the latter group does.

Studies suggest positive relations between successful teacher training and teachers' implementation of some aspects of teacher training. A report on a national level teacher training program funded by the National Science Foundation provides evidence of participating teachers' professional improvement and improvement in students after the training (National Science Foundation, 1993). Although not all teacher training are effective, some aspects focused in teacher training are more likely learned and implemented by teachers than others. Aspects in teacher training that participating teachers perceive as useful, relevant to their work, and easily adaptable in the continuum of their own method of teaching, tend to be implemented more often than others (Lam Yuen-Kwan, 1996). Methods used in teacher training also influence how much teachers implement the practices they learned, in their classrooms. Peer observation followed by ongoing small-group problem-solving workshops is one of the most effective methods that lead to successful classroom implementation (Mohlman, 1982).

Thus, teacher training can be relevant to practices teachers implement in their classroom, given a limitation of variables such as its content and method of training. The construct of this study is teacher's perception of best practices in teaching LEP students in mainstream classrooms. Theoretically, those teachers with more hours of training should be familiar with the best practice and
implement them more often than those with less hours of training. Thus, three groups of teachers with varied hours of ESL training were selected using a table of random numbers, and compared to examine what practices they implement in each group. Three groups were teachers with 0 to 3 hours of training, 3 to 9 hours, and over 9 hours of training.

A hypothesis for a statistical test was made as follows;

\[ H_0 \] = To the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students, there is no significant difference between the population of content area teachers with more than 9 hours of ESL training and those with 0 to 3 hours of training, and 3 to 9 hours of training.

If there are no differences among the responses from three groups of teachers, it is either because items on the survey are not relevant to training of teaching LEP students, or the hours of training did not make any difference in teacher practices.

For the test of reliability, a group of 20 teachers among respondents was selected using a table of random numbers. They were asked to complete a survey, which had the same questions as in the original survey presented in different order. Special instructions to complete the new survey form were given to those teachers. The responses were analyzed using the Pearson product-moment correlation. The null hypothesis for the test of reliability for the survey read as follows;
Ho 3 = to the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students, there is no significant difference between the results of the first survey and its parallel form answered by the same group of content area teachers.

A cover letter and the second survey are attached to this paper as Appendix F and G, respectively.
Chapter 4

ANALYSIS OF THE DATA

Criteria Validation

The first question explored in this study was “Using the author’s criteria gathered from published research studies for the successful mainstreaming of secondary LEP students, do educational specialists and ESL teachers agree as to which are the most important?” The null hypothesis was “There is no significant difference between the population of high school ESL teachers and educational specialists in rating importance of best practice for mainstreaming secondary LEP students.” The test results revealed that high school ESL teachers and ESL specialists agreed that most of the items on the list are of high or moderate importance with a few exceptions.

Sixteen high school ESL teachers and 14 ESL specialists participated in this part of the study. Scores for each item on the survey were tallied for the two groups for statistical analysis. Chi-square test for goodness of fit was applied to each item to examine the differences between two groups. Yates’s Correction was applied to cells with numbers less than 5.

With a degree of freedom at 3 and level of significance at alpha .05, none of the items was in the critical region, $\chi^2 = 7.81$. The null hypothesis was supported for all items. Thus, it is concluded that there is no significant difference between the population of high school ESL teachers and educational
specialists in rating the importance of best practice for mainstreaming secondary LEP students.

Table 3 presents the results of the Chi-square tests. Item numbers correspond to the questions on the survey, item number 1 corresponds to the first question, and so forth. Chi-square values in most of the items were close to 0, which indicated that differences between LEP specialists and ESL teachers were very small. Although it was not in the critical region, Chi-square value in item 15 (teachers modify speeches by interspersing more questions to find out what LEP students know) was exceptionally large compared to the others.
Table 3

Content Validity Test

<table>
<thead>
<tr>
<th>Item number</th>
<th>Chi-square Value (χ²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3.15</td>
</tr>
<tr>
<td>4</td>
<td>2.25</td>
</tr>
<tr>
<td>5</td>
<td>0.19</td>
</tr>
<tr>
<td>6</td>
<td>0.25</td>
</tr>
<tr>
<td>7</td>
<td>2.24</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0.30</td>
</tr>
<tr>
<td>10</td>
<td>2.20</td>
</tr>
<tr>
<td>11</td>
<td>3.50</td>
</tr>
<tr>
<td>12</td>
<td>2.25</td>
</tr>
<tr>
<td>13</td>
<td>2.30</td>
</tr>
<tr>
<td>14</td>
<td>1.30</td>
</tr>
<tr>
<td>15</td>
<td>5.28</td>
</tr>
<tr>
<td>16</td>
<td>2.40</td>
</tr>
<tr>
<td>17</td>
<td>0.29</td>
</tr>
<tr>
<td>18</td>
<td>0.45</td>
</tr>
<tr>
<td>19</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Note. χ² (3,N = 30) = 7.81, p < .05.
The first question in this study was "using the author's criteria gathered from published research studies for successful mainstreaming of secondary LEP students, do LEP specialists and teachers agree as to which are the most important?" Distributions of rating for both groups were skewed toward high or moderate importance. Thus, the answer to the first question of this study is that LEP specialists and teachers rate most of the items on the list as of high or moderate importance.

The purpose of the chi-square test was to examine the content validity of each item and modify the survey if necessary. Chi-square analysis showed no significant differences in rating of the survey items by ESL specialists and teachers, and most of the items on the survey were rated as of high or moderate importance. Thus, content validity of the survey items was established, and no modification was made to the survey.

Criteria Implementation

The second question in this study was "To what extent does a sample of secondary teachers perceive themselves to be implementing criteria for successfully mainstreaming LEP students?"

Overall, participating Iowa high school teachers (N = 122) reported that they often implement many instructional practices listed on the survey, while they rarely or never implement curriculum accommodations for LEP students.
Teachers also reported that schools have visions inclusive to LEP students, but do not have approaches to implement such visions.

For the analysis of central tendency, frequency counts on the 19 survey items were converted to weighted values; 4 for implemented most of the time, 3 for some of the time, 2 for rarely, and 1 for not implemented.

The mean of the sample responses was over 3.00 on four items, between 3.00 to 2.5 on 10 items, and below 2.5 on one item.

The number of responses on items varied from 94 to 122. The response numbers on item 9, which asked about limiting the number of topics for in-depth study, and item 10, question about the use of thematic approach unifying several disciplines, were smaller than the others. Vocational teachers were instructed by the researcher to skip these questions as they were specifically addressed to academic area teachers.

Table 4 shows the mean, standard deviation, median, and mode of the responses of items 5 to 19. (Items 1 to 4 have two choices for the answer, thus, central tendency is not applicable.)
Table 4
Response Mean, Standard Deviation, Median, and Mode

<table>
<thead>
<tr>
<th>Item number</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Mdn</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>112</td>
<td>2.59</td>
<td>0.85</td>
<td>2.75</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>122</td>
<td>3.66</td>
<td>0.49</td>
<td>3.50</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>119</td>
<td>2.24</td>
<td>1.00</td>
<td>2.37</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>121</td>
<td>2.80</td>
<td>0.99</td>
<td>3.06</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>94</td>
<td>2.57</td>
<td>1.06</td>
<td>2.95</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>94</td>
<td>2.72</td>
<td>0.93</td>
<td>2.90</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>117</td>
<td>2.85</td>
<td>0.92</td>
<td>3.00</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>115</td>
<td>2.60</td>
<td>1.06</td>
<td>3.00</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>117</td>
<td>3.20</td>
<td>0.80</td>
<td>3.29</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>119</td>
<td>3.25</td>
<td>0.73</td>
<td>3.23</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>120</td>
<td>2.96</td>
<td>0.78</td>
<td>2.88</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>121</td>
<td>2.77</td>
<td>0.81</td>
<td>2.75</td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>120</td>
<td>2.97</td>
<td>0.94</td>
<td>3.04</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>120</td>
<td>3.14</td>
<td>0.83</td>
<td>3.14</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>119</td>
<td>3.60</td>
<td>0.66</td>
<td>3.79</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. n = number of respondents for each item.
Further analysis on each item shows the following characteristics of the respondents to this survey.

Of all items, 99% of respondents reported that they implement item 6 (LEP students take content area courses as well as ESL classes), $X = 3.66$.

Ninety four percent of respondents reported that they implement item 19 (the use of realia and visuals) most or some of the time, $X = 3.6$.

Eighty six percent of respondents reported that they implement item 14 (modifying teacher speech by limiting new terminology to a manageable number) most or some of the time, $X = 3.25$.

A relatively high percentage of respondents (84%) reported that they implement items 13 (modifying teacher speech by simplifying complex sentences) and 18 (asking cognitively higher level questions to LEP students as well as to non-LEP students) most or some of the time, $X = 3.20$, $X = 3.14$, respectively.

Item 7, developing curriculum articulation between ESL and the content area program, received the largest number of negative responses. Thirty percent of the respondents reported that they do not implement this practice, $X = 2.24$. On the same item, 56% of respondents answered that they either rarely implement or do not implement the practice.

Item 9, limiting the number of topics to teach, received the second largest number of negative responses, $X = 2.57$. Twenty-one percent reported that they
do not implement the practice. On the same item, 43% of respondents answered that they either rarely implement or do not implement the practice.

On item 12, explanation of language commonly used in the subject area, 18% of respondents answered that they do not implement the practice. On the same item, 47% of respondents answered they either rarely or do not implement the practice, $X = 2.60$.

On the section about school policies and structures, a large percentage of respondents (77%) reported that their school has a policy inclusive to LEP students, and teachers and staff have high expectation toward LEP students (88%). On the other hand, a large percentage of respondents (58%) answered that the schools do not have approaches that accommodate LEP students' needs.

Sixty three percent of the respondents reported that their districts do not provide training for teaching LEP students, and 42% of the respondents answered that they rarely or if at all collaborate with ESL teachers. Table 5 presents the number of responses in percentages.

The number 1 to 4 represent rating scales converted into weighted values; 1 for not implemented, 2 for implemented not very often, 3 for implemented some of the time, and 4 for implemented most of the time. N represents number of respondents for each item, and n represents number of responses for each rating.
Table 5
Response Numbers and Percentages

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>1 n</th>
<th>%</th>
<th>2 n</th>
<th>%</th>
<th>3 n</th>
<th>%</th>
<th>4 n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>112</td>
<td>13</td>
<td>12</td>
<td>34</td>
<td>30</td>
<td>51</td>
<td>46</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>122</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>40</td>
<td>33</td>
<td>81</td>
<td>66</td>
</tr>
<tr>
<td>7</td>
<td>119</td>
<td>36</td>
<td>30</td>
<td>31</td>
<td>26</td>
<td>40</td>
<td>34</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>121</td>
<td>15</td>
<td>12</td>
<td>28</td>
<td>23</td>
<td>44</td>
<td>36</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>9</td>
<td>94</td>
<td>20</td>
<td>21</td>
<td>21</td>
<td>22</td>
<td>32</td>
<td>34</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>10</td>
<td>94</td>
<td>12</td>
<td>13</td>
<td>21</td>
<td>22</td>
<td>42</td>
<td>45</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>11</td>
<td>117</td>
<td>12</td>
<td>10</td>
<td>23</td>
<td>20</td>
<td>53</td>
<td>45</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>12</td>
<td>115</td>
<td>21</td>
<td>18</td>
<td>33</td>
<td>29</td>
<td>32</td>
<td>28</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>13</td>
<td>117</td>
<td>5</td>
<td>4</td>
<td>13</td>
<td>11</td>
<td>53</td>
<td>45</td>
<td>46</td>
<td>39</td>
</tr>
<tr>
<td>14</td>
<td>119</td>
<td>2</td>
<td>2</td>
<td>14</td>
<td>12</td>
<td>55</td>
<td>46</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>15</td>
<td>120</td>
<td>5</td>
<td>4</td>
<td>24</td>
<td>20</td>
<td>62</td>
<td>52</td>
<td>29</td>
<td>24</td>
</tr>
<tr>
<td>16</td>
<td>121</td>
<td>6</td>
<td>5</td>
<td>39</td>
<td>32</td>
<td>53</td>
<td>44</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>17</td>
<td>120</td>
<td>13</td>
<td>11</td>
<td>16</td>
<td>13</td>
<td>53</td>
<td>44</td>
<td>38</td>
<td>32</td>
</tr>
<tr>
<td>18</td>
<td>120</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>11</td>
<td>56</td>
<td>47</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>19</td>
<td>119</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>35</td>
<td>29</td>
<td>79</td>
<td>66</td>
</tr>
</tbody>
</table>

Note. N = number of responses for each item; n = number of responses for each rating in an item. The number 1 to 4 represents rating scales converted into weighted values; 1 for not implemented, 2 for implemented not very often, 3 for implemented some of the time, and 4 for implemented most of the time.
Survey Reliability

The third question of this study examined validity and reliability of the teacher survey.

Parallel form reliability test was employed to examine the survey reliability. Parallel form reliability is established by administering an instrument to a group of individuals and then administering its parallel form to the same group of individuals with or without an interval in between. The resulting correlation coefficient between the two sets of scores determines reliability of the instrument. Parallel form reliability test takes into account variations in format of instrument, time of administration, location, environment, participant's mood, and various other factors. Thus, a high reliability coefficient established by this approach provides strong reliability of an instrument.

Twenty respondents were selected at random using a table of random numbers for the reliability study. A second survey that included the same questions laid out in a different order was sent to the twenty respondents a week after the first surveys were returned. Fifteen teachers responded to the second survey. Return rate was 75%. The responses on the first survey were compared with those on the second survey to examine the parallel form reliability of the survey.

The null hypothesis was: To the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students...
there is no significant difference between the results of the first survey and its parallel form answered by the same group of content area teachers.

The Pearson product-moment correlation was employed to measure the degree and direction of linear relation between the scores of the first survey and those of the parallel form. If the survey has high level of reliability, the correlation between the scores of the first survey and those of the parallel form should be strong and positive.

With a degree of freedom of 13 (n − 2 = 13) and level of significance at alpha .05, all but item 9 stayed in the critical region, \( r = .441 \). The null hypothesis was accepted for all but that one item.

The correlation between the scores of the first survey and its parallel form is relatively high for all items except item 9. That indicates an overall high degree of parallel form reliability of the survey. Table 6 presents the results of the parallel form reliability test.
Table 6

Parallel Form Reliability Test

<table>
<thead>
<tr>
<th>Item number</th>
<th>Pearson Correlation Value (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>2</td>
<td>1.00</td>
</tr>
<tr>
<td>3</td>
<td>1.00</td>
</tr>
<tr>
<td>4</td>
<td>1.00</td>
</tr>
<tr>
<td>5</td>
<td>0.71</td>
</tr>
<tr>
<td>6</td>
<td>0.88</td>
</tr>
<tr>
<td>7</td>
<td>0.95</td>
</tr>
<tr>
<td>8</td>
<td>0.83</td>
</tr>
<tr>
<td>9</td>
<td>0.17*</td>
</tr>
<tr>
<td>10</td>
<td>0.94</td>
</tr>
<tr>
<td>11</td>
<td>0.89</td>
</tr>
<tr>
<td>12</td>
<td>0.75</td>
</tr>
<tr>
<td>13</td>
<td>0.87</td>
</tr>
<tr>
<td>14</td>
<td>0.94</td>
</tr>
<tr>
<td>15</td>
<td>0.94</td>
</tr>
<tr>
<td>16</td>
<td>0.86</td>
</tr>
<tr>
<td>17</td>
<td>0.62</td>
</tr>
<tr>
<td>18</td>
<td>0.78</td>
</tr>
<tr>
<td>19</td>
<td>0.99</td>
</tr>
</tbody>
</table>

*Note.* N=15. df.= 13, *p < .05.*
Survey Validity

Construct validity of the survey was examined by comparing three groups of content area teachers with their varied hours of ESL training. The three groups were; teachers who had 0 to 3 hours of training in teaching LEP students; those with 3 to 9 hours of training; and those with over 9 hours of training, respectively.

Of all the respondents, 86 had 0 to 3 hours of training, 19 had 3 to 9 hours of training, and 17 had over 9 hours of training. Of the 86 respondents who had 0 to 3 hours of LEP training, 18 were selected to compare with the other two groups by using a table of random numbers.

Construct validity was examined based on the assumption that the teachers who have more hours of training for should be familiar with the best practices and be implementing them more often than those who have fewer hours of training. As discussed earlier, positive relationships between teacher training and teacher practices were identified in some studies (Lam Yuen-Kwan, 1996; Mohlman, 1982; National Science Foundation, 1993). If there are no differences between a group of teachers with more hours of LEP training and those with fewer hours of training to the extent they implement the practices on this survey, it can be argued that it is because the items on the survey are not relevant to teaching LEP students.

Thus, a hypothesis for a statistical test was stated as follows;

\[ H_0: 3 \] = To the extent they perceive themselves to be implementing criteria
for successful mainstreaming of secondary LEP students, there is no significant difference between the population of content area teachers with more than 9 hours of ESL training, those with 3 to 9 hours of training, and 0 to 3 hours of training.

Chi-square test with Yates's correction was applied. For items 1 to 4, the degree of freedom was 1 and the level of significance was set at alpha .05. For items 5 to 19, the degree of freedom was 3 and the level of significance was set at alpha .05.

The test results of the sample group with 0 to 3 hours of training (n = 18) and that with 3 to 9 hours (n = 19) revealed statistically significant differences in 7 out of 19 items. The null hypothesis was rejected on 7 out of 19 items. In other words, 7 items were validated as components of the construct of this survey given a 0 to 9 hours of teacher training as a tool of measurement. Table 7 shows the results.

The results of the test that compared the responses of those who had 0 - 3 hours of training (n = 18) and over 9 hours of training (n = 17) showed statistically significant differences in 9 out of 19 items. The null hypothesis was rejected on 9 out of 19 items. That is, 9 items were validated as components of the construct of this survey given a 0 to over 9 hours of teacher training as a tool of measurement. Table 8 shows the results.
Table 7

Construct Validity Test: 0-3 Hours of Training vs. 3-9 Hours of Training

<table>
<thead>
<tr>
<th>Item number</th>
<th>Chi-square value ($\chi^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.89*</td>
</tr>
<tr>
<td>2</td>
<td>0.02</td>
</tr>
<tr>
<td>3</td>
<td>7.39*</td>
</tr>
<tr>
<td>4</td>
<td>2.42</td>
</tr>
<tr>
<td>5</td>
<td>0.71</td>
</tr>
<tr>
<td>6</td>
<td>4.90</td>
</tr>
<tr>
<td>7</td>
<td>32.00*</td>
</tr>
<tr>
<td>8</td>
<td>4.60</td>
</tr>
<tr>
<td>9</td>
<td>0.45</td>
</tr>
<tr>
<td>10</td>
<td>8.73*</td>
</tr>
<tr>
<td>11</td>
<td>1.40</td>
</tr>
<tr>
<td>12</td>
<td>4.63</td>
</tr>
<tr>
<td>13</td>
<td>1.46</td>
</tr>
<tr>
<td>14</td>
<td>17.48*</td>
</tr>
<tr>
<td>15</td>
<td>14.49*</td>
</tr>
<tr>
<td>16</td>
<td>1.44</td>
</tr>
<tr>
<td>17</td>
<td>5.12</td>
</tr>
<tr>
<td>18</td>
<td>8.45*</td>
</tr>
<tr>
<td>19</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Note. *Item 1 to 4, $\chi^2 (1, N = 37) = 3.84$, *p < 0.05. Item 5 to 19, $\chi^2 (3, N = 37) = 7.81$, *p < 0.05.
<table>
<thead>
<tr>
<th>Item number</th>
<th>Chi-square value ($\chi^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.54</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3.79</td>
</tr>
<tr>
<td>4</td>
<td>13.14*</td>
</tr>
<tr>
<td>5</td>
<td>2.14</td>
</tr>
<tr>
<td>6</td>
<td>0.27</td>
</tr>
<tr>
<td>7</td>
<td>35.66*</td>
</tr>
<tr>
<td>8</td>
<td>8.94*</td>
</tr>
<tr>
<td>9</td>
<td>8.42*</td>
</tr>
<tr>
<td>10</td>
<td>8.23*</td>
</tr>
<tr>
<td>11</td>
<td>12.80*</td>
</tr>
<tr>
<td>12</td>
<td>8.22*</td>
</tr>
<tr>
<td>13</td>
<td>0.94</td>
</tr>
<tr>
<td>14</td>
<td>6.63</td>
</tr>
<tr>
<td>15</td>
<td>8.00*</td>
</tr>
<tr>
<td>16</td>
<td>8.10*</td>
</tr>
<tr>
<td>17</td>
<td>0.30</td>
</tr>
<tr>
<td>18</td>
<td>1.79</td>
</tr>
<tr>
<td>19</td>
<td>1.18</td>
</tr>
</tbody>
</table>

*Note. *Item 1 to 4, $\chi^2$ (1, N = 35) = 3.84, *p < 0.05. Item 5 to 19, $\chi^2$ (3, N = 35) = 7.81, *p < 0.05.*
The author conducted a post-hoc test to examine the differences among the group of respondents who had the same hours of LEP training. The second group of 18 respondents with 0 to 3 hours of training was selected using a table of random numbers, and their responses were compared to those of the first group with 0 to 3 hours of training (n = 18). The results showed statistically significant difference in 2 out of 19 items. Table 9 shows the results.
<table>
<thead>
<tr>
<th>Item number</th>
<th>Chi-square value ($\chi^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.24</td>
</tr>
<tr>
<td>2</td>
<td>0.57</td>
</tr>
<tr>
<td>3</td>
<td>10.13*</td>
</tr>
<tr>
<td>4</td>
<td>0.09</td>
</tr>
<tr>
<td>5</td>
<td>2.34</td>
</tr>
<tr>
<td>6</td>
<td>0.53</td>
</tr>
<tr>
<td>7</td>
<td>2.63</td>
</tr>
<tr>
<td>8</td>
<td>2.60</td>
</tr>
<tr>
<td>9</td>
<td>1.38</td>
</tr>
<tr>
<td>10</td>
<td>15.92*</td>
</tr>
<tr>
<td>11</td>
<td>0.16</td>
</tr>
<tr>
<td>12</td>
<td>1.03</td>
</tr>
<tr>
<td>13</td>
<td>5.89</td>
</tr>
<tr>
<td>14</td>
<td>3.65</td>
</tr>
<tr>
<td>15</td>
<td>1.74</td>
</tr>
<tr>
<td>16</td>
<td>4.51</td>
</tr>
<tr>
<td>17</td>
<td>1.50</td>
</tr>
<tr>
<td>18</td>
<td>6.78</td>
</tr>
<tr>
<td>19</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note. *Item 1 to 4, $\chi^2$ (1, N = 36) = 3.84, *p < 0.05. Item 5 to 19, $\chi^2$ (3, N = 36) = 7.81, *p < 0.05.
In summary, the following items had statistically significant differences when compared to other sub-groups of varied hours of training.

1. Statistically significant difference found among two groups of respondents with 0 – 3 hours of training.

   Item 3: Our school has developed a school-wide approach for LEP students that restructures school units, time, decision-making, and external relations.

   Item 10: I use a thematic approach unifying several disciplines.

2. Statistically significant difference found among a group with 0 – 3 hours of training and a group with 3 – 9 hours of training.

   Item 1: Our school has developed a comprehensive, school-wide vision that includes LPE students.

   Item 3: Our school has developed a school-wide approach for LEP students that restructures school units, time, decision-making, and external relations.

   Item 7: Curriculum articulation is developed between the ESL program and my program.

   Item 10: I use a thematic approach unifying several disciplines.

   Item 14: I modify my speech by limiting new terminology to a manageable number.

   Item 15: I modify my speech by interspersing more questions to find out what LEP students know.
Item 18: I ask cognitively higher level questions to LEP students, as well as to non-LEP students.

3. Statistically significant difference found among a group with 0 – 3 hours of training and a group with over 9 hours of training.

Item 4: Our district provides on-going staff development opportunities for content area teachers to learn more about teaching LEP students.

Item 7: Curriculum articulation is developed between the ESL program and my program.

Item 8: Content learning and English language skill development are integrated in my classes.

Item 9: I limit the number of topics I teach for in-depth study.

Item 10: I use a thematic approach unifying several disciplines.

Item 11: Concept taught in my class are related to LEP students’ previous knowledge and experiences.

Item 12: I explain the language and discourse patterns commonly used in my classes to LEP students.

Item 15: I modify my speech by interspersing more questions to find out what LEP students know.

Item 16: I give feedback on LEP students’ use of English by restating their comments.
Chapter 5

DISCUSSION AND RECOMMENDATIONS

The purpose of this research was to study the conditions of the education of Iowa secondary LEP students in mainstream classrooms and to identify areas that need improvement.

The results of the teacher survey revealed that the participating Iowa high school teachers are making efforts to accommodate LEP students' needs in the area of instruction, whereas some improvement needs to be made in the area of curriculum accommodation. In the area of instructional practices, however, the practices the participating teachers reported they implement seem to be limited to the general practices of effective teaching, and accommodations were based not on the knowledge of second language acquisition, but on teacher's own intuition. Many participating teachers did not seem to have sufficient knowledge on issues relevant to second language acquisition, particularly in the area of curriculum accommodations.

Criteria Validation

The first question explored in this study was "Using the author's criteria gathered from published research studies for the successful mainstreaming of secondary LEP students, do educational specialists and ESL teachers agree as to which are the most important?" The null hypothesis was "There is no
significant difference between the population of high school ESL teachers and educational specialists in rating importance of best practice for mainstreaming secondary LEP students." The Chi-square test results revealed that high school ESL teachers and ESL specialists agreed that most of the items on the criteria list are of high or moderate importance. Thus, content validity of the survey items was established, and all the items were included in the teacher survey.

Criteria Implementation

The second question in this study was "To what extent does a sample of secondary teachers perceive themselves to be implementing criteria for successfully mainstreaming LEP students?"

Overall, participating Iowa teachers (N = 122) reported that they often implement the criteria for successfully mainstreaming LEP students in the area of instructional practices, while they rarely or never implement the criteria in the area of curriculum. Participating teachers also reported that schools have visions inclusive to LEP students, but do not have approaches to implement such visions.

Instructional Techniques

Ninety-nine percent of respondents reported that they implement item 6 (LEP students take content courses as well as ESL classes), $X = 3.66$. It means that participating Iowa secondary schools provide LEP students with the
opportunities to learn content area in mainstream classrooms while providing
them with the continuous language instruction in ESL classrooms. Researchers
point out that it does disservice to LEP students to provide them with only
language instruction and little or no subject area content instruction. Wong-
Fillmore (1992) points out that often LEP students' course work is reduced to
several courses of ESL and a few linguistically less demanding courses such as
physical education, arts, and keyboarding. Such arrangement does not prepare
LEP students sufficiently to learn complex concepts in mainstream classrooms.
Participating Iowa secondary schools provide LEP students with both content
and language instruction. Their mainstream classes ranges from content area
classes such as math and English, to elective classes such as vocational training
and foreign languages. LEP students in participating classes are given
opportunities to learn both content and English.

Ninety five percent of respondents reported they implement the use of
realia and visuals most or some of the time. The use of realia and visuals is
commonly regarded as one of the effective practices in any instructional
situation. Likewise, many teachers (76%) responded that they implement
heterogeneous small group activities most or some of the time. Small group
activities are also regarded as one of the standard practices for effective
teaching. This too, may reflect the fact that participating teachers follow the
practices established as effective in general instructional situations.
Yet, the use of visuals and heterogeneous small groups are particularly beneficial to LEP students. Visuals and realia provide non-linguistic clues to LEP students that aid in language comprehension. Heterogeneous small group activities provide LEP students with opportunities to mingle with their English proficient peers and learn in a less stressful environment. Interactions with their peers also provide LEP students with opportunities to learn acceptable social behaviors and manners in classrooms. It is commendable that a large number of participating Iowa teachers implement these practices, which help LEP students greatly as well as English proficient students.

Another instructional practice that a larger number of respondents reported they implement most or some of the time was to modify teacher speech to make it more comprehensible to LEP students. On three types of speech modifications listed on the survey, 84% reported that they simplify complex sentences most or some of the time ($\bar{X} = 3.20$), 86% reported they limit new terminology to a manageable number ($\bar{X} = 3.25$), and 76% reported they intersperse more questions to help student understand ($\bar{X} = 2.96$). This finding contrasts with Harklau's study (1994) in which the researcher observed that mainstream teachers rarely modified their speech to make it comprehensible to LEP students.

Although it is commendable that participating Iowa teachers implement some linguistic accommodations for LEP students, those accommodations seem to be limited to the basic and intuitive strategies that one may employ when
talking to someone who does not understand the language. Participating Iowa teachers answered that they implement strategies such as simplifying sentences, limiting vocabulary, and interspersing more questions for checking understanding, but implement less frequently practices that require knowledge of the second language acquisition.

One of the practices closely related to the second language acquisition is giving language feedback to LEP students. Researchers point out that although errors do not need to be overtly corrected, adequate feedback in the forms of modeling correct forms through restatement helps LEP students in their language acquisition (Anstrom, 1997; Reyes, 1992). However, only 63% of participating Iowa teachers responded that they implement this practice. Lack of language feedback was observed among mainstream teachers in another study as well (Penfield, 1987).

Another practice related to second language acquisition is to provide an explanation on the use of the language specific to the subject area. Specific syntax, terminology, and discourse used in instructions and instructional materials present more difficulty to LEP students who are already struggling in English (Corasaniti Dale, & Cuevas, 1992; Kessler et al., 1992). Providing LEP students with an explanation of the use of content-specific language helps them understand the content of the lessons being taught. However, only a little more than a half of the participating Iowa teachers (53%) responded that they implement this practice most or some of the time.
Some participating teachers were aware of the situation and have tried different approaches to cope with it. A math teacher commented as follows:

Since the “language of mathematics’ is, in itself foreign to most students, regardless of whether they are LEP, much of what I do is directed to the “LMP” student(Limited Mathematical Proficient). I would hope that this is an advantageous situation for the ESL/LEP student in my classroom.

Another math teacher reported another approach.

One option I make available is for students with very limited English skills. I offer to copy the class notes for them in their language – my ESL students are all Spanish speaking & my book provides this resource. I also allow them to take the test in Spanish. The goal with these options is to wean them off within a few months & at this point all students are on their own.

The need to master special syntax and terminology is not exclusive to the areas of math and science. Other content areas have the same issue. Approaches like the ones mentioned above need to be examined, and improvement needs to be made in this area.

Participating teacher’s lack of knowledge on second language acquisition seems to come from the lack of opportunity for learning about the issues related to LEP students. Of all the participating schools, only 37% provide on-going staff development opportunity for mainstream teachers to learn about LEP students.
In other words, more than half of the participating teachers were not getting adequate training for teaching LEP students.

In 1996, Flores found that 69% of 144 mainstream teachers in Iowa she surveyed had no knowledge of second language acquisition. In 2001 when this study was conducted, 70% of 122 mainstream teachers from district with large LEP population in Iowa answered that they had no training or very little training for teaching LEP students, and 63% of the teachers reported that their school/district did not provide them with on-going staff development. In the five years since Flores’s study, not much progress has been made in Iowa in the areas of teacher training for LEP students. As the number of LEP students steadily increases, Iowa schools are urged to take action in this area.

School Structure and Policies Implementation

In the area of school structures and policies, participating Iowa high school teachers reported that schools have visions that are inclusive to LEP students, but approaches that achieve those visions have not been implemented.

Seventy seven percent of respondents reported that school has developed a comprehensive, school-wide vision that includes LEP students. On the other hand, only 42% reported that school has developed a school-wide approach for LEP students that restructures school units, time, decision-making, and external relations. It is commendable that participating Iowa high school teachers recognize that school administrators and staff members share visions that are
inclusive to LEP students. However, visions alone do not improve the educational environment. Visions must be followed by concrete policies and approaches that enable the visions. In order to better the educational environment for LEP students, participating schools may need to consider the approaches suggested in this study.

One of the changes school may need to consider is to restructure school units, time, and external relationships. Successful examples have been cited in middle schools and elementary schools (Berman et al., 1995). School restructuring is a large operation that requires the collaborative efforts of administrators, staff, students, and community surrounding the school. Implementation of structural changes is a hard undertaking especially for high schools with a large number of students enrolled, multiple departments, and various extra-curricular activities.

Yet, some of the structural changes suggested by the researchers are too critical to ignore. One is to restructure teacher's schedules and the school structure to provide mainstream content area teachers with the time to collaborate with ESL teachers. The importance of collaboration is highlighted in many studies (Kaufman & Brooks, 1996; Klassen, 1986; Mei, 1987a, 1987b; Penfield, 1987; Snow et al., 1989). However, data analysis in this study shows a lack of collaboration between ESL and content area teachers. Forty two percent of the survey participants answered that they rarely or do not collaborate with ESL teachers.
Some of the participating teachers, on the other hand, have taken advantage of collaborating with ESL teachers. Their comments suggest some benefits to collaboration. A social studies teacher comments, "I utilize, when possible, our ESL tutor or academic enhancement center for testing situations. Also, I communicate & seek advice on long range written assignments from our ESL teacher."

A math teacher comments:

... the ESL teacher would send an aide to translate for students and explain terms to them. Because of my own interest in ESL students I keep in close touch with ESL teachers informing them of behavior, performance, not doing assignments, etc.

In the setting of high schools, collaboration between ESL and content area teachers within the school hours is difficult, and the effort to create opportunities for collaboration is often left to individual teacher's discretion. In order to allow teachers to collaborate, school administrators need to free teachers from regular teaching duties and provide designated time frame for collaboration. Initiatives need to be taken by school administrators in this respect.

Curriculum Issues

Another area that schools may need to consider is curriculum accommodation for LEP students. The results of this study revealed that
participating Iowa high school teachers implement best instructional practices for LEP students more often than they implement curriculum accommodations. Of all the items related to instructional techniques, 76% of respondents reported that they implement best practices most or some of the time. Whereas only 57% of respondents reported that they implement best curriculum approaches most or some of the time.

Of all the items related to curriculum, the highest percentage of respondents (56%) reported that they either never or rarely implement curriculum articulation between their subject areas and ESL programs. This issue is closely related to collaboration between content area teachers and ESL teachers. As discussed earlier, without the time and structure that allows content area teachers and ESL teachers to collaborate, curriculum articulation will not be easily developed between the two areas.

Developing curriculum articulation, however, is not an impossible undertaking. Sixty-five percent of respondents who had more than 9 hours of training for LEP students answered that they implement curriculum articulation most or some of the time. Efforts for implementing curriculum articulation are taking place in ESL programs as well. In Des Moines Public Schools, an attempt is underway to write elementary and secondary ESL curriculum that integrates core subject area contents.

Curriculum articulation creates a foundation for integration of language and content in instruction, an approach that is recommended by many
researchers. The collaborative efforts of content area teachers and ESL programs, as well as initiatives from school administration will enable this to happen.

Survey Reliability

The third research question explored in this paper was “Is the teacher survey for successful mainstreaming of secondary LEP students valid and reliable for use in educational organizations?” Reliability of the survey was tested by comparing the responses of two parallel surveys from the same group of respondents. The hypothesis read as follows;

H0 3 = To the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students, there is no significant difference between the results of the first survey and its parallel form answered by the same group of content area teachers.

Pearson product-moment correlation was employed to test the level of correlation. With a degree of freedom of 13 (n - 2 = 13) and level of significance at alpha .05, all but item 9 stayed in the critical region, r = 0.441. The null hypothesis was accepted for all but that one item. Thus, a test of reliability revealed a relatively high level of parallel form reliability for the teacher survey created by the researcher.
Item number 9 (limiting the number of topics for in-depth study) had relatively low correlation value, \( r = 0.177 \). The number of responses on this item was relatively small on the first and the second survey (11 out of 15 respondents). On the first survey, 3 out of 11 answered that they never implement this practice, 3 answered some of the time, and 5 answered most of the time. However, on the second survey, none of them answered that they never implement this practice, 2 answered rarely, 6 answered some of the time, and 3 answered most of the time (see Table 6). It is possible that the respondents became aware of the necessity of limiting the number of topics after they completed the first survey. Their realization may have affected the way they answered the same question for the second time.

Survey Validity

For validity study, a hypothesis for a statistical test was made as follows;

\[ H_0: \text{To the extent they perceive themselves to be implementing criteria for successful mainstreaming of secondary LEP students, there is no significant difference between the population of content area teachers with more than 9 hours of ESL training and those with 0 to 3 hours of training, and 3 to 9 hours of training.} \]

Construct validity was examined by using hours of teacher training as a tool of measurement. The construct of the survey was teacher's perception of best practices in teaching LEP students in mainstream classrooms. In order to
examine if the survey items were relevant to the construct, the author employed hours of teacher training as a tool of measurement. The underlying assumption was that teachers who had longer hours of training should be familiar with the best practices and implement them more often than teachers with less hours of training. The responses of three groups of teachers; those with 0 – 3 hours of training, 3 – 9 hours of training, and over 9 hours of training, were compared.

In the comparison test between the groups of 0 – 3 hours and 3 – 9 hours of training, statistically significant differences were found in 7 out of 19 items (see table 7). This could be interpreted in multiple ways. One interpretation is that 7 items out of 19 on the survey were particularly relevant to the best practice in teaching LEP students in mainstream classrooms. Another interpretation is that those 7 items had been focused in the training participating teachers had taken, and thus the teachers remembered their significance and reported that they implemented them often. Yet another interpretation is that those 7 items were the practices the participating teachers were physically able to implement, as opposed to the other 12 that they could not implement for physical, social, economical, and various other reasons. It could also imply that those 7 items are the extent teachers can remember and implement given a framework of 3 – 9 hours of teacher training they had.

As to the 12 items that were not validated in the chi-square test, it can be interpreted that they are not particularly relevant to teaching LEP students in mainstream classes. However, it does not necessarily mean that the 12 items
should be excluded from the list of best practices for teaching LEP students. The content validity of those 12 items was already established by the ESL specialists and ESL teachers. It can be interpreted that regardless the experiences of teacher training for LEP students, teachers implement those 12 practices because they are generally regarded as effective practices for both LEP students and English proficient students. In the context of construct validity, it is interpreted that the teachers who had 3 - 9 hours of teacher training for LEP students consider 9 items as more closely related to the construct of the survey than the teachers with 0 – 3 hours of training.

In the comparison test between the groups of teachers with 0 – 3 hours and over 9 hours of LEP training, the results revealed statistically significant differences in 9 out of 19 items (See Table 8). As discussed earlier, the results may reflect the fact that 9 items are specifically relevant to the best practices in teaching LEP students, or that those 19 items were particularly focused in teacher training the participating teachers had taken, or participating teachers were able to implement those 19 practices because their situations allowed them to do so. In the context of construct validity, it is interpreted that the teachers who had over 9 hours of teacher training for LEP students consider 9 items as more closely related to the construct of the survey than the teachers with 0 – 3 hours of training.

The analysis of results from the test for construct validity revealed further findings. Validated survey items for groups of 0 – 3 hours and over 9 hours of
teacher training are concentrated on the curriculum issues. (Four out of five items on the curriculum issues were validated.) Among those validated items on curriculum issues, item 7, which asks curriculum articulation between the ESL program and the content area program, had the largest differences in both 0–3 and 3–9 hours comparison groups ($\chi^2 = 32.00$) and 0–3 and over 9 hours comparison groups ($\chi^2 = 35.66$). The data reveals that curriculum articulation is one of the practices that the teachers with training are most likely to implement. The teachers with training seem to acknowledge the importance of curriculum articulation and also have the skills to implement it in their classrooms.

The curriculum issues listed on the survey include item 7; developing curriculum articulation between the ESL program and the content area program, item 8; integrating teaching of content and language in content area classes, item 9; limiting the number of topics for in-depth study, and item 10; using a thematic approach in teaching content. Sixty five percent of participating teachers with over 9 hours of training reported that they implement item 7 most and some of the time, 76% for item 8, 77% for item 9 and item 10, respectively.

In comparison to the instructional practices listed on the survey, those curriculum practices require more knowledge of second language acquisition, and their implementation involves careful planning and execution. It is commendable that most of the participating Iowa teachers with over 9 hours of training reported that they implement those curriculum practices. This provides
supportive argument for implementing more teacher training for LEP students in Iowa schools.

A majority of participating teachers who had over 9 hours of LEP training reported that they implement best practice most or some of the time. On the other hand, participating teachers with 0 to 3 hours of training answered that they implement best practices less often than those who had over 9 hours of training. In comparing three groups of teachers with various hours of teacher training, it was found that the participating teachers with more hours of LEP training perceived themselves to be implementing best practices more often than those with less hours of training.

Although there are other variables related to these results, the test results indicated possible positive effects of teacher training and staff development particularly in the areas of curriculum accommodation. The results supported the arguments for teacher training and staff development that have been made by many researchers (Clair, 1995; Constantino, 1994; Kaufman & Brooks, 1996; Penfield, 1987).

Thus, content validity and reliability of the survey made by this author were established, and some of the items were found to be closely related to the construct of the survey. It is recommended that this survey be used as a part of staff development and teacher training tools in school districts, as well as an instrument for pre- and post- test for examining the degree of improvement in teaching practice. It is also recommended that the 9 items that were validated in
the constructive validity study be specifically included in the teacher training and workshops, and taught along with other best practices. Future surveys, tests, and observations also should include those 9 items.

However, caution has to be noted that this survey is limited to teacher’s self-report on implementation of the best practices, and accuracy of the report should be determined by follow-up classroom observations.

Summary

The findings of this study are significant in the following areas.

1. It was found that participating Iowa teachers perceive that they implement accommodations for LEP students in the areas of instructional practices, although those accommodations are limited to the practices established as effective in general instructional situations, or that come naturally such as simplifying teacher speech for LEP students.

2. It was found that practices related to effective second language acquisition are not implemented very often. Especially practices in the area of curriculum modification are implemented least frequently. Curriculum modification is a complex task, and it requires considerable time and effort of teachers who are involved. Collaboration between ESL and mainstream teachers is necessary for curriculum modification. Concepts and techniques for curriculum modification are accommodation teachers need to be taught through systematic training and staff-development courses.
3. It was found that there are positive effects of teacher training and staff development in the area of curriculum accommodation. This finding supports the assertion of many researchers who advocate for training for teachers with LEP students in their classrooms.

4. It was found that the teacher survey created by this author has a high level of validity and reliability. This survey is fit to be used as a tool for teacher training and educational research.

5. Opportunities for teacher training are not sufficient for participating Iowa mainstream teachers. It was found that 70% of 122 participating teachers had little or no training for teaching LEP students. The situation has not been improved since 1996, when 69% of 144 Iowa teachers responded that they had no knowledge about second language acquisition (Flores, 1996).

Based on the findings of this research, it is recommended that participating schools implement the following changes.

1. Provide teacher training/staff development opportunities for mainstream teachers who teach LEP students.

2. Provide a structure that allows collaboration between ESL and mainstream teachers.
Limitation of the Study

The subjects of this study were mainstream content area teachers in high schools with a large number of LEP student enrollments. Mainstream content area teachers in high schools with small LEP student enrollment were not reflected in this study.

This study was conducted in the second semester of a school year. The motivations and attitudes of teachers in the second semester may have been reflected in this study.

The mainstream teacher survey asks teachers to rate the frequency of implementation of best practices in teaching LEP students. Upon learning the nature of this study, these teachers may have rated their practices erroneously in attempt to appear to be effective teachers. Such practices have been described as Demand Characteristics (Borg & Gall, 1989, p198).

Iowa schools have large number of LEP students from Bosnia and Mexico, among others. This study reflects the population of LEP students in Iowa, which is not reflected in other geographical areas in the United States.


(ERIC Document Reproduction Service No. ED 384 251)


Iowa Department of Education (1999a). The annual condition of education report. Des Moines: Author


V. P. John, & D. Hymes (Eds.), *Function of language in the classroom* (pp. 370 - 394). New York: Columbia University, Teacher College, Teacher College Press.


Vilsack, T. (2000, January 12). Quality of life is Iowa's promise: Condition of the State. The Des Moines Register, pp. 1A, 7A.


APPENDIX
Appendix A

A Sample Letter to ESL Educators

Dear ESL educators;

February, 2001

I am a high school teacher teaching Japanese at Central Campus in Des Moines Public Schools. Our school has many immigrant/refugee students, and having been a second language learner myself, I am concerned about learning opportunities created for them. Limited English Proficient (LEP) students face many difficulties in school as well as in the community. I understand their struggles and am very much interested in helping them. This concern led me to choose the education of high school LEP students as the topic for my dissertation research at Drake University.

The purpose of my research is to study the educational opportunities created for secondary LEP students in mainstream classrooms and to identify the common areas that need improvement.

You were identified as one of the experts of ESL education. I would like to ask you to participate in this study by answering the questions in the attached survey, and return it to me at your earliest convenience. The survey is short and will not take much of your time. Your identities will be kept confidential.
The issues involved in teaching LEP students are very complex. Your participation in this survey will contribute to the improvement of education for all of our students.

Thank you very much.

Sachiko Murphy
Graduate student, Department of Education, Drake University
Japanese teacher, Des Moines Public Schools, Central Campus
Tel: 515-278-6048
Fax: 515-242-7598
e-mail: rmurphyia@earthlink.net
Address: 3800 Crestmoor Place, Des Moines, Iowa 50310

Dr. Kathy Fejes
Advisor, Department of Education, Drake University
Tel: 515-271-2168
E-mail: fejes-mendoza,kathy@drake.edu
Appendix B

Mainstreaming of Secondary Limited English Proficient (LEP) Students

Criteria List

Your title:

Please read the following statements and rate the importance of each statement as a criterion for successful mainstreaming of secondary LEP students by circling the letter corresponding to your choice.

A = High Importance
B = Moderate Importance
C = Of Little Importance
D = No Importance

School Structure and Policies

1. A comprehensive, school-wide vision includes LEP students.

A   B   C   D

2. Administrators, teachers, and school support staff share a belief of high expectations for LEP students.

A   B   C   D

3. A school-wide approach is developed for LEP students that restructures school units, time, decision-making, and external relations.

A   B   C   D

4. Content area teachers and ESL teachers collaborate.

A   B   C   D
5. School provides on-going staff development opportunities for content area teachers who teach LEP students.

Curriculum Issues

6. LEP students take content courses as well as ESL classes.

7. Curriculum articulation is developed between ESL and content area classes.

8. Content learning and English language skill development are integrated in content area curriculum.

9. A limited number of topics are taught for in-depth study in academic subject area classes.

10. Academic subject area teachers use thematic approaches that unify several academic disciplines.
Instructional Techniques for Mainstream Classroom Teachers

11. **Concepts taught in content area classes are related to LEP students' previous knowledge and experiences.**

   A   B   C   D

12. **The language and discourse patterns commonly used in the subject area are explained to LEP students.**

   A   B   C   D

13. **Teachers modify speeches by simplifying complex sentences.**

   A   B   C   D

14. **Teachers modify speeches by limiting new terminology to a manageable number.**

   A   B   C   D

15. **Teachers modify speeches by interspersing more questions to find out what LEP students know.**

   A   B   C   D

16. **Teachers give feedback on LEP students' use of English by restating their comments.**

   A   B   C   D

17. **Activities for heterogeneous small groups are employed.**

   A   B   C   D
18. Cognitively higher level questions are asked to LEP students, as well as to non-LEP students.

A  B  C  D

19. Visuals and realia are used for instructional purposes.

A  B  C  D

Thank you very much for your participation. If you have any comments, please write them on the back.

*Original criteria list was not numbered.
Appendix C

Mainstreaming of Secondary Limited English Proficient (LEP) Students

Teacher survey

Please check the corresponding spaces that best describe you.

Primary content responsibility:

Math_____ Science_____ Social Studies_____ English_____

Art_____ Music_____ Vocational_____ PE_____

Other (please define)________________________________________

Gender:

Male_____ Female_____

Approximate total number of students in your classes:

50-75_____ 75-100_____ 100-125_____ 125-150_____

150+_____

Approximate number of your students who currently receive ESL services:

1-10_____ 10-20_____ 20-30_____ 30-40_____ 40-50_____ 50+_____ 

Estimate number of preservice, inservice or staff development training hours you have received that focus on teaching LEP students:

0-3_____ 3-6_____ 6-9_____ 9-12_____ 12-15_____ 15+_____
School Structure and Policies

Please check yes or no to the following statements.

1. Our school has developed a comprehensive, school-wide vision that includes LEP students.
   Yes_____    No______

2. In our school, administrators, teachers, and school support staff share a belief of the high expectations for LEP students.
   Yes_____    No______

3. Our school has developed a school-wide approach for LEP students that restructures school units, time, decision-making, and external relations.
   Yes_____    No______

4. Our district provides on-going staff development opportunities for content area teachers to learn more about teaching LEP students.
   Yes_____    No______

5. Please indicate how often the following statements are implemented in your school/classroom by circling the letter corresponding to your choice.

   a = Implemented most of the time
   b = Implemented some of the time
Content area teachers and ESL teachers collaborate in our school.

6. In our school, LEP students take content area courses as well as ESL classes.

7. Curriculum articulation is developed between ESL program and my program.

8. Content learning and English language skill development are integrated in my classes.

9. I limited the number of topics I teach for in-depth study.

10. I use a thematic approach that unifies several academic disciplines.
**Instructional Techniques**

11. Concepts taught in my content area class are related to LEP students' previous knowledge and experiences.

   a  b  c  d

12. I explain the language and discourse patterns commonly used in my classes to LEP students.

   a  b  c  d

13. I modify my speech by simplifying complex sentences.

   a  b  c  d

14. I modify my speech by limiting new terminology to a manageable number.

   a  b  c  d

15. I modify my speech by interspersing more questions to find out what LEP students know.

   a  b  c  d

16. I give feedback on LEP student’s use of English by restating their comments.

   a  b  c  d

17. I use heterogeneous small group activities.

   a  b  c  d
18. I ask cognitively higher level questions to LEP students, as well as to non-LEP students.

    a   b   c   d

19. I use visuals and realia in my class.

    a   b   c   d

Thank you very much for your participation. If you have comments, please write them on the back.

*Original teacher survey was not numbered.
Appendix D
A Sample Letter to Principal

Dear Principal; February, 2001

I am a high school teacher teaching Japanese at Central Campus in Des Moines Public Schools. Our school has many immigrant/refugee students, and having been a second language learner myself, I am concerned about learning opportunities created for them. Limited English Proficient (LEP) students face many difficulties in school as well as in the community. I understand their struggles and am very much interested in helping them. This concern led me to choose the education of high school LEP students as the topic for my dissertation research at Drake University.

The purpose of my research is to study the educational opportunities created for secondary LEP students in mainstream classrooms and to identify the common areas that need improvement.

Your school has been identified as one of the schools having a large percentage of LEP students enrolled. I would like to ask your permission to survey mainstream teachers in your school who have LEP students in their rooms. The survey form has 19 items, and teachers will be asked to respond on a 1 – 5 Likert-type scale. It will be short and will not take much of their time. Teachers’ identities will be kept confidential.
Your school district has given me a permission to conduct this research. If you permit me to conduct this survey in your school, I would like to know which mainstream teachers in your school teach LEP students in their classrooms. Mainstream teachers include subject area teachers such as math, science, English, social studies, art, PE, music, and vocational education teachers. LEP students include those who are currently receiving ESL assistance.

Please respond by fax, mail, or by e-mail. Upon receipt of your consent and a list of mainstream teachers, I will send your surveys with self-addressed, stamped, return envelopes. The issues involved in teaching LEP students are very complex. Your participation in this survey will contribute to the improvement of education for all of our students.

Thank you very much.

Sachiko Murphy
Graduate student, Department of Education, Drake University
Japanese teacher, Des Moines Public Schools, Central Campus
Tel: 515-278-6048
Fax: 515-242-7598
e-mail: rmurphyia@earthlink.net
Address: 3800 Crestmoor Place, Des Moines, Iowa 50310
Dr. Kathy Fejes

Advisor, Department of Education, Drake University

Tel: 515-271-2168

E-mail: fejes-mendoza, kathy@drake.edu
Appendix E

Cover Letter for Teacher Survey

Dear teachers;

I am a high school teacher teaching Japanese at Central Campus in Des Moines Public Schools. Our school has many immigrant/refugee students, and having been a second language learner myself, I am concerned about learning opportunities created for them. Limited English Proficient (LEP) students face many difficulties in school as well as in the community. I understand their struggles and am very much interested in helping them. This concern led me to choose the education of high school LEP students as the topic for my dissertation research at Drake University.

The purpose of my research is to study the educational opportunities created for secondary LEP students in mainstream classrooms and to identify the common areas that need improvement.

The results of the survey will provide participating school districts with the valuable information on LEP education in mainstream classes. It will show the areas where they could improve, as well as those where they are successful. This survey will provide schools with future guidelines for improving educational situation of LEP students.

Privacy and confidentiality of the participating teachers will be strictly kept in this survey.
If you have any further questions, please feel free to contact Dr. Kathy Fejes, the advisor of this research study at Drake University.

Your participation and prompt response will be greatly appreciated.

Thank you very much for taking your time.

Sachiko Murphy
Graduate student, Department of Education, Drake University
Japanese teacher, Des Moines Public Schools, Central Campus
Tel: 515-278-6048
Fax: 515-242-7598
e-mail: rmurphyia@earthlink.net
Address: 3800 Crestmoor Place, Des Moines, Iowa 50310

Dr. Kathy Fejes
Advisor, Department of Education, Drake University
Tel: 515-271-2168
E-mail: fejes-mendoza,kathy@drake.edu
Appendix F

Cover Letter for the Second Survey

Dear teachers;

Thank you very much for participating in my study of content area teachers who teach LEP students. Your input is very valuable.

I would like to ask you one more favor regarding the survey. In order to establish the reliability of the survey, I need to ask a small group of teachers to complete a survey that is identical to the first one except for the order of the questions.

The results of the second survey will be compared to those of the first one to determine the level of reliability between the two survey forms.

I am sorry to bother you again, but I would appreciate it very much if you could share your time for this reliability study. Over 100 Iowa teachers have participated in this study. This reliability study will provide critical value to the results of the survey. I would appreciate your help.

Thank you very much.

Sincerely,

Sachiko Murphy
Appendix G

Mainstreaming of Secondary Limited English Proficient (LEP) Students

Teacher Survey – (2)

Instructional Techniques

Please indicate how often the following statements are implemented in your school/classroom by circling the letter corresponding to your choice.

a = Implemented most of the time
b = Implemented some of the time
c = Implemented not very often
d = Not implemented

I use visuals and realia in my class.

a b c d

I give feedback on LEP student's use of English by restating their comments.

a b c d

I use heterogeneous small group activities.

a b c d
I explain the language and discourse patterns commonly used in my classes to LEP students.

I ask cognitively higher level questions to LEP students, as well as to non-LEP students.

I modify my speech by limiting new terminology to a manageable number.

I modify my speech by simplifying complex sentences.

I modify my speech by interspersing more questions to find out what LEP students know.

Concepts taught in my content area class are related to LEP students' previous knowledge and experiences.

Curriculum Issues

Curriculum articulation is developed between ESL program and my program.
I use a thematic approach that unifies several academic disciplines.

Content learning and English language skill development are integrated in my classes.

I limited the number of topics I teach for in-depth study.

In our school, LEP students take content area courses as well as ESL classes.

School Structure and Policies

Please check yes or no to the following statements.

Our district provides on-going staff development opportunities for content area teachers to learn more about teaching LEP students.

Yes_____ No_____

In our school, administrators, teachers, and school support staff share a belief of the high expectations for LEP students.

Yes_____ No_____

Our school has developed a comprehensive, school-wide vision that includes LEP students.

Yes_____ No_____
Our school has developed a school-wide approach for LEP students that restructures school units, time, decision-making, and external relations.

Yes_____ No_____  

Please indicate how often the following statements are implemented in your school/classroom by circling the letter corresponding to your choice.

a = Implemented most of the time
b = Implemented some of the time
c = Implemented not very often
d = Not implemented

Content area teachers and ESL teachers collaborate in our school.

a b c d

Thank you very much for your participation. If you have comments, please write them on the back.