

2002-03 through 2004-05



**WAKE COUNTY
PUBLIC SCHOOL SYSTEM**

**EFFECTIVE PRACTICES FOR AT-RISK
ELEMENTARY AND MIDDLE SCHOOL STUDENTS**

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ABSTRACT

The students who have the most difficulty reaching accountability standards in Wake County Public Schools are those with more than one of the following characteristics: recipients of free or reduced-price lunch, students with disabilities, and/or students with limited English proficiency. The Evaluation and Research Department identified elementary and middle schools that differed in their effectiveness in promoting achievement growth for these students. Quantitative and qualitative analyses suggest differences in both attitudes and practices. The more effective schools had higher expectations for these students, and greater confidence in their ability to meet students' needs. Evidence suggested more effective administrative leadership/support, training, and utilization of resources. Higher-growth middle schools utilized assessments to inform instruction more frequently, and higher-growth elementary schools had more structured collaboration around student needs. Further research is planned.

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EFFECTIVE PRACTICES FOR AT-RISK ELEMENTARY AND MIDDLE SCHOOL STUDENTS

SUMMARY

BACKGROUND

The Wake County Public School System's (WCPSS) Curriculum and Instruction Department (C&I) requested that the Evaluation and Research Department (E&R) conduct a study to identify effective practices for elementary and middle school students with multiple needs. Students with multiple needs were those with more than one of the following characteristics – students who received free or reduced-price lunch (FRL), students with disabilities (SWD), and/or students with limited English proficiency (LEP). An analysis of spring 2005 performance results indicated that students who had only one of these characteristics had similar academic outcomes to the general population, but students who had more than one of these characteristics (FRL, SWD, and LEP) were considerably less likely to score at grade level (Baenen *et al.*, 2005). C&I provided funds to cover graduate students to assist with the study, advised E&R team of practices they recommended to schools, provided some research references on working with FRL, SWD, and LEP students, and helped train researchers in a walk-through observation technique.

The purpose of this study was to find effective school practices that:

- promote the achievement of students with multiple-risk factors (FRL, SWD, and LEP), and
- provide schools with hope that they can meet the challenge of helping students with multiple needs grow academically.

We therefore focused on comparing characteristics and practices of schools that were having greater and lesser success in attaining optimal achievement for students with multiple-risk factors. E&R staff conducted special effectiveness index analyses that included only students who had two or more of the characteristics of interest (FRL, SWD, and LEP). We combined residuals for these students by school, and compared average residuals in reading and math over a period of three years. We identified sets of elementary and middle schools that either consistently had residual averages in the top or bottom 25% of schools in the district, or which showed an upward or downward trend in residuals for multi-need students. Based on this definition, we identified three higher-growth and three lower-growth schools at each level, with an additional higher-growth alternative school identified at the middle school level.

We utilized mixed methods to collect information and to analyze differences and similarities in school and classroom practice. In terms of quantitative data, we first analyzed student demographics, teacher characteristics, resource allocations, and the overall percentage of students performing at grade level. These analyses helped us to determine if we could eliminate the hypothesis that demographic variables explained differences in achievement. We then explored school climate, which we felt could be a key factor in improving achievement. Qualitative data collection included observations, interviews, and surveys from: leadership teams, C&I staff, teachers, whole school observations. We also analyzed school improvement

plans and conducted brief reviews of the literature. Literature reviews facilitated the grouping of findings by factors that promote effective instruction for students.

MAJOR FINDINGS

Demographically, the higher- and lower-growth elementary schools were similar in terms of the distribution of FRL and SWD students within the schools, while higher-growth middle schools actually served more students in these categories than the lower-growth schools. The primary difference at both levels was in the number of LEP students in the schools that had higher- and lower-growth for multi-need students.

- At the elementary level, the schools considered most effective in promoting achievement for multi-need students had *fewer* LEP students, and these students had stronger English skills.
- At the middle school level, the opposite was true, with *more* LEP students at the higher-growth schools and more students with limited levels of English proficiency. All higher-growth middle schools were English as a Second Language (ESL) sites, while no lower-growth middle schools were sites. The number of LEP students at the lower-growth campuses was too small to yield conclusive findings about the value of ESL support in promoting student achievement.

We found differences in attitudes and practices between the sets of higher- and lower-growth schools. The provision of challenging learning experiences for all students, instructional leadership, professional learning communities, use of assessment data (middle school only) and curricular coherence all revealed differences between the groups. Many findings were consistent with effective schools' research (Shellard, 2002; Edmonds, 1979). The exact nature of the differences within these larger categories varied by level.

Challenging Learning Experiences: School staff at the elementary level that achieved higher achievement for multi-need learners seemed to have higher expectations for the students, emphasized building strong student-teacher relationships more, and used research-based strategies more often. At the middle school level, staff in the more effective schools focused less on barriers as reasons students could not achieve, and more on ways to address the challenges.

Principal as Instructional Leader: We found evidence of strong administrative leadership more often in the schools that achieved higher achievement for multi-need learners. At the elementary level, strong administrative leaders supported teachers in a variety of ways, including more effective resource allocations for needy students. At the middle school level, principals were more likely to pop into classrooms for informal observations and provide useful feedback on instruction.

Effective Use of Data: All elementary schools in the study reported using data to support students. The higher-growth middle schools were more likely to use assessments fairly frequently to inform instruction.

Professional Learning Community: This term is used here to describe school staff with shared values, a focus on student learning, collaboration, and reflective dialogue (Shellard, 2002). In our data, differences related to professional learning communities were evident in staff attitudes, training, and collaboration. Higher-growth elementary schools more frequently reported positive staff attitudes towards learners with multiple-risk factors and towards other staff; completed professional training related to FRL, SWD, or LEP students; and reported that staff had both formal and informal collaboration among staff. The nature of this collaboration as described by study participants at the higher-growth elementary schools seemed more positive in tone than the respective reporting from the lower-performing schools. At the middle school level, the main differences noted between the lower- and higher-growth schools concerned staff development. Higher-growth middle schools reported strong administrative support for staff development. Some teachers at lower middle schools reported that training and teacher education programs were inadequate at preparing them for teaching SWD and LEP students. Only the alternative school explicitly mentioned having a professional learning community at their school.

Curricular Coherence: Both the elementary and middle schools mentioned use of the North Carolina Standard Course of Study (NC SCoS) to guide their work, and most mentioned modifying the curriculum to meet student needs. Stronger schools used some resources related to NC SCoS more often and expressed more positive opinions about the curriculum. In terms of resources to deliver the curriculum, we observed more adults in the classroom in higher-growth elementary schools, with some evidence of this at the middle school level. Actual resources provided by the system were similar, with the exception of extra resources for special education at one school that had more special education students. At the middle school level, lower-growth schools placed more computers within classrooms, yet higher-growth schools appeared to utilize computers more frequently and effectively.

Table 1
Summary of Qualitative Differences Found In Effective Practices Study

	Elementary	Middle
Challenging Learning Experiences for All Students		
Barriers	--	✓
High expectations	✓	?
Parental involvement	--	--
Student-teacher relationships	✓	--
Strategies	✓	✓
Principal as Instructional Leader		
Strong administrative support	✓	✓
Effective Use of Data		
Data and assessments	--	✓
Professional Learning Community		
Attitudes	✓	--
Staff development	✓	✓
Collaboration	✓	--
Curricular Coherence		
Curriculum—NC ScoS	✓	✓
Program resources	--	--
Technology resources	--	✓
Extra adult resources	✓	?

? = Some evidence suggests differences, but it was not sufficient to be considered a trend.

Thus, some schools do show more positive achievement patterns for students with multiple needs. Compared to schools with less positive patterns of achievement, these schools:

- Have staff more likely to believe that all students can learn with appropriate support;
- Have staff with more positive attitudes about their ability to meet these students’ needs with the resources available;
- Have strong administrative leadership that provides resources (elementary) and informal monitoring (middle);
- Use curricular and other resources well (extra adults at elementary and technology at middle);
- Have training that has contributed to helpful attitudes, confidence, and skill levels; and/or
- Balance the use of instructional strategies differently from the lower-growth schools.

IMPLICATIONS

There are implications of these initial findings for both central services and school staff. These initial trends provide evidence that some schools are indeed more successful with multiple-risk students than others, and that positive attitudes, collaboration, instructional practices, training, and efficient resource use can make a difference. We plan further study, and encourage schools and central staff to discuss findings and consider whether to change any of their own practices to meet the needs of multi-risk students better. The discussion section at the end of the report explores implications in more detail.

Effective Practices for At-Risk Elementary and Middle School Students

INTRODUCTION

WCPSS's goal is that by 2008, 95 percent of students in grades 3 through 12 will be at or above grade level as measured by the State of North Carolina End-of-Grade or Course tests, and all student groups will demonstrate high growth. Previous analyses of state assessment results had indicated that FRL, SWD, and LEP students seldom made high growth at either elementary or middle school levels in 2003-04 or 2004-05 according to North Carolina ABC's End-of-Grade tests. Also, in the past three years, FRL and SWD subgroups most often failed to meet Adequate Yearly Progress standards created by the Elementary and Secondary Education Act of 1965, as amended by the No Child Left Behind Act of 2001 (NCLB). Finally, only elementary LEP students made high growth, according to ABCs in 2003-04.

RELATIONSHIP TO PRIOR STUDIES

This study is part of a larger body of work carried out by E&R staff that focuses on effective teaching practices. The Effective Biology Teaching Study (Haynie, 2006) has been completed and the Effective Algebra Teaching Study is underway. We reviewed the procedures used in these studies, and adapted relevant study structures and formats.

This study differed from both the Biology and the Algebra teaching studies in that it looked at schools rather than teachers as the unit of analysis. Students in this study were likely to be impacted by at least two teachers per year (more at the middle school level), making it difficult to attribute positive achievement patterns and/or effective practices to one particular teacher. Moreover, we focused on effectiveness with a subset of students instead of all students in a subject.

Students considered in this study belonged to multiple-risk categories. Because the number of multiple-needs students in a given classroom at schools varied, the study focused on school level differences in instructional practices. The number of LEP students was limited at some schools, thereby reducing the number of multiple needs students with LEP as a risk factor.

PURPOSE AND RESEARCH QUESTION

The purpose of this study was to find effective school practices that:

- Promote the achievement of students with multiple-risk factors (some combination of FRL, SWD, or LEP), and
- Provide schools with hope that they can meet the challenge of helping students with multiple needs grow academically.

We acknowledge the contribution of the following E&R staff to this report (listed alphabetically): Glenda Haynie, David Holdzkom, Wendy Stevens, Megan Townsend. In addition, we thank the staff of the Curriculum and Instruction Department for providing funding and consultation to inform this study.

Thus, the primary research question of interest was whether differences in instructional practices could be detected in schools that were more effective *versus* less effective with multi-risk students.

METHODS

SELECTING SCHOOLS

The research team identified three schools at both the elementary and middle school levels that consistently were the most effective, and the least effective, with the instruction of students in multiple-risk categories for the time period of 2002-03, 2003-04, and 2004-05.

E&R staff conducted a special effectiveness analysis of achievement patterns using only students with two or three of the risk factors (FRL, SWD, and LEP). Since these analyses are not typically run, schools selected may not have been aware of whether they were considered higher-growth or lower-growth schools for multi-risk students. We chose to focus on the effectiveness index for several reasons: 1) both performance and growth are issues for students in these groups, 2) reaching grade level performance is one step, but continued growth thereafter is also critical, and 3) the effectiveness index provides a good yardstick for comparing improved achievement for similar students across schools. This analysis entailed the following steps:

- Calculating student residuals by comparing students' scale scores from one year to the next with predicted scores (based on performance of students with similar initial scores and similar risk factors);
- Averaging student residuals for each school by grade and subject; and
- Sorting schools from highest to lowest average residuals across three years for students with multiple needs and looking for patterns.

We rated schools' achievement patterns over time as consistently higher growth or lower growth based on the number of times their reading and math average residual scores fell in either the top or bottom 25% of all schools in the district over the past three years. Schools that were consistently high or low had six out of six scores in the top or bottom 25%. Schools that were usually high or low had four or five out of six scores in the top or bottom 25%. Schools that were steadily improving or declining had residual averages that were increasingly better or worse over the past three years and ended up being in the top or bottom 25%.

Elementary Schools Selected

The first step in selecting schools was to identify those with sufficient numbers of multi-risk students. The number of multi-need students per school systemwide ranged from 7 to 95. Nine schools were eliminated because they had fewer than 15 students in more than one category. Among these schools, we reviewed data on Individualized Developmental English Activities (IDEA) Proficiency Test (IPT) scores and special education categories to select the most comparable schools. The range of multi-need students in the selected higher-growth schools was

16 to 43. The range of multi-need students in the lower-growth schools was 17 to 26. One consistently lower-growth school, one almost always higher-growth school, two steadily improving schools, and two steadily declining schools were selected for the study as summarized in the following table.

**Table 2
Elementary Schools Selected Based on Special Effectiveness Analyses***

	Reading		Math	
	Spring 2003, 2004, 2005		Spring 2003, 2004, 2005	
	Highest 25%	Lowest 25%	Highest 25%	Lowest 25 %
Higher-growth elementary schools - top 25%				
Higher 1 – Steadily improving	2 out of 3 years		2 out of 3 years	
Higher 2 – Almost always high	1 out of 3 years		3 out of 3 years	
Higher 3 – Steadily improving	2 out of 3 years		2 out of 3 years	
Lower-growth elementary schools - bottom 25%				
Lower 1 – Steadily declining		1 out of 3 years		2 out of 3 years
Lower 2 – Consistently low		3 out of 3 years		3 out of 3 years
Lower 3 – Steadily declining		1 out of 3 years		2 out of 3 years

*Note: Special effectiveness analyses were run including only students in two or three of the following subgroups: FRL, SWD, and LEP.

Middle Schools Selected

The number of students with multiple needs per school ranged from 3 to 146 in the middle schools. We did not consider two schools because they had fewer than 15 students with multiple needs. Ten schools best fit our criteria for selection, because they were most often in the highest or lowest 25% in both reading and math. Among these schools, we reviewed data on IPT scores and special education categories to select the most comparable schools. The number of students with multiple needs in the selected schools ranged from 54 to 146 in the higher-growth schools and 53 to 67 in the lower-growth schools. One consistently high and one almost always high school, one steadily improving and one steadily declining school, and two almost always low schools were selected for the study.

**Table 3
Middle Schools Selected Based on Special Effectiveness Analyses***

	Reading		Math	
	Spring 2003, 2004, 2005		Spring 2003, 2004, 2005	
	Highest 25%	Lowest 25%	Highest 25%	Lowest 25 %
Higher-growth middle schools - top 25%				
Higher 1 – Consistently high	3 out of 3 years		3 out of 3 years	
Higher 2 – Almost always high	1 out of 3 years		3 out of 3 years	
Higher 3 – Steadily improving	1 out of 3 years		1 out of 3 years	
Lower-growth middle schools - bottom 25%				
Lower 1 – Almost always low		3 out of 3 years		2 out of 3 years
Lower 2 – Almost always low		3 out of 3 years		2 out of 3 years
Lower 3 – Steadily declining		3 out of 3 years		1 out of 3 years

*Note: Special effectiveness analyses were run including only students in two or three of the following subgroups: FRL, SWD, and LEP.

One alternative school with FRL and SWD students was also in the top 25% all three years in reading and two of three years in math. No comparison school was available for this school, but we used it as a pilot school to test our procedures. We share some findings from this school that were consistent with the other schools in the qualitative analysis section, with an overview of findings in Appendix B.

DATA COLLECTION AND ANALYSIS

We utilized mixed-method analyses for this study. Quantitative data sources included examination of the Effectiveness Index, Healthy School indicators, and IDEA Proficiency scores. Qualitative content analyses were conducted with school wide observations, teacher observations, individual and group interviews with faculty and staff, and school improvement plans.

Quantitative Data

Healthy School indicators: These are variables that the system reviews for all schools for planning purposes each fall. The Healthy School database provided a rich data source for use in

comparing differences in our school sets in terms of student demographics, school climate, and teacher characteristics. chi-square analyses (with significance at the .05 level) were used to determine whether the higher- and lower-growth schools at the elementary and middle school-level were statistically different with respect to a number of these variables.

IPT: The designated state assessment of English language proficiency. Any student whose home language survey indicates English is not the home language is assessed with this test. School staff test these students to determine their LEP status and whether or not they qualify for ESL services. The test is given in the fall as well as the spring, with the spring test serving as a posttest for those students who took it in the fall and an initial test for a student who entered school during the second half of the year. All students take the spring test regardless of whether or not they took the fall test. We utilized the spring 2005 (Form B) scores for this study, which included an oral, reading and writing test. The IPT scores for the oral and reading tests are scaled according to the following six levels: novice low, novice high, intermediate low, intermediate high, advanced, and superior. For this study, we combined the novice levels, the intermediate levels, and the advanced and superior levels. The writing test is scaled according to only two levels: superior and below superior.

Qualitative Data

Observations: We conducted walk-through observations of nearly all classrooms in most schools and individual teacher observations of teachers nominated by the principals. For the walk-through observations, we utilized the framework provided by (Valentine, 2005). Other observation instruments were adapted from those used in the earlier effectiveness studies for Biology and Algebra.

Walk-through observations based on Valentine's framework included all classrooms in the school, and took place in March and April 2006. Valentine's framework involves one to two minute observations in each classroom of a school. Observations seek to capture the nature of the interaction between teachers and students and of instructional practices. E&R and C&I staff members who successfully completed Valentine's training in the fall of 2005 trained the other members of the data collection team. These walk-through observations took place at five of the six elementary schools and four of the six middle schools. We were unable to observe in one higher-growth elementary school, plus one lower-growth and one higher-growth middle school, due to the closeness of the End-of-Grade (EOG) testing.

Individual teacher observation forms, adapted from those used for the Biology and Algebra effectiveness studies, addressed both the delivery method for the lesson and the learning environment. Observations lasted about one hour. For the individual observations and interviews, we asked the principal to nominate teachers who worked well with students with multiple-risk factors. Most were regular content area teachers, with some special education and ESL teachers included.

Interviews: We interviewed a team of school staff at most schools, as well as individual teachers. E&R provided a memo to the principals describing the nature of the study (without identifying their group affiliation), which provided general guidance about staff we would like to

interview and observe. For the group interview, we requested a special education teacher, ESL teacher, core content classroom teachers, the principal, and anyone else that the principal felt played a critical leadership role in the instruction of these students. In five schools, we had to substitute a principal interview for the group interview because of difficulties in scheduling the group interview and the closeness of EOG testing. The open-ended, structured interview questions, along with follow-up prompts are available by request from E&R. Interviews lasted about 45 minutes to one hour.

Checklists: We asked the staff who attended the group interviews to complete a brief checklist reflective of their role. Some basic questions asked about their backgrounds, while other questions related to staff development and expectations for these subgroups of students. The form for the principals asked them to summarize the level and type of resources available to their school. The interviews and surveys were adapted from instruments used in the Effective Biology Teaching study. We asked interview and survey participants questions relating to factors such as: programs and materials used in the instruction of these students, barriers that limit their success, training and professional development, faculty and administrative support, and parental involvement. Copies of interview and survey instruments are available in Appendix C.

Table 4 shows the qualitative data used and the number of cases intended and completed for the study. The initial plan was to conduct three individual teacher observations and interviews per school (36 total). However, scheduling observations and interviews became difficult as EOG testing approached, resulting in the actual teacher observations totaling 30.

Table 4
Observations, Surveys, and Interviews for Selected Schools

Instrument	Elementary		Middle		Total	
	Actual	Projected	Actual	Projected	Actual	Projected
Walk-through Observations	5	6	4	6	9	12
Teacher Observations	16	18	14	18	30	36
Teacher, Principal, or Counselor Checklists	32	24	24	24	56*	48
Group/Principal Interview	5/1	6	2/4	6	7/5	12
Teacher Interview	17	18	17	18	34	36

Note: Because of varying group interview sizes at respective schools, the actual number of surveys exceeds the projected number for this instrument.

School Improvement Plans for the 2005-08 cycle were also reviewed. These were available online. We could not locate paper copies from the previous cycle within the time frame of this study, which would have coincided better with the three years of test scores. However, the last year of the study period, 2004-05, was the timeframe in which schools were planning for improvements. Plans therefore reflect their views during that year. Sometimes the planning process actually leads to differences in school or classroom practice during the planning year as

well. We therefore reviewed the plans and coded the extent to which they included goals and strategies and training related to the subgroups of interest.

We conducted brief literature reviews related to effective schools and specific strategies found to help each of the three groups of interest. We also held discussions with C&I staff of the practices they recommended (whether cited in the literature or not).

Team members wrote reflections about their impressions of what they observed and heard as they completed the observations. Review of these notes and team discussions led to the realization that many of the commonalities observed in the schools were also reflected in the research literature for effective schools. We therefore decided to use this framework to summarize our results. NVivo qualitative data analysis software was used to review some results by question and some by key words that we believed reflected common trends. We then reviewed results to confirm or disconfirm whether the practices and attitudes were indeed more common in the higher- than the lower-growth schools. Practices cited had to be more prevalent in at least two of the three schools at the elementary or middle school level, with the practices present in only one or none of the lower schools. The frequency and nature of the comments from teachers and percentages and counts of teacher observation results also helped to solidify our belief that the trends reflected school practice and provide additional examples of differences in practices.

TIMELINE

This project was on a tight timeframe. Discussions with C&I about the need for the study took place in January 2006. C&I requested some results by June 2006, so that they could use this information as they worked with schools in preparing for the 2006-07 school year to give schools hope that these students could reach grade level and beyond.

**Table 5
Study Timeline**

Date	Activities
January 2006	Identified schools through analysis of achievement trends
March – April 2006	Completed on-site data collection
May – June 2006	Completed follow-up data collection Reviewed and coded data Summarized findings
July – August 2006	Prepared formal report

CHALLENGES AND CAVEATS

Various factors increased the difficulty in determining effective practices at schools in this study.

- A few schools implemented new programs in 2005-06; we identified and factored out these programs since they were not within the period of the study.

- Some programs were not available to students at all schools. For example, eight of the 12 schools in this study were ESL sites, and four schools in this study were Project Achieve sites. The Project Achieve initiative restructures the school day to support optimal achievement of students, incorporating strong instructional focus lessons, pacing guides, frequent mini-assessments, re-teaching and enrichment for students (based on assessment and classroom data), and planned collaboration of staff.
- The difference in the number of LEP students and resources per site made it more difficult to compare effective practices for students with this as one of their risk factors.
- In addition, the timing of the observations may have led to some atypical practices. Even several weeks before EOG testing, some schools were turning to EOG preparation workbooks rather than continuing with normal instructional practices and materials. (C&I does not generally recommend this practice.)
- Finally, while trends were evident, there were exceptions. For example, one of the higher-growth middle schools had a teacher who acknowledged having lower expectations for these students.

Since it was not possible to select teachers with the best record of accomplishment over time for the subgroup of interest, we looked at trends in this regard. It is likely that even the higher-growth schools have room for improvement in terms of working with students with multiple-risk factors. It is also possible that schools must exhibit most, but not all, of the characteristics found in our study to be more effective with these students.

ELEMENTARY SCHOOL RESULTS

QUANTITATIVE FINDINGS

School Demographics

At the elementary level, the distributions of FRL and SWD students were not significantly different between the higher- and lower-growth schools. This strengthens our confidence that differences in effectiveness related to instructional practices rather than to the population served. However, the results of chi-square analyses indicated statistically significant differences with respect to the number of LEP students served in higher- and lower-growth schools. The limited number of LEP students in the selected schools made this variable difficult to match as closely as the other variables. This fact made it more difficult to separate the impact of differences in the concentration of LEP students, services available, and school instructional practices for LEP students.

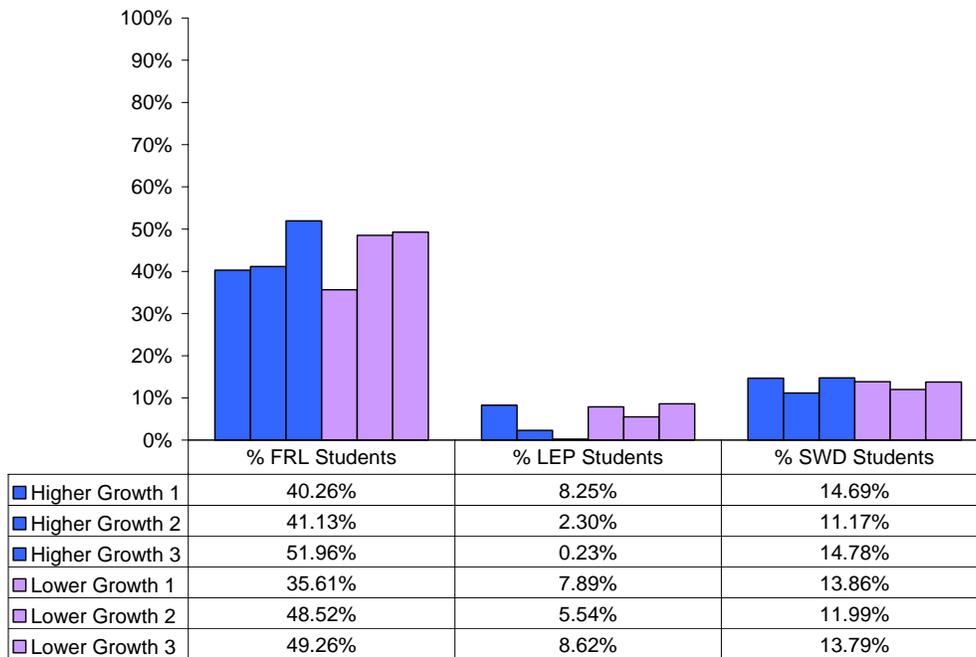
The percentage of LEP students at each school ranged from less than 1% to more than 8%. The percentage of LEP students was lower at two of the three higher-growth schools. The number of LEP students in study schools ranged from 1 to 50. Four of the six elementary schools in the study had ESL support. The two schools without ESL support were higher-growth schools.

The percentage of SWD students at each school ranged from 11% to 15%. The percentage of SWD students was similar at higher-growth and lower-growth schools. The number of SWD students in study schools ranged from 56 to 89. Five of the six elementary schools had equal

months of employment for support of SWD students (one school had more hours allotted for teacher assistants but also had a higher number of SWD students).

The percentage of FRL students at each school in the study was at least 35%. The school with the lowest FRL percentage was a lower-growth school (35.6%); the school with the highest FRL percentage was a higher-growth school (52.0%). The number of FRL students in the study schools ranged from 167 to 263.

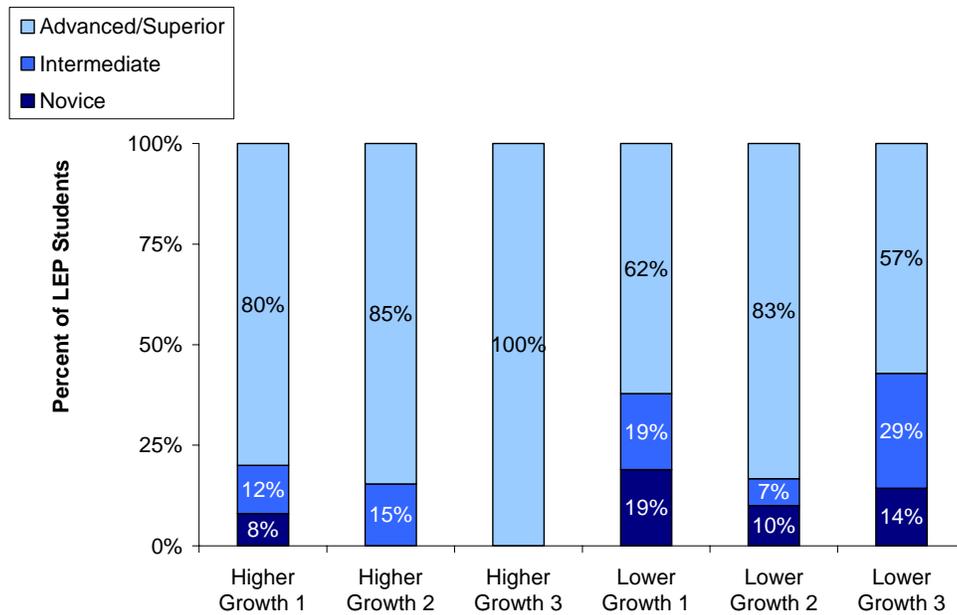
**Figure 1
Elementary Subgroup Demographics**



Oral IPT Levels

Lower-growth schools had higher percentages of students who were novice and intermediate English learners in oral proficiency than higher-growth schools (0-20% vs. 17-43%). One lower-growth elementary school had an additional challenge, in that a number of their LEP students are second-generation non-English speakers. This posed greater obstacles for instruction and parental involvement.

**Figure 2
Elementary Schools Oral IPT Levels Spring 2005**

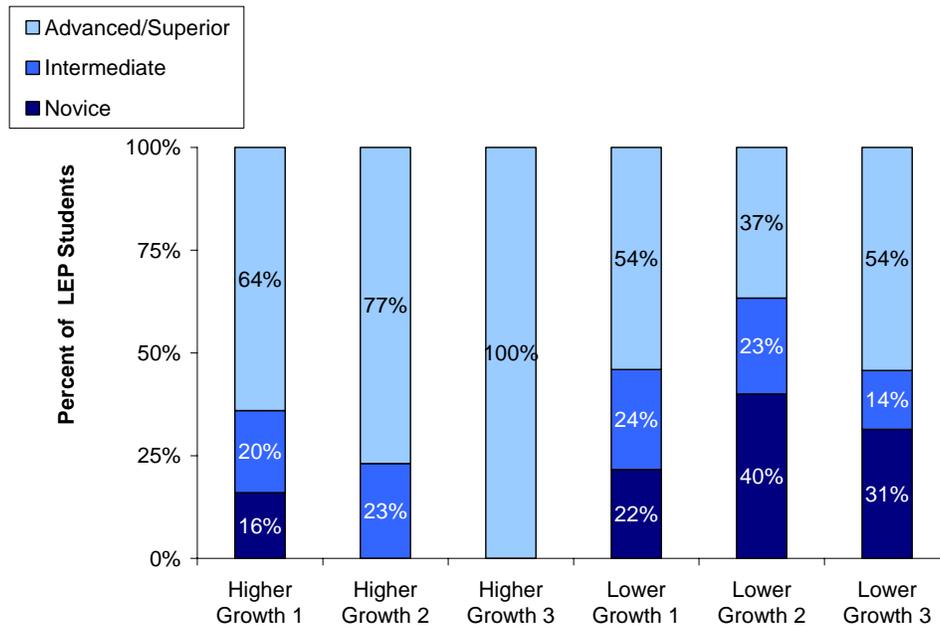


N = 64 students for higher-growth schools combined and 104 students for lower-growth schools combined
 Note: Percents do not add to 100 because of rounding

Reading IPT Levels

Similar to oral proficiency, lower-growth elementary schools had higher percentages of novice and intermediate English learners in reading than did higher-growth schools. These data support the notion that it is easier for elementary schools to reach high achievement with multiple-risk students on EOG if their LEP students were fewer in number and stronger in English proficiency. Given that LEP students can only be exempted from the EOG for one year from their point of entry to US schools, and building English proficiency tends to take considerably longer, this is a logical finding.

**Figure 3
Elementary Schools Reading IPT Levels Spring 2005**



N= 64 students for higher-growth schools combined and 104 students for lower- growth schools combined

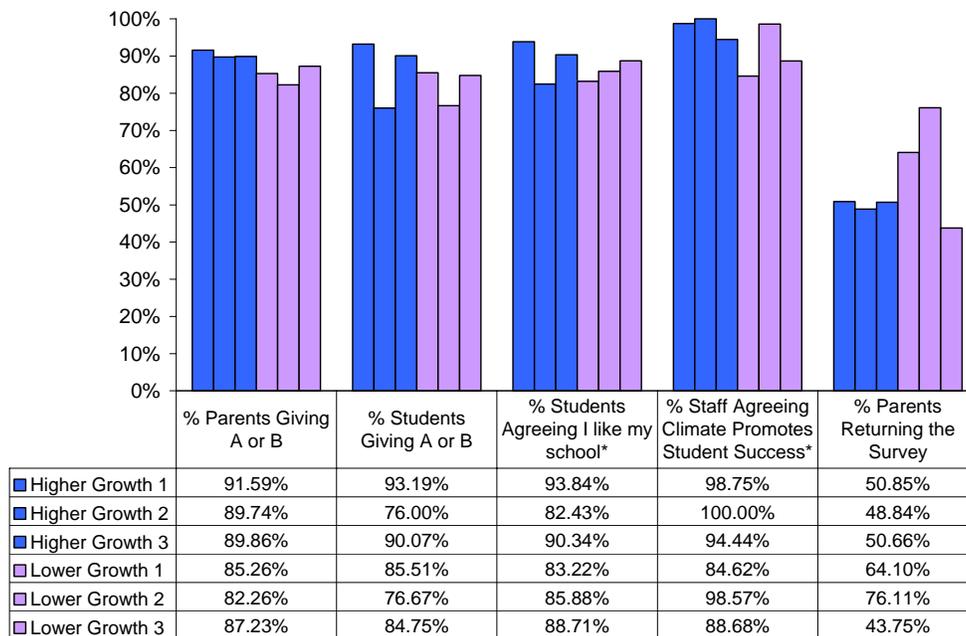
Climate

We reviewed school climate to get an overall sense of climate. Survey results pertain to the entire school population from spring 2005. When comparing higher- to lower-growth elementary schools, chi-square analyses (significant at .05) performed on the school climate survey indicated that opinions of parents, students, and staff were more positive in the higher-growth schools. In schools with higher achievement for multi-need students:

- Parents and students were slightly more likely to give their school a grade of A or B.
- Students were slightly more likely to report that they like their school.
- Staff were more likely to say that climate promotes student success.

The percentage of parents returning the survey was greater at two of the three lower-growth schools. Note that school climate is an indicator of the entire school population, rather than of the study subgroup samples.

Figure 4
Elementary School Climate: Results of Parent, Student, and Staff Surveys



Note: * Agreeing means percentage agreeing or strongly agreeing

Other Characteristics

No statistical differences were found for other variables checked.

- The percentage of students at or above grade level at higher-growth schools ranged from 95.2% to 99.1%, compared to 95.6% to 99.6% at lower-growth schools.
- Teachers at higher- and lower-growth schools had similar levels of experience and education.
- Both higher- and lower-growth schools had comparable access to technological resources.

Table 6
Characteristics of Schools: Student Performance, Teachers and Technology

Characteristics	Higher-growth	Lower-growth
% of students at or above grade level on EOG	95-99%	95-99%
% of teachers with 25+ Years experience	15.1%	16.4%
% of initially licensed teachers	18.2%	19.6%
% of teachers with higher than 4 year degree	32.8%	28.5%
Technology resources	2.8 students per computer	2.5 students per computer

The fact that the percentage of students at grade level was similar overall is important for this study, as we were not examining schools that were markedly different in terms of overall effectiveness – only schools that were differentially successful with students characterized as having multiple-risk factors.

QUALITATIVE FINDINGS

Qualitative results are divided into sections according to variables relevant to most effective school practices. For more information on national research findings, see Appendix A.

Differences in Effective Practices Found in Relation to Research Framework

Differences in Practices Observed are Starred (*)

<p>Challenging Learning Experiences for All Students</p> <ul style="list-style-type: none"> - Barriers - High Expectations * - Parental Involvement - Student-teacher relationships * - Strategies * 	<p>Professional Learning Community</p> <ul style="list-style-type: none"> - Attitudes * - Staff Development * - Informal Collaboration *
<p>Principal as Instructional Leader</p> <ul style="list-style-type: none"> - Strong administrative support * 	<p>Curricular Coherence</p> <ul style="list-style-type: none"> - Curriculum – NC SCoS * - Program resources - Technology resources - Extra adult resources *
<p>Effective Use of Data</p> <ul style="list-style-type: none"> - Data & assessments 	

Challenging Learning Experiences for All Students

Differences were found between the higher- and lower-growth elementary schools in the following areas: high expectations, student-teacher relationships, and strategies. There were no differences found with respect to comments on barriers and parental involvement.

High Expectations

Staff at higher-growth elementary schools mentioned having high expectations for students in these subgroups more often than at the lower-growth elementary schools. A teacher at one higher-growth school said, “It is important not to reduce expectations.” Another teacher talked about building trust with parents, and making sure the parents understood that expectations would not be reduced for their child but she would support their students’ needs. In contrast, one teacher at a lower-growth school felt the students needed a reward when she asked them to complete a challenging lesson.

Student-Teacher Relationships

Staff at the higher-growth schools expressed the value of establishing a relationship with students more often than in the lower-growth schools. In terms of student-teacher relationships, one teacher at a higher-growth school noted the importance of “taking the time to get to know the child and what he or she needs and showing you care.” In contrast, comments made at some lower-growth elementary schools expressed valuing student-teacher relationships but did not mention challenging the students.

Strategies

Since schools were our unit of analysis, we used Valentine’s Instructional Practices Inventory (Walk Through Observations) to gather information on classroom practices and strategies at the whole school level. Walking through all classrooms in schools for a minute or two each provided a snapshot of classroom instructional practice at each school. The instrument is designed to provide snapshots, which can spur discussions of whether the balance is appropriate as well as the practices within categories. We used it for the same basic purposes, and we hope results will spur instructional discussions at schools.

Valentine has not done a formal morning study on the instrument, but has found that all types of instructional interaction are present in schools, and all can be appropriate given the goals of the lesson. For example, the teacher may begin by providing an overview on a topic, followed by students working together to discuss the topic or working independently for practice.

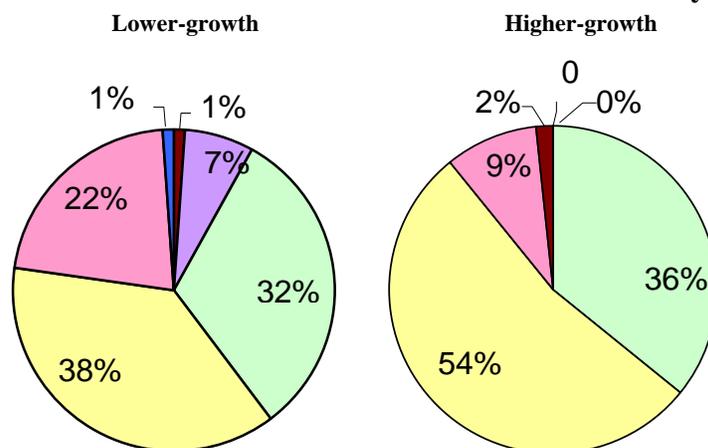
Valentine’s categories (2005) range from “no student engagement in appropriate learning activities” to “student-directed learning activities”. Valentine based his categories on national research, particularly on the value of active student engagement in learning. Valentine posits that “Student Learning Conversations” and “Student Active Engaged Learning” facilitate higher-order thinking the best, with teacher-led instruction being the most common form of instruction. Examples of each category are:

Student Active Engaged Learning:	Authentic projects, hands-on and problem-based learning
Student Learning Conversations:	Active conversations that construct knowledge with students leading the discussion
Teacher-Led Instruction:	Lecture, question and answer, teacher directions, and videos (with teacher interaction)
Student Work with Teacher Engaged:	Seatwork, worksheets, bookwork, tests, watching videos. Teacher is helping or ready to help.
Student Work with Teacher Not Engaged:	Seatwork, tests, videos etc. (without teacher support).
Complete Disengagement:	Students are not learning information related to the curriculum.

At the elementary level, teacher-led instruction was most common in both sets of schools, but less frequent in lower-growth schools. On the other hand, the higher-growth schools used “Student Learning Conversations” less often than the lower-growth schools. At first glance, this appears contrary to research that suggests higher-order thinking promotes higher achievement. However, as Protheroe, Shellard, and Turner (Protheroe, Shellard, & Turner, 2004) report, research indicates higher-order tasks should be balanced with conventional explicit tasks. In addition, special education literature points to the importance of structure and direct instruction

for this group; and LEP students may not have sufficient English in some cases to benefit from student-led learning activities. Teachers may have built in opportunities for both explicit and higher-order tasks. Student learning conversations in lower-growth schools may not have been sufficiently structured to facilitate optimal learning. Thus, the more effective schools for these students used lesson formats that were more likely to be structured by the teacher.

Figure 5
Instructional Practices Observed at Selected Elementary Schools



	Complete Disengagement	Student Work with Teacher Not Engaged	Student Work with Teacher Engaged	Teacher Led Instruction	Student Learning Conversations	Student Active Engaged Learning
Higher Growth	0%	0%	36%	54%	9%	2%
Lower Growth	1%	7%	32%	38%	22%	1%

Principal as Instructional Leader

Strong Administrative Support

Two out of three higher-growth schools mentioned having active and supportive administrators. Teachers at all three higher-growth schools also mentioned having administrators who are very good at providing resources to staff. One representative comment from a higher-growth school was that administration “is very active with special-needs kids and is supportive and involved.” Another teacher reported that the school’s administration will “recycle, reuse, and do whatever is necessary to get the resources that are needed and (they) are good at looking at where the resources are most needed.” Lower-growth schools were not consistent in their comments about administrative support.

Effective Use of Data

Data and Assessments

Both higher- and lower-growth elementary schools mentioned using a variety of assessments and data. It was difficult to tell whether quality or frequency of use was consistently greater in the higher schools. One of the higher-growth schools, a Project Achieve school, mentioned assessing students approximately every two weeks with objective assessments and then regrouping them for re-teaching or enrichment based on the results. The Project Achieve initiative restructures the school day to support optimal achievement of students, incorporating strong instructional focus lessons, pacing guides, frequent mini-assessments, re-teaching and enrichment for students (based on assessment and classroom data), and planned collaboration of staff.

Professional Learning Community

We found differences between the higher- and lower-growth elementary schools in several areas under professional learning community: staff development, and informal collaboration, formal school improvement planning, and attitudes.

Staff Development

Teachers at two out of three higher-growth schools mentioned having participated in staff development/training related to these groups. Two of the three higher-growth schools mentioned cultural diversity training as having been helpful in understanding the differences in motivation, values, and behavior.

Teachers at all three lower-growth schools mentioned *a need* for more staff development/training in order to effectively teach these students. When asked whether teachers are prepared to work with these groups of students, one teacher at a lower-growth school reported, “there is not enough training on strategies, and no specific meetings addressing this issue.” Another teacher at a lower-growth school indicated that teachers are not prepared to work with students in these subgroups and that there should be more training offered to them.

Informal Collaboration

Two out of three higher-growth schools mentioned formal collaboration as well as informal collaboration, whereas all lower-growth schools mentioned only informal collaboration. Higher-growth schools had more structured and intentional ways of collaborating than the lower-growth schools. Two out of three lower-growth schools mentioned a need for more collaboration, while none of the higher -growth schools did. A teacher at a lower-growth school mentioned that there was collaboration between teachers, but that more collaboration between the SWD and LEP programs would improve instruction for these students. Some of the comments made about collaboration were also more negative at the lower-growth schools.

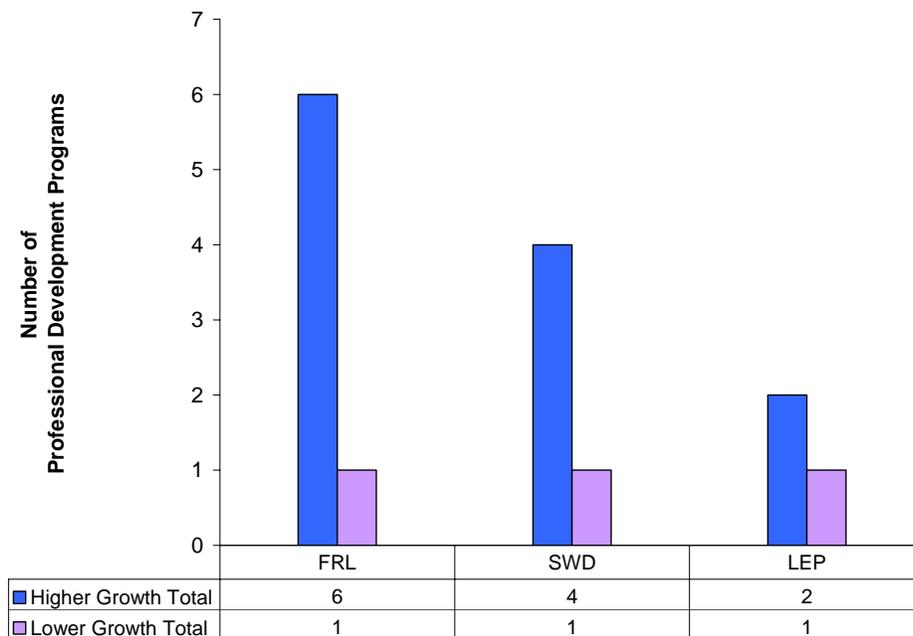
School Improvement Plans

School Improvement Plans (SIPs) for the 2005-08 years were collected and reviewed for each of the three higher- and lower-growth elementary and middle schools. SIPs were not available for the previous cycle, which would have better reflected the years in our study (namely 2002-03, 2003-04, and 2004-05). However, the plans were developed during the 2004-05 school year, and indicate the degree to which each school was aware of and planning for the educational needs of at-risk populations. Schools may have implemented some changes in practice during the 2004-05 planning year as well.

We reviewed SIPs for the number of professional development programs specifically addressing the instruction of FRL, SWD, and LEP. In addition, we reviewed the number of action steps planned in the core content instruction of these same students. Action steps are more difficult to compare across school types since some may be stated more generally (in a few steps), while others are stated more explicitly (in more steps).

The three higher-growth elementary schools combined had planned a total of six professional development programs specifically addressing FRL students, four addressing SWD students, and two addressing LEP students. The three lower-growth elementary schools combined planned for a total of one professional development program each for FRL, SWD, and LEP.

Figure 6
Elementary School Improvement 2005-08:
Professional Development Planned for FRL, LEP, and SWD Students



Higher- and lower-growth schools planned nine action steps each in reading instruction; four and five action steps, respectively, in writing; and four and eight respectively in math instruction. However, the apparent difference favoring lower-growth schools in math stems from the fact that

one lower-growth school planned to use a large number of action steps. Again, differences in specificity of action steps also played a part.

Attitudes

Staff at all of the higher-growth elementary schools expressed positive staff attitudes about multi-risk students. Two of the higher-growth schools reported that the faculty is very united in the instruction of these students. Lower-growth schools expressed a less positive attitude through their negative comments about staff collaboration, their ability to teach these students, and programs that are available to support learning for these students. A number of comments were made at lower-growth schools that related to difficulties in teaching the curriculum to these at-risk students and that objectives do not line up with teaching them.

Curricular Coherence

Within curricular coherence, differences were found between the higher- and lower-growth elementary schools in the following areas: extra adult resources, and curriculum resource use. There were no differences found with respect to comments on program resources and technology resources.

Extra Adult Resources

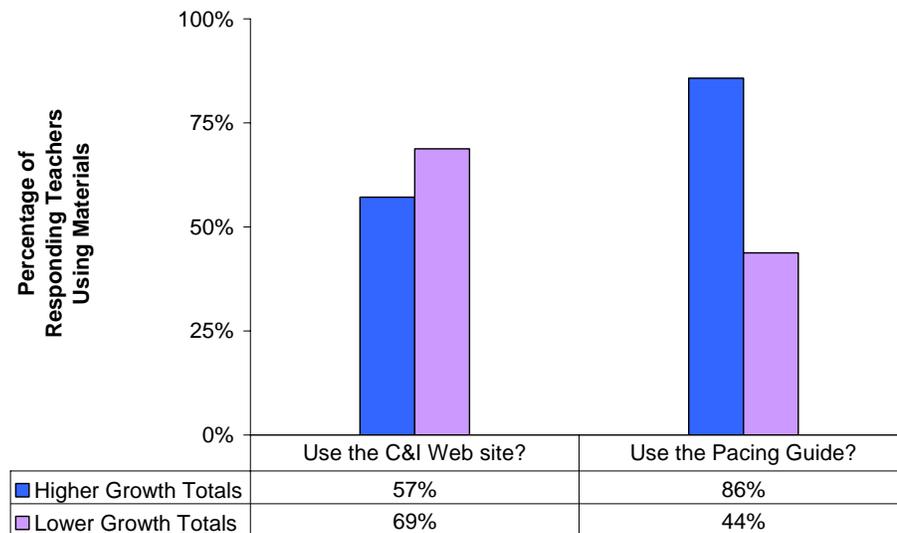
All higher-growth schools mentioned having extra adults in the classroom. One higher-growth school also mentioned allocating/rearranging staff in a way that maximized their resources to support students. In contrast to the higher-growth schools, lower-growth schools mentioned needing more staff and resources in order to help teach these students. Extra adults could be school or district staff or volunteers. On the average, higher-growth schools did have more overall staff supplemental support (with teachers and teacher assistants included), with 130 months supplemental help *versus* 113 months on the average. However, without teacher assistants, months of support were more similar for the two sets of schools (86 months for higher- and 79 months for lower-growth schools). Months of employment are determined by formulas that are based on the number of special needs students.

Schools' Use of Department of Curriculum & Instruction Resources

The study also used a Teacher Checklist Survey with teachers in-group and individual interviews to provide a sketch of teachers' basic backgrounds and attitudes. This checklist asked about teachers "years of experience," whether student subgroups met teacher expectations, and the use of the C&I educational resources such as Web pages and pacing guides.

The Teacher Checklist Survey indicated that higher-growth elementary schools were less likely than lower-growth schools to use the C&I Web site as a resource (57% of teacher respondents in higher-growth schools compared to 69% in lower-growth schools), but were more likely to use the pacing guides (86% vs. 44%). Since the pacing guides are available at C&I’s web pages, it may be that higher-growth schools used more paper copies of the guides while lower-growth schools viewed them only on the Web site.

Figure 7
Elementary Schools Use of C&I Instructional Materials



N=30

MIDDLE SCHOOL RESULTS

QUANTITATIVE FINDINGS

School Demographics

At the middle school level, the study focused on analyzing core-content math and language arts instruction for students in two or more of the subgroups of interest: FRL, SWD, and LEP. The number of students in these subgroups was determined from the 2004-05 Healthy Schools database. The chi-square statistical analysis was conducted on subgroup numbers for the groups of higher- and lower-growth schools. At the middle school level, chi-square results indicated a difference in the proportion of FRL and LEP students between higher- and lower-growth schools.

Unlike the elementary patterns, schools with higher achievement for multi-risk students had higher numbers of FRL and LEP students overall. For SWD students, differences were smaller between the groups. The following table displays ranges of students in each group by school.

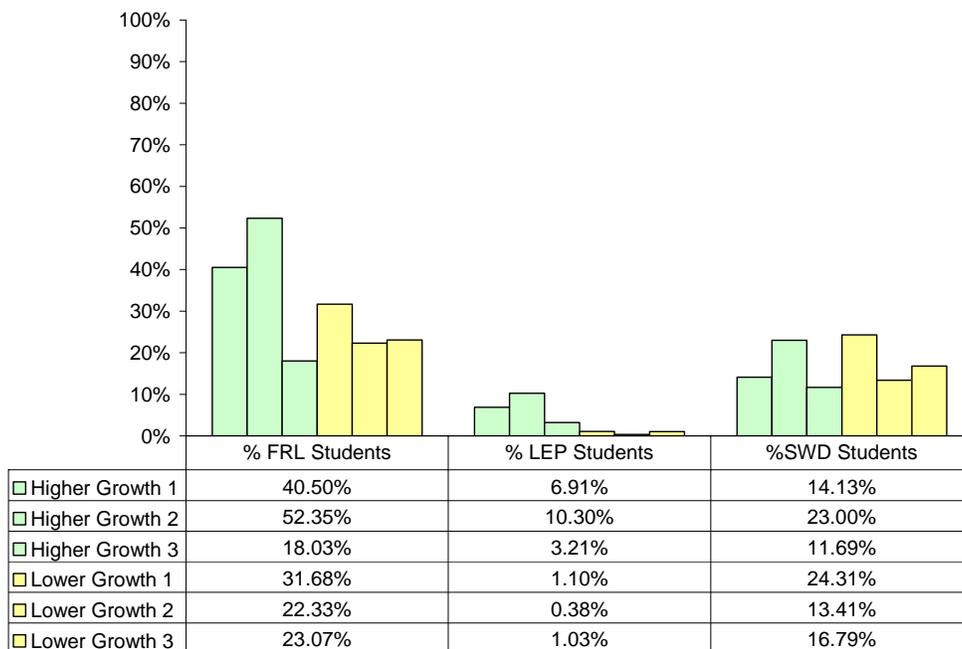
Table 7
Summary of Student Demographics

Demographic	Higher		Lower	
	Min	Max	Min	Max
# FRL students currently in membership	253	478	172	238
# LEP students currently in membership	44	94	4	10
# SWD students	90	210	132	163

We based most of these numbers on Healthy Schools fall data, with the exception of LEP numbers. We based the number of LEP students on spring IPT data, since numbers tend to change during the year in some schools.

The graph below shows the percentages of students in each subgroup by school. Two of the higher-growth schools had considerably greater percentages of FRL and LEP students than did the lower-growth schools.

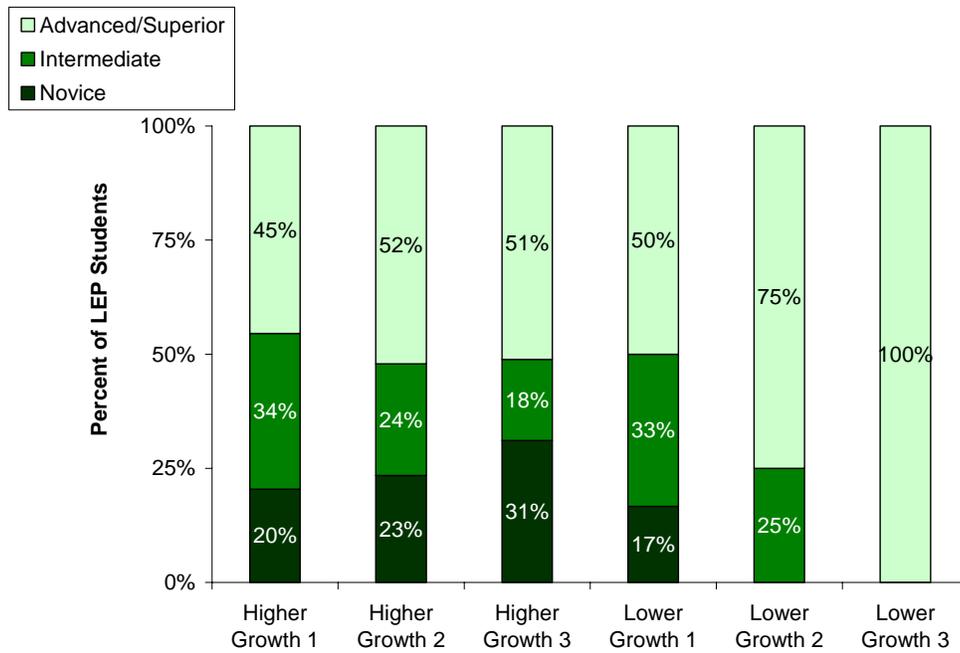
Figure 8
Middle Schools Demographics



Oral IPT Levels

Higher-growth middle schools had higher percentages of novice English learners in oral proficiency than lower-growth middle schools. All of the higher-growth middle schools are ESL sites, whereas none of the lower-growth middle schools are ESL sites. The ESL sites had 15 to 20 months of employment available to support LEP students in their acquisition of English and in their academic work.

**Figure 9
Middle Schools Oral IPT Levels**

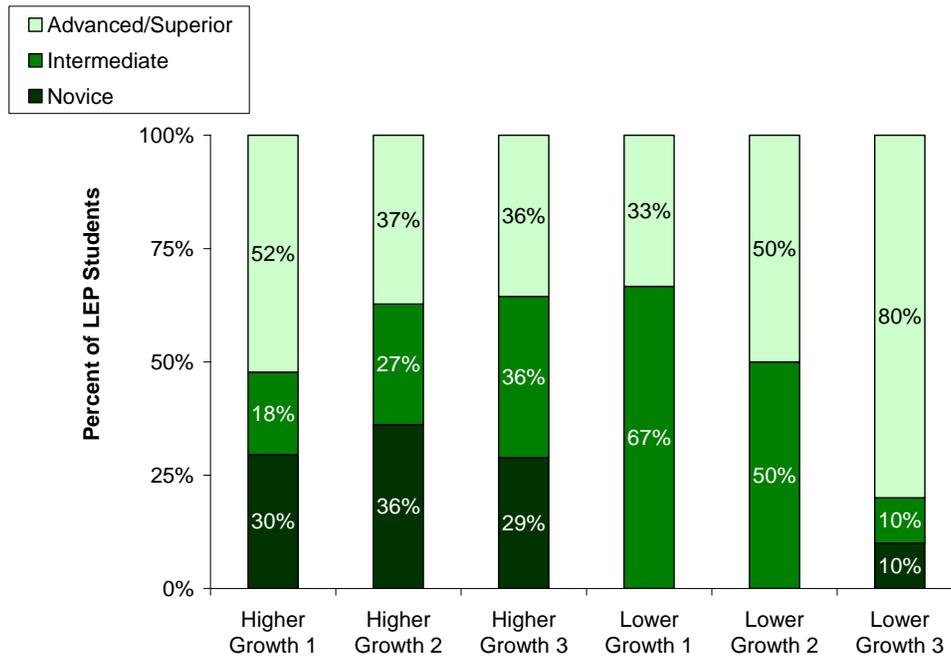


N = 44-94 students in higher-growth schools and 4-10 students in lower-growth schools.

Reading IPT Levels

As with oral proficiency, higher-growth middle schools had higher percentages of novice English learners in reading than lower-growth middle schools.

Figure 10
Middle Schools Reading IPT Levels



N = 44-94 students in higher-growth schools and 4-10 students in lower-growth schools.

At first glance, these results seem to suggest LEP students may show more positive achievement patterns when they attend schools with enough LEP students to earn extra resources at the middle school level. However, the number of LEP students in the lower-growth schools was too small to test this hypothesis.

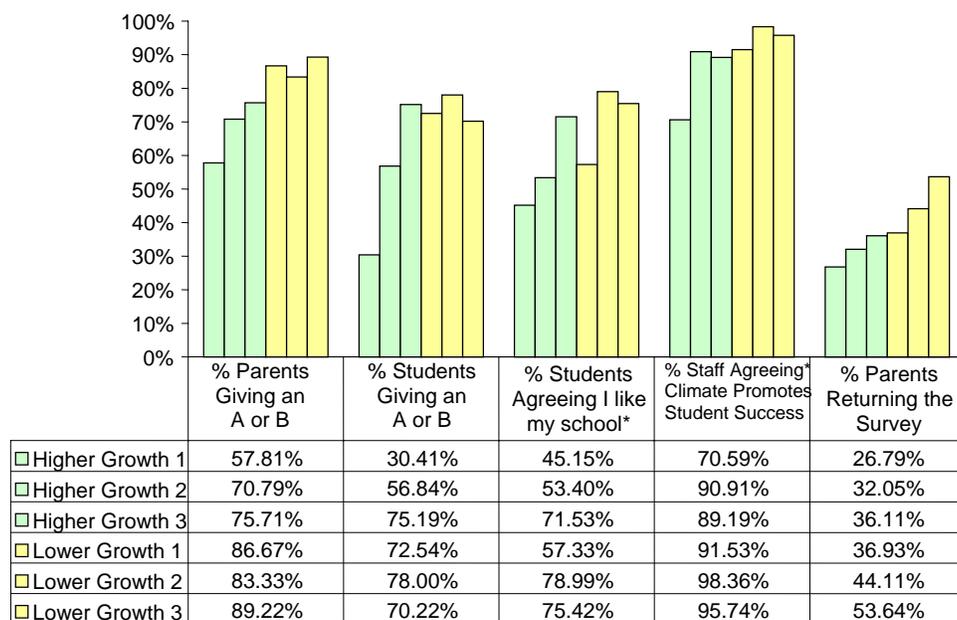
Climate

We reviewed survey results for the overall school population from spring 2005 to get an overall sense of school climate. When comparing higher- to lower-growth middle schools using chi-square analyses, opinions appeared to be generally more positive in the lower-growth schools. The percentage of respondents who had positive views was higher in lower-growth schools in terms of:

- Parents and students who gave their school a grade of A or B
- Students who reported that they like their school
- Staff who agreed “climate promotes student success” and their “school is safe”

Response rates for parent surveys also tended to be lower in the schools with higher-growth for multi-risk students. Response rates for staff and student surveys were higher.

Figure 11
Middle Schools Climate Spring 2005



Note: *Agree means percentage agreeing or strongly-agreeing

It is not clear why climate was more positive in the lower-growth schools. It could be that trying harder to hold all students to high standards may feel less comfortable and supportive. We did notice that in the higher-growth schools with the least positive survey results, some staff did seem less than enthusiastic about using some instructional practices. This may be a case where buying into methods which appear to be successful is less than optimal.

Other Characteristics

No statistical differences were found for other descriptive variables checked. The percentage of students at or above grade level on EOG assessments at higher-growth schools ranged from 93.8% to 97.9%, compared to 95.2% to 97.3% at lower-growth schools. Teachers at higher- and lower-growth schools had similar levels of experience and education. Both higher- and lower-growth schools had comparable access to technological resources.

**Table 8
Characteristics of Schools: Student Performance, Teachers and Technology**

Characteristics	Higher-growth	Lower-growth
% of students at or above grade level on EOG	93.8-97.9%	95.2-97.3%
% of teachers with 25+ Years experience	16.1%	14.1%
% of initially licensed teachers	12.7%	19.7%
% of teachers with higher than 4 year degree	26.7%	28.6%
Technology resources	2.9 students per computer	2.3 students per computer

The fact that the percentage of students at grade level was similar overall is important for this study, as we were not examining schools that were markedly different in terms of overall effectiveness – only schools that were differentially successful with students characterized as having multiple-risk factors.

QUALITATIVE FINDINGS

This section of the report discusses the qualitative findings of the study at the middle school level. Results are divided into sections according to variables relevant to best practice instruction for FRL, SWD, and LEP students. The number of observations and interviews was slightly lower than at the elementary level due to the EOG schedules, but differences between the two groups of schools were still evident. These results provide good initial findings for discussion, and we encourage further research to substantiate differences.

Differences in Effective Practices Found in Relation to Research Framework

Differences in Practices Observed are Starred (*)

<p>Challenging Learning Experiences for All Students</p> <ul style="list-style-type: none"> - Barriers * - High Expectations - Parental Involvement - Student-teacher relationships - Strategies * 	<p>Professional Learning Community</p> <ul style="list-style-type: none"> - Attitudes - Staff Development * - Informal Collaboration
<p>Principal as Instructional Leader</p> <ul style="list-style-type: none"> - Strong administrative support * 	<p>Curricular Coherence</p> <p>Curriculum – NC SCoS *</p> <ul style="list-style-type: none"> - Program resources - Technology resources * - Extra adult resources
<p>Effective Use of Data</p> <ul style="list-style-type: none"> - Data & assessments * 	

Challenging Learning Experiences for All Students

Some classroom practices suggested a stronger emphasis on relationships than on rigor for at-risk students in the lower-growth schools. In one lower -growth school, for example, a special education student was allowed to sleep in class and may not have been graded on all core area assignments, suggesting that the student was held to a lower standard. We found the clearest differences between the higher- and lower-growth middle schools to be related to barriers and strategies. Comments on barriers reflect attitudes about high expectations, parental involvement, and student-teacher relationships.

Barriers

Multiple-risk students often do have more difficulty learning. Both the higher- and lower-growth middle schools mentioned school-based barriers to learning such as need for extra adults, the pace of the curriculum i.e.; “the NC SCoS pace for SWD students is entirely too fast. There is a new lesson everyday!” mentioned one higher-growth teacher, class size and, lack of sufficient technology resources. Student-based barriers mentioned at both higher- and lower-growth schools included: lack of parental involvement, student behavior, and poor motivation. The barrier reported most often was a lack of extra adults, which was reported at three of the higher- and two of the lower-growth schools.

Some barriers were mentioned only by higher- or lower-growth schools as shown in Table 9.

Table 9
Barriers to Effectively Teaching Multi-Risk Students

Barriers	Mentioned by Higher-growth	Mentioned by Lower-growth
School based: Extra adults needed, pace of curriculum, class size, and lack of technology resources Student based: Parental involvement, behavior, and motivation	✓	✓
Inadequate prior knowledge, language	✓	
Scheduling, teacher turnover/ quality of teachers		✓

The nature of the comments varied in the higher- and lower-growth schools. Teachers in higher-growth schools generally had more proactive comments about how they were addressing the challenges, while lower-growth schools tended to point to these barriers as reasons they could not succeed more fully with these students. For example, higher-growth middle schools reported language as a barrier to LEP instruction, which is a relevant factor, and named means of instruction (e.g. differentiation, modification) as a way to address it (although it could be challenging). Lower-growth middle schools, on the other hand, reported scheduling, teacher turnover, and quality of teachers as reasons they were unable to accomplish more with these students, which are largely out of their control. The nature of comments also varied across school sets in terms of parental involvement, behavior, and motivation.

Parental Involvement: One comment from a higher-growth middle school teacher was that education is not mandatory and costs money in some countries from which students have immigrated. Some of her middle school students have had only two or three years of school, often for half days. Another indicated that teachers have to re-teach more if home support is not there, and that cultural differences in the value placed on education may be a cause of lower achievement.

One teacher in a lower-growth school commented that, “The major barrier is parent support. After 2:30 and on the weekends [it is] hard to get parents to hold the students accountable... Parents should work as hard to help educate their children if not harder than the teachers.”

Behavior: Only one teacher in a higher-growth school mentioned behavior as a barrier to instruction. At the lower-growth schools, teachers saw behavior as a barrier (saying they could not manage behavior or get the students to self-manage). One teacher reported it was not realistic to expect her to teach a student with the existing resources because he had ADHD (Attention Deficit Hyperactive Disorder), autism, and a low IQ (Intelligence Quotient).

Motivation: In the higher-growth schools, one teacher commented that multi-need students have often had past experiences that have been struggle/failure, which turned them off school. Another said she saw students with ability that would not follow through on their work due to motivational issues. In lower-growth schools, sample comments were that:

- “Student is not taking responsibility for their learning; more could’ve been done on both ends.”
- “Students use the curriculum assistance as a crutch.” For example, a student would not do their work in class saying they would do it in the curriculum assistance class and then not use their time in curriculum assistance class wisely.

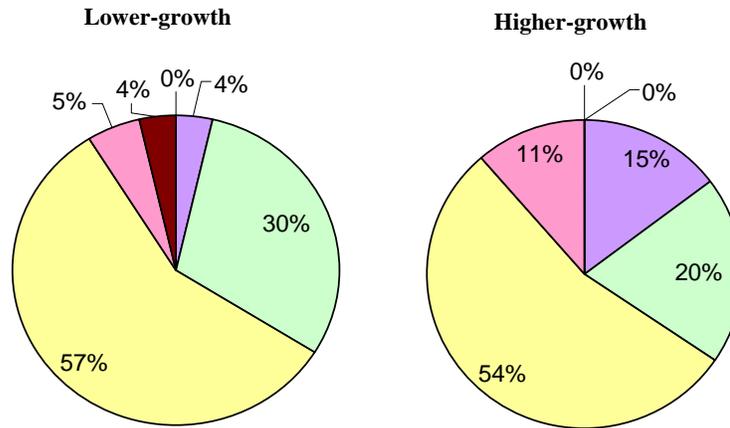
Strategies

We found differences and similarities across the two sets of middle schools in the walk-through observations of instructional practice.

- The category of “Teacher Led Instruction” was the most commonly used in both the higher-and lower-growth middle schools, representing 54-57% of the lessons observed.
- “Student Work with Teacher Engaged” was the next most common, representing 20% of the higher-growth school instruction and 30% of the lower-growth school instruction. The higher-growth schools did tend to use this instructional practice somewhat less often than the lower-growth schools.
- Of the less common instructional practices, higher-growth schools were observed to have more than three times the instances of “Student Learning with Teacher not Engaged” than the lower-growth schools (15% vs. 4%).
- “Student Learning Conversations” were used infrequently, but more often-in higher-growth schools (11% vs. 5%). On the other hand, “Student Active Engaged Learning” was not observed at all in the higher-growth schools and 4% of the time in the lower-growth schools. In Valentine’s instructional practice hierarchy, these categories represent the best opportunities for higher-order thinking.
- Of note, the researchers did not observe any “Complete Disengagement” in their observations of middle schools involved in the study. (Observers did not code lessons during the first five minutes or the last five minutes of the period.)

Most middle school instruction observed was teacher-led or supported. Higher-growth schools tended to give students slightly more independence to work alone or in student conversations. This may indicate teachers in higher-growth schools are somewhat more confident in students' abilities or their ability to figure things out with peers. Differences between elementary and middle school responses could relate to the increased skills and maturity of the students or the importance of peers to middle school students.

Figure 12
Instructional Strategies Observed at Selected Middle Schools



	Complete Disengagement	Student Work with Teacher Not Engaged	Student Work with Teacher Engaged	Teacher Led Instruction	Student Learning Conversations	Student Active Engaged Learning
Higher Growth	0%	15%	20%	54%	11%	0%
Lower Growth	0%	4%	30%	57%	5%	4%

Principal as Instructional Leader

Administrative Support

When asked how administrators supported the instruction of multi-risk students, staff in three of the higher-growth schools and two of the lower-growth schools mentioned “formal observations.” Lower-growth schools reported less frequent “informal classroom” visits by administration than higher-growth schools. Higher-growth schools reported that administrators “pop in” every few months and provide helpful feedback. Lower-growth schools said they were “observed formally” four times per year. There were no differences in resource support between the higher- and lower-growth schools.

Effective Use of Data

Data and Assessments

Higher-growth middle schools had greater availability and use of assessments to monitor student progress and inform instruction than the lower-growth schools. While all middle schools had access to the use of Blue Diamond (Reichstetter, 2002), a software program that allows formative evaluation of student learning to access periodic assessments of student progress in 2005-06, only a few had access during the period of this study. Two of the schools identified with higher achievement for multi-need students used Blue Diamond, while the third higher-growth school had its own assessment system in place. All used assessment results to inform instruction. In addition some assessments were reportedly used frequently with SWD students by the higher-growth schools (e.g., SRA decoding). One higher-growth middle school also mentioned utilizing data notebooks, VOCATS, and research-based instructional techniques. The lower-growth schools had more sporadic assessments for selected students before the 2004-05 school year, with some mention of SRA decoding as well.

In respect to instruction for LEP students, one higher-growth middle school (ESL site) reported the use of English Language Learners Instructional Software (ELLIS) most frequently. This same higher-growth middle school reported the use of Rosetta Stone (a language learning software) as another tool for LEP instruction at their school.

Professional Learning Community

Between the higher- and lower-growth middle schools, we found differences in the area of Staff Development. Teachers made mixed comments about informal collaboration and attitudes.

Staff Development

Higher-growth middle schools reported some in-house training from ESL teachers and strong administrative support of staff development. Staff at one higher-growth middle school reported being offered workshops on-site for instructional training related to LEP students. Lower-growth middle schools reported teachers are not “formally” or “adequately prepared” to instruct SWD and LEP students. One lower-growth middle school teacher stated, “No, I don’t feel that teachers are well-prepared to teach SWD students in respect to the NC SCoS. I have an undergrad teaching degree and a master’s in ed., and neither degree had much focus on SWD instruction. Maybe one class each. Teacher education programs can improve SWD exposure/tactics for instruction.”

Informal Collaboration

Both higher- and lower-growth middle school teachers reported “informal collaboration” as a critical piece of their instructional approaches for SWD, LEP, and FRL students. “Informal collaboration” covers such observed or reported phenomenon as chatting with the ESL or Special Education teacher in the hallway between classes or after school, asking questions or sharing ideas by email or school mail routed to teachers, or holding impromptu meetings.

Higher- and lower-growth middle schools reported or exhibited both positive and negative teacher attitudes towards these groups of students.

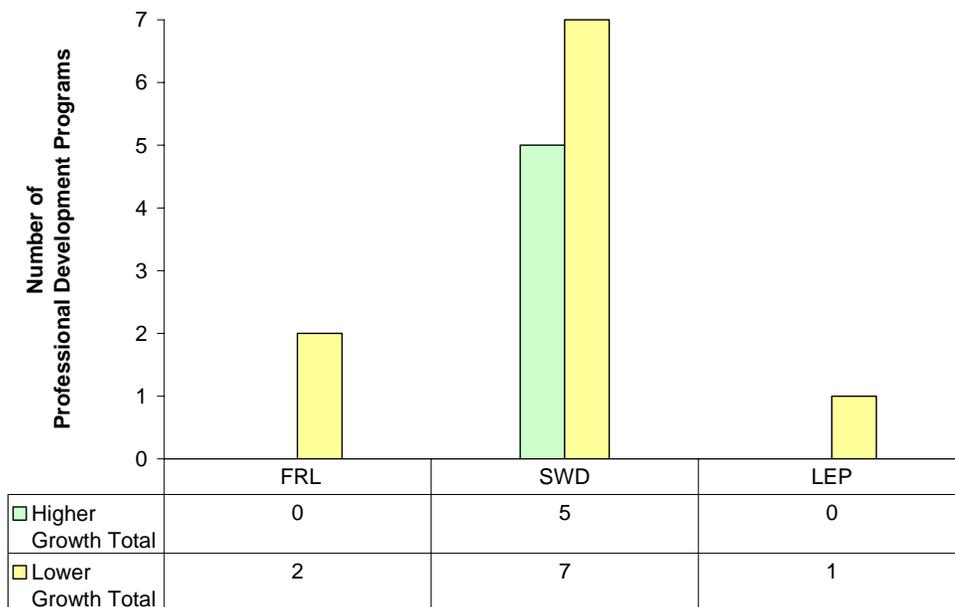
School Improvement Plans (2005-06)

School Improvement Plans (SIPs) for the 2005-08 years were collected and reviewed for each of the three higher- and lower-growth middle schools. SIPs were not available for the previous cycle, which would have better reflected the years in our study (namely 2002-03, 2003-04, and 2004-05). However, since the plans were developed in 2004-05, we decided the 2005-08 SIPs would indicate the degree to which each school was aware of and planning for the educational needs of at-risk populations. It is also possible that some schools implemented changes in practices during the 2004-05 planning year.

Most planned training addressed SWD students. The lower -growth schools planned more professional development overall. Higher-growth middle schools had planned for five professional development programs, all targeting SWD students. In contrast, lower-growth middle schools planned more sessions overall (10): two professional development programs targeting FRL instruction, seven programs for SWD instruction, and one program for LEP student instruction.

In addition to the three higher- and lower-growth middle schools, we collected data from an alternative school, which showed consistent high -growth for their students. We have interspersed findings from this alternative school with the other strong schools if the pattern was consistent, and we have highlighted their approaches specifically in Appendix B.

Figure 13
Middle Schools Improvement 2005-08:
Professional Development Planned for Future for FRL, SWD, and LEP Students



The core-content instruction action steps planned by middle schools showed considerably more action steps in the higher- than the lower-growth schools. Collectively, the three higher-growth middle schools planned nine action steps for “reading instruction,” three action steps for “writing instruction,” and 10 action steps for “math instruction” of FRL, SWD, and LEP students (22 action steps overall). Lower-growth middle schools collectively planned one action step for each of the core content areas of “reading, writing,” and “math instruction” for FRL, SWD, and LEP students (3 steps). Differences in specificity of steps listed make this difference less meaningful.

Attitudes

Higher- and lower-growth middle schools reported or exhibited both positive and negative teacher attitudes towards these groups of students. Some staff in each of the higher-growth middle schools had a mixture of positive and negative attitudes towards SWD, LEP, and/or FRL students. Two of the lower-growth schools reported positive attitudes and one of the lower-growth schools exhibited negative attitudes towards these students.

Curricular Coherence

Some comments were similar between higher- and lower-growth schools, while others were quite different with regard to the use of the curriculum with multi-need students.

- All three of the higher-growth middle schools and two of the lower-growth middle schools reported that they “modify instruction.” Teachers from all of the higher-growth middle schools and two of the lower-growth middle schools reported that the curriculum is a hindrance for these students because it is so inclusive and broad in core-content scope.
- One key difference was that all of the higher-growth middle schools and none of the lower-growth middle schools had positive comments regarding the curriculum. The teachers in higher-growth schools were more likely to be comfortable in modifying the NC SCoS for their students.

One teacher from a higher-growth school said, “It’s [the curriculum] not necessarily geared towards one specific group but to a whole group. There are different strategies we can plug into teaching our curriculum and in my opinion, they help out tremendously. It’s just like a different avenue for some of the kids that may not get it the way you originally present it to them. I just find it as a very valuable resource.” This teacher indicated that the NC SCoS lends itself to modification fairly well, and she found the strategies to be helpful with these students.

One higher-growth school—the alternative school—reported modifying SWD instruction to focus on critical NC SCoS goals relevant to the particular student’s ability levels: “What are the critical skills needed for them to excel? [We focus on] Eight to 10 essential skills that they have to have to be able to pass the curriculum.... Making inferences is essential.”

Program Resources

Two of the three higher-growth middle schools are Project Achieve schools and therefore used assessments housed in Blue Diamond management software during the years of our study. In contrast, other middle schools used assessments with some students on a more inconsistent basis. The main difference found between the higher- and lower-growth middle schools was all of the higher-growth schools were ESL sites and none of the lower -growth were.

Technology Resources

Higher-growth schools reported wanting more technology resources and integrating technology more into day-to-day (curriculum) instruction. One administrator from a higher-growth school mentioned that funding is a critical factor in integrating disparate in school (or countywide) data systems. Another teacher from the same higher-growth school mentioned needing more technology integration in the classroom, not just for assessment reasons but instruction as well. Lower-growth schools reported technology greatly assists with the instruction of at-risk student populations. We observed one teacher at a lower-growth school using video projector connected to a laptop and a SmartBoard in his lesson. Another teacher at a lower-growth school identified technology resources as something that she thinks help a great deal with instruction of SWD students. During the study we found computers appeared to be more available in the lower-growth school classrooms but used somewhat less often than the higher-growth schools (based on teacher observations).

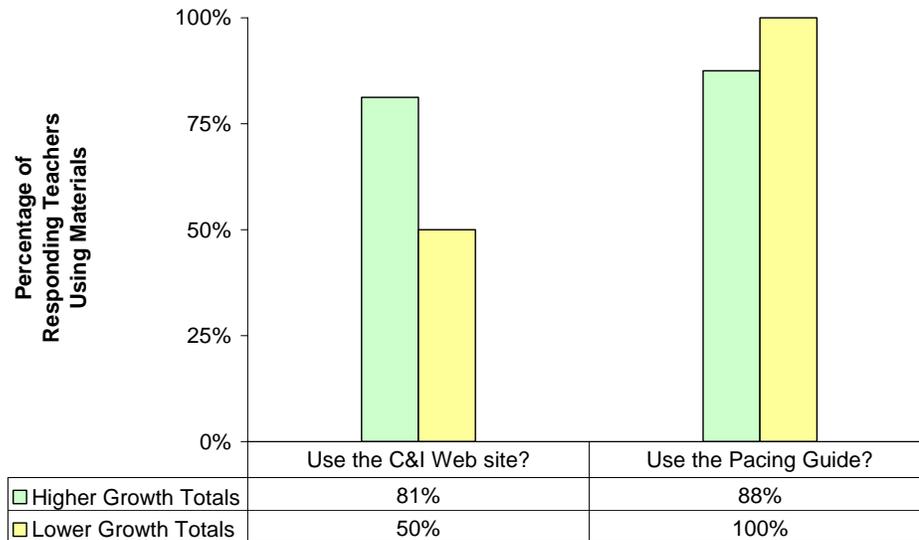
Extra Adult Resources

We tended to observe more “extra adults” in classrooms at the higher- than lower-growth middle schools. No differences were found in the reporting of the need for extra adult resources: all three of the higher-growth middle schools and two of the lower-growth middle schools reported “needing” or “wanting” extra adult resources. We did not find differences in allotments for supplemental services.

Schools’ Use of Department of Curriculum & Instruction’s Resources

The survey indicated that higher-growth middle schools were more likely to use the C&I Web site as a resource (81% vs. 50% for lower-growth schools). Both sets of schools reported a high level of use of pacing guides, including all teachers in the lower-growth schools, and 88% of those in the higher -growth schools.

Figure 14
Middle Schools Use of C& I Instructional Materials



N=14 higher -growth, 16 lower -growth teachers

DISCUSSION

Through this study, we have learned that some schools do achieve better results for students with multiple-risk factors than other schools. Thus, there is hope that we can reach these students and increase their achievement beyond present levels. While results of the qualitative analyses must be considered preliminary, our findings suggest that the instructional processes for multi-need students can be strengthened, largely *via* positive attitudes, relationships, and best-practice research-based instructional approaches for SWD, LEP, or FRL students. We discovered differences in practices that align with national research that schools can discuss for possible implementation at their own campuses.

We will explore the implications of our results for the system overall and then for schools.

STUDY IMPLICATIONS FOR THE SCHOOL SYSTEM OVERALL

Disseminating the Phase I results in a way that has the most potential to improve growth is very important. E&R staff have already shared results with some central and school staffs. We plan to share results differently with those schools who participated in this study and the rest of the schools. Schools with lower achievement for multi-risk students may not even realize that they are in this category, since all had fairly strong overall performance and effectiveness analyses are not usually conducted or shared. It will be critical to share findings in a constructive way. Even those schools in the higher growth category for the student groups studied did not necessarily display *all* of the characteristics that were trends. Thus, our results are general enough to be applicable for all groups involved in the instruction of multi-need students. E&R is also considering whether to conduct annual effectiveness index analyses or other analyses on multiple needs students to share with schools.

Central staff are exploring needs and solutions to improving achievement for multi-risk students, and this study will be valuable as they create a formal plan for systemwide improvements. Instructional Services Department staff will also want to consider ways to provide training on the implementation of research-based, best-practice professional development for staff who educate multi-need students (administrators, all types of teachers, teacher assistants, and counselors). This study clearly suggests that more professional development, both formal and informal, can improve teachers' attitudes and skills in working with multi-need students. Such training might incorporate national research, the results of this study, and time for schools to discuss current and possible practices. Comparing what is successful in one set of school with schools' own practices can be a very productive way to identify improvement strategies. Informal staff development might take the form of discussions at principals' meetings, school staff meetings, or in professional learning communities. One challenge will be to expand on the brief research reviews we conducted, as well as to locate any research that deals more specifically with students with multiple needs.

The curriculum staff will want to review and discuss findings about the variable use of resources and the accessibility of online resources on their Web pages. Some teachers reported pacing guide and other instructional materials made available on the C&I Web site were difficult to find, so this is another area for review.

The E&R Department already plans further research planned for the coming year on issues related to students with multiple needs and for LEP students and programs in particular. We would like any further qualitative research to involve instructional staff more extensively (which was not feasible given the time constraints of the first phase of this study). For example, their expertise would be particularly helpful in observing the quality of instructional practices, discussions or the use of particular materials or approaches, the background of teachers who have made strong progress with students, the impact of training, or interviews of the parents of LEP students. This research can be very helpful in refining findings from this initial study.

STUDY IMPLICATIONS FOR SCHOOLS

The improvement of instructional practice for multi-need students must be student-focused, and it must involve active collaboration of the administrative staff, classroom teachers, resource teachers, and other adults as well as effective use of resources. One major finding of the study is the impact of attitudes towards multi-need students. Study findings report that staff with more positive achievement patterns for these students:

- hold the same high expectations for these students as for other students;
- work hard to establish and to cultivate positive relationships with multi-need students; and
- are less likely to blame multi-need students for their challenges to learning.

Building positive relationships with students is more likely when blaming is not present and high expectations are present. Within this kind of school-teacher-student relationship, modified and differentiated instruction, at the middle school level in particular, were found to be the most frequent techniques utilized for multi-need students in core-content subjects. While all schools reported informal collaboration took place around the needs of at-risk students, schools that had more positive achievement patterns with multi-need students also had more formal ways to collaborate around student needs than the other schools. Attitudes towards this collaboration were also more positive.

Attitudes among staff in general were generally more positive in higher-growth schools towards the possibility of success with multi-need students. Changing staff attitudes can be difficult, but we hope sharing findings of this study will help success breed further success, and to convince teachers who may be discouraged that it really is possible to reach these students. Training for administrators on building collaboration, motivation, and professional learning communities might help in this area as well.

This study provides some practical suggestions for the role administrators can play in supporting higher achievement for multi-need students.

- At the elementary level, administrators should place a high priority on obtaining and allotting resources efficiently and effectively so that teachers feel adequately supported in working with these students. Being perceived as approachable when needs arise was also seen as important.

- At the middle school level, administrators should consider more frequent visits to the classroom (beyond formal required observations), as well as quality feedback.

In effect, the focus of the administrator in these types of observations included specific evaluation or reference to teachers' impact on multi-need students' instruction. When administration integrates evaluation of multi-need students' instruction into their observational feedback to teachers at the informal level, the message of the value of multi-need students' development becomes clearer and thus more important to teachers.

At the classroom level, our results also have implications for resource use. While all schools would like more resources, the schools that achieved higher achievement for their multi-need students appeared to use what they had more effectively than did the lower-growth schools. This was true both for technology use as well as for human resources. Schools with higher achievement for multi-need students reported a more effective use of extra staff in the classroom, while teachers at lower-growth schools focused on needing extra staff in the classroom because their workload was too heavy. Of note, some administrators in the higher-growth group proved themselves masterful in using months of employment allotments to provide as much extra support to needy students as possible. Thus, a key seems to be utilizing the resources available effectively, even while seeking additional resources.

Other findings bear more directly on instruction for multi-need students. The balance of instructional practices used was different in the higher- and lower-growth schools. At the elementary level, this took the form of more teacher-directed learning, which likely provided more structure for the multi-need students. At the middle school level, with older students, higher-growth schools tended to use more student-directed learning practices. Individual schools are encouraged to observe their own instructional practices and discuss their impact on various types of learners, particularly those with multiple needs. Teachers in this study reported that *differentiation, modified instruction, positive student-staff relationships, and research-based, best-practice instruction* are the four factors which impact the instruction of multi-need students the most. The only campus that quite consistently showed all four of these dimensions for multiple needs students was the alternative school at the middle school level. In the rest of the classrooms observed, some, but not all of these instructional techniques were reported or observed.

Teachers in higher-growth schools reported that the ability to modify instruction for multi-need students is critical to their continued educational success. Most teachers reported that the NC SCoS is too vast a body of knowledge to cover for those multi-need students who are behind in most subjects. Teachers from higher-growth schools reported focusing on the over-arching skills required for grade-level performance as their main instructional objectives for multi-need students (rather than more minute skills that may not be as critical). In effect, successful teachers of multi-need students design their instruction to promote essential skills development that may be lacking in their multi-need students.

Overall, these findings give both central services and school staff much food for thought and discussion, as well as hope for even greater success in the future with students with multiple-risk factors.

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APPENDIX A

LITERATURE REVIEW FOR EACH GROUP OF INTEREST

We searched the Educational Research Service bank first for literature on each topic, with additional references obtained from reference lists in the reports, general knowledge of the literature, as well as through Curriculum and Instruction staff. Most articles dealt with students within each category.

Lower-Income Students: Best Instructional Practices

As early as the 1970s, researchers such as Edmonds (1979), Lezotte, and Jacoby (1990) studied characteristics of effective schools for lower-income students. In recent years, additional research has added to this basic body of knowledge, sometimes couched in terms of closing achievement gaps. The Informed Educator Series (Shellard, 2002) published a summary article focusing on practices evident in effective schools in general, which was consistent with this study and extended upon it. We addressed most of the information included in the Shellard article, with additional references cited specifically. Because many of the practices also applied to special education and LEP students, we used the major factors cited to organize our findings and to see which were and were not evident in WCPSS with multi-risk students.

Challenging learning experiences for all students

In today's times, schools are serving an increasingly diverse student population. When schools provide challenging learning experiences to all students, these diverse students (lower-income, English as second language, and physically/cognitively challenged) have shown that they can achieve at high levels when instilled with the belief that they can *excel*. Overall, each school in the Shellard (2002) study had:

- well-qualified, knowledgeable, and caring teachers who clearly expect *all* students to achieve (Edmonds, 1979; Protheroe, Shellard, & Turner, 2004);
- teachers who work with students to master a core curriculum by individualizing and differentiating instruction, and adjust to consider student learning styles (Protheroe, et. al., 2004);
- small classes and heterogeneous grouping;
- extended blocks of time for classes;
- teachers, administrators, students, and parents who share a clear vision centered on student achievement;
- ensured that no child falls too far behind in a class to catch up;
- provided an instructional balance of higher-order tasks and conventional explicit tasks (Protheroe, et. al., 2004);
- engaged students in instructional conversation, teachers listening more than talking (Protheroe, et. al., 2004);
- equity not only in access to good school facilities but also to educational opportunities and resultant learning outcomes (Daeschner, Munoz, & Barnes, 2004).

Principal as instructional leader (Edmonds, 1979)

Effective schools have principals that are not just leaders but instructional leaders as well. The principals exhibit some combination of the following characteristics:

- well-versed in learning theory and instructional planning,
- able to assist in aligning curriculum with standards and developing standards-based assessments,
- serve as a resource, particularly for teachers who need assistance, providing informed feedback, guidance, support, and professional development, and
- have the expectation that students will achieve and teachers will meet expectation.

Effective use of data

High-quality, targeted data can be a powerful tool to guide instruction. The National Education Goals Panel found that “using data to drive improvement” was a key reason why successful schools were succeeding. Highly effective schools have:

- teachers and administration that use data effectively to inform and guide their decisions and actions (Daeschner, et. al., 2004);
- training available and expected;
- time allocated to analyzing test scores and other data to pinpoint students’ specific needs, sometimes grouping students who have similar academic needs.

Professional learning community

The term “professional learning community” describes a school staff characterized by shared values, a focus on student learning, collaboration, and reflective dialogue. Professional learning communities are incorporated in schools that have:

- the entire school staff share values, focus on student learning, collaboration, and reflective dialogue;
- formal structures for time for teachers to work, plan, and learn together—time provided during the school day throughout the school year;
- opportunities and expectations for the teachers to take some risks and experiment to remove barriers to learning; and
- Everyone given access to relevant data and information (Daeschner, et. al., 2004).

Curricular coherence

Certain school organizational factors such as unity of purpose, a clear focus, and shared values for student learning, are important to the success of a school. Additionally, incoherent school programs, which lack the attention of the majority of the staff, tend to have no apparent effects on the core goal of improving student achievement (Newmann, et al., 2001; as cited in Shellard 2002). Following are a list of conditions for curricular coherence in a school:

- a common instructional framework that guides curriculum, teaching, assessment, and learning climate,
- working conditions that support implementation of a common framework,
- allocation of resources—materials, time, and staff assignments—to advance the school’s common instructional framework and avoid scattered improvement efforts,
- developing language across the curriculum as a meta-goal (Protheroe, et. al., 2004), and
- creating meaning for the curriculum by connecting lessons with students’ lives (Protheroe, et. al., 2004).

Strong connection between schools and central offices

High achievement, while rooted at the school level, is strongly influenced by individuals at the district level. Marshall, Pritchard, and Gunderson (2001; as cited in Shellard, 2002) found that the best schools they studied worked closely with their associated central offices. Central office staff are viewed as mentors, planners, and consultants.

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Special Education Students: Best Instructional Practices

Special Education is a broad field that encompasses methods for teaching students who have a variety of needs. It is difficult to group these children into one category because their needs are so diverse. However, there are general techniques and practices that can work with most of these students. Within the field of Special Education, there are also specific approaches to teaching reading and math to students with disabilities. Due to the broad nature of this field and the research surrounding it, this literature review will focus first on general practices, and then look at practices specific to reading and then math.

General best practices

Researchers have tested many different strategies within the field of Special Education and found that not all strategies have been successful. Some strategies that have been studied included:

- using an inclusion model which meets certain requirements. Teachers should always collaborate with specialists and they should receive adequate training to work with disabled students (Coil, 2000). It has been shown that children in special education perform better in a structured environment and with lessons that are more structured (Reschly, 2005).
- modifying and adapting materials and techniques used with students with disabilities. This can include many different modifications from assigning smaller amounts of work to changing the child's work environment (Coil, 2000). If teachers make adaptations to the curriculum in order to modify instruction, researchers suggest that the general education and special education teachers collaborate on doing this (Vaughn, Bos & Schumm, 2006).
- to allow special education students partial participation, meaning that they participate in all activities and assignments to the extent possible. Teachers should not exclude these students from activities, but also understand that the students may not be able to participate fully (Vaughn, Bos & Schumm, 2006).
- peer tutoring and support along with heterogeneous grouping are two other strategies (Vaughn, Bos & Schumm, 2006). This allows the students with disabilities to work with other students in the class so that the students who are on a higher level can help them with the assignments.

Researchers recommend another element, parental involvement, as an important feature of the education of students with disabilities (Vaughn, Bos & Schumm, 2006). Parents are a valuable resource because they know their child the best and may be able to offer suggestions for techniques that will work with him or her. They also have the right to be informed and to make decisions about their child's education. Another element that the literature emphasizes is the need for collaboration between teachers. Regardless of the model of service that is being used (inclusion or pull out services) the general education teacher and special education teacher need to have time to collaborate and help one another in planning the education of special education children. One main resource that is crucial for collaboration is time, which educators need to build into the schedule, or it will not occur regularly (Vaughn, Bos & Schumm, 2006).

Best practice for teaching reading

The topic of how best to teach reading to students who have a reading disability is something that has received a great deal of attention and has copious amount of research and literature surrounding it. Direct instruction is a method that has had a great deal of support and success for teaching reading. Direct instruction consists of a constructed curriculum that breaks down the target concept into sub skills and strategies in order to achieve mastery. Other components of direct instruction include scripted lessons, immediate error correction, and student progress monitoring (WCPSS Literacy Department, 2005).

Another strategy the literature highlights is using needs-based/individualized instruction. In order to use these, teachers should conduct focused assessments and determine the appropriate instruction approach. They then need to select and modify the materials to match the targeted needs and learning styles (WCPSS Literacy Department, 2005). In addition, students need to receive comprehensive literacy instruction that includes all five of the major components. The five components are word recognition, foundational literacy skills, comprehension, fluency, and vocabulary and concept development.

Shaywitz (2003) discusses the need for accommodations for these students. She discusses a number of different accommodations in her book, including the provision of extra time and using recorded texts. She also mentions that teachers need to consider and adapt these accommodations on an individual basis, so that each student receives the services that he/she specifically needs.

Another issue in the literature is teacher education and training and how prepared teachers are to teach reading and specifically to teach it to students who have a reading disability. The National Institute of Child Health and Human Development (2000) has suggested that teachers need to participate in staff development that is specifically geared toward reading and what should be taught and how.

Best practice for teaching mathematics

The area of teaching mathematics has not been as thoroughly researched as reading. However, there is literature about how best to teach math to all students as well as those with disabilities. The National Council of Teachers of Mathematics (NCTM) has established standards for curriculum and instruction. In 1989, they released a set of standards that relates to the general curriculum and teaching of mathematics in various areas including algebra, geometry, and problem solving. This report has been updated in 1991, 1995, and most recently in 2000. The NCTM also has recommendations for teaching math to students with disabilities, which are (NCTM, 2000 as cited in Vaughn, Bos, & Schumm, 2006):

- change the type and speed of instruction, rather than altering curricular goals,
- make instruction student oriented rather than teacher-focused,
- encourage students to explore, verbalize ideas, and understand that math is part of their life,
- relate what they are learning to real life experiences,

- teach so that students understand when they can estimate an answer and when they need an exact answer,
- teach problem solving, computer application, and use of calculators,
- teach students to understand probability, data analysis, and statistics that relate to daily life, and
- shift from relying on paper and pencil activities to using calculators, computers, and other applied materials.

Other research suggests many other strategies to assist in teaching math to students with disabilities, including monitoring performance, providing meaningful feedback, provide multiple practice opportunities, having instruction flow from concrete to representational to abstract, and directly modeling problem solving strategies (Vaughn, Bos, & Schumm, 2006). Many of these strategies can be combined and should be individualized in order to meet the student's needs most effectively.

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Limited English Proficient Students: Best Instructional Practices

Limited English Proficient students (LEP) are a special group of students that needs specific modifications to instruction to learn best. Contextual, cultural, linguistic, and cognitive factors all play heavily into their educational development. For example, “the student’s level of proficiency in the native language...affects acquisition of a second language. The more academically sophisticated the student’s native language knowledge and abilities, the easier it will be for that student to learn a second language” (Walqui, 2000). Apart from the basis for this fact, many “need to learn a dialect and a formal register in school that are different from those they encounter in their daily lives” (Walqui, 2000).

Researchers today claim that a “cognitive/developmental approach” to instruction “is generally considered to be the most effective, as it considers what children may be able to do at various stages of development.” This instructional approach involves “social learning, physical learning and play, emotional learning, and intellectual and academic learning.” It also “tends to be highly student centered and keeps children’s developmental needs in mind by allowing them to learn at their own pace and in their own learning styles.” Beyond this, “it involves a great deal of creativity on the part of the teacher, who continually develops ways for children to interact in hands-on tasks and activities in which they may construct their own meaning through interaction” (Cloud, Genesee, & Hamayan, 2002).

Another dimension of learning specific to LEP student’s needs, involves significant cultural exposure. Coltrane and Peterson (2003) explain that LEP students need to be aware “of the culturally appropriate ways to address people, express gratitude, make requests, and agree or disagree with someone.” Moreover, LEP students “should know that behaviors and intonation patterns that are appropriate in their own speech community may be perceived differently by members of the target language speech community.” Coltrane and Peterson explain that LEP students, “have to understand that, in order for communication to be successful, language use must be associated with other culturally appropriate behavior” (Coltrane & Peterson, 2003). Within the instructional domain of activities, Coltrane and Peterson recommend that, “using authentic sources from the native speech community helps engage students in authentic cultural experiences” (2003). The aforementioned instructional strategies all need to circulate around a pedagogic approach on the part of the lead teacher, which centers on: (a) integrating language with content instruction, (b) creating classroom environments that are discourse-rich, and (c) systematically planning language instruction along with content instruction (Genesee, 1995).

The Sheltered Instructional Observational Protocol

The “sheltered subject matter” approach to teaching is a valuable and productive method for LEP student’s instruction. The approach involves “adapting the language of texts or tasks and use of certain methods familiar to language teachers (demonstrations, visuals, graphic organizers, or cooperative work) to make instruction more accessible to students of different English proficiency levels” (Crandall, 1994). Furthermore, the “sheltered English or language-sensitive content instruction is given by the regular classroom or content teacher” (Crandall, 1994).

The SIOP (Sheltered Instructional Observational Protocol) model of LEP students' instruction is a research-based model that integrates building background knowledge, lesson preparation, comprehensible input, effective instructional strategies, best LEP students practice and application, teacher-LEP student interaction, lesson delivery, and modified review, evaluation and assessment into one pedagogic approach. This approach has a proven record of accomplishment of positive student development in various school districts across the country since the mid-1990s. The SIOP model utilizes all of the instructional approaches mentioned so far in this literature review. This pedagogic approach aims to instruct LEP students to a point of "academic literacy" that includes various goals of instruction. "Academic literacy" loosely defined consists of the following perspectives, knowledge, and proficiencies:

- reading, writing, and oral discourse for school purposes,
- varies from subject to subject,
- requires knowledge of multiple genres of text, purposes for text use, and text media,
- is influenced by students' literacy in contexts outside of school, and
- is influenced by students' personal, social, and cultural experiences.

The SIOP model functions well in a school environment where administration knows "what effective sheltered lessons and content-based ESL lessons look like" in order to "observe, evaluate, and provide feedback to teachers." Administrators can also use "the SIOP checklist as a tool when observing teachers." This checklist also can "serve as a structure for post-observation discussions and individual teacher reflections" (Short, 2006).

At the school-wide level, Short suggests several things that improve LEP students' development with the use of the SIOP model. Some of the given attitudes that serve as foundations include "promoting high quality sheltered instruction among all teachers" and "creating a school climate where all staff have high expectations" for LEP students. In terms of staff development, Short recommends that administrators "require/strongly encourage all teachers to have training in ESL methods, sheltered instruction, and second language acquisition theory." Also on the part of administrators, she recommends, "competing initiatives" be "reduced or eliminated." Short's holistic approach includes forming teacher teams "to facilitate and to support implementation of the intervention," involving "guidance counselors...to foster appropriate scheduling...[so that] possible beginner and intermediate LEP students have SIOP-trained teachers," and that "coaches or mentors in the classroom [to] support implementation of the intervention" (Short, 2006). On top of these changes, Short also recommends keeping "records of teacher implementation levels and student academic performance" in order to track development. The comprehensive nature of these types of school-wide changes ensures that the SIOP model of ESL instruction promotes positive development on the part of English language learners.

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APPENDIX B

HIGHLIGHTS FROM LONGVIEW SCHOOL

(School Name Used By Permission)

Procedures

At the beginning of this study, we needed a site at which to pilot our instruments and approaches. Longview School provided the perfect site, because it was among the top schools in promoting positive achievement patterns for its students based on the effectiveness index, and because of the nature of the population served. This alternative school's population of students is entirely SWD, with most (over 70%) also being FRL students. Few or no students were both SWD and LEP students. Thus, while it was impossible to come up with a strong match for the school, it did provide an opportunity for the research team to observe strong approaches for SWD/FRL multi-need students and to iron out kinks in methods planned for the study.

The E&R data collection team conducted a principal interview, a staff group interview, walk-through observations of the school, and classroom observations. We content-analyzed the group and principal interviews most extensively, although walk-through and classroom observations were crucial to establishing best-practice snapshots of differentiated modified SWD instruction.

Results

Perhaps the most telling data from this portion of the study were the researchers' individual responses to SWD instruction at the alternative school. These researchers reported that the alternative school was a place where they noted:

- Pervasive informal collaboration, which was considered to have great impact as staff development by the lead administrator.
- Formal collaboration, specifically noted by the lead administrator as **not** the most impacting method of staff development
- Administrators and staff placing a top priority on professional, individual and personal success of staff
- The research-based Professional Learning Community paradigm, emphasized as the model for the school's staff interactions
- The establishment of positive staff-student relationships (that do not **blame** or otherwise **alienate** multi-need students for their challenges)
- A specific, research-based plan for teachers to address the lack of prior knowledge in SWD students (based on student performance in relation to expected grade level standards in a given core content subject)
- Modified instruction (focusing on critical and crucial NC SCoS goals, and streamlining the vast array of NC SCoS goals)
- Differentiated instruction (finding the right "hook" for students to become interested in learning; maintaining a classroom environment wherein students with strengths in various intelligences can flourish)

- A robust behavior management program that includes a database of every student's behavior (positive or negative)
- Community and volunteer partnerships and outreach programs

The research team was most impressed throughout the course of the study by this alternative school's approach to SWD instruction. None of the other schools observed had many of the programs, strategies, and techniques in place for SWD instruction as this alternative school. Longview's status as the alternative school for students who are not successful in regular schools provides unique staffing and resources to meet student needs.

1. Smaller class sizes, with an average class size at this alternative school being under eight students per core-content class. Research shows that low student-teacher ratios improve the quality of instruction for any given student, and this is particularly beneficial with the high need students.
2. Longview serves as the last stop for public education in WCPSS. In other words, the stakes for success at this school may in fact seem higher to the population of students and staff who work at this alternative school than to staff and students at other schools. There can be no doubt that this environmental condition has some import on the nature of instruction and motivation for success at the school.
3. Longview serves a unique population. Comprised entirely of SWD students, Longview students oftentimes exhibit large gaps in their education. Students performing one or more grade levels below their expected standards of performance are the norm at this alternative school. This presents a particularly unique challenge for educators, since they must structure instruction to incorporate educational goals outside of just one grade level's requirements.

This effectiveness study for multi-risk students gathered a great amount of critical, crucial information from this alternative school, and found evidence of effective research-based practice. While the unique nature of Longview may mean that all practices are not transferable, schools are encouraged to consider whether some practices would be feasible in their school. The research team believes that integrating some of the SWD instructional techniques utilized at this alternative school could improve overall SWD instruction at other schools throughout the county.

Illustrative comments from Longview that may be feasible in other schools follow.

Longview Best Practices Illustrative Comments

Administrative Support

- Grants through WCPSS and National Grants.
- Unwavering leadership and support. They make sure we have what we need. They value what we do. Coming in to classrooms and getting us what we need. Gives feedback and asks for the value of the feedback. Team-centered, teacher-empowered approach.

Staff Development

- Professional learning communities around common subjects and common assessments.
- School improvement teams meet monthly on a rotating basis.

Attitudes

- Professional learning communities: everyone assumes responsibility for SWD instruction.
- “When we limit in focus, then we are sure our students have mastered skills in content areas. Overwhelmed by sheer amount if not willing to make decisions on critical skills, you risk covering a lot without mastery.”
- Give them every opportunity not to fail.
- Use everything we can to hit every style in any given class period.

Strategies

- “Students’ academic and behavior performance checked at least monthly.”
- Teachers have office hours.
- Dufour
- Academic in school and after-school tutorial (re-instruction). Not punitive in nature.
- Character education.
- Cross-curriculum approach to teaching.
- Staff has three levels of crisis intervention (15 minutes, 30 minutes, all day ISS).
- “The review process (both academic and behavioral) is weekly for interventions.”
- Students are reviewed on performance, also self-review. More concerned with learning.
- Math manipulative kit.
- Langford.
- Specifically for math, at the beginning of class, short “feeler” and then a quiz at the end of the week.
- Mixed media. Visual, tactile, written, talking, experiment. Computers. Projects.
- Different levels of questioning. “Direct a challenging question to a student that can respond in kind, but if it’s a basic question, ask that to a student that’s still getting there. Gives the students confidence and it also challenges other students.”
- One-on-one ability with support staff.
- Peer help. “Think, pair, share.”
- Cooperative learning.
- “Madeline Hunter lesson plans, great tool for creating lesson plans for SWD.”

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APPENDIX C**INTERVIEW AND SURVEY INSTRUMENTS****Effectiveness Study
Group Interview – 10 Q's Final**

1. What programs, materials, and technology do you use for instruction of your LEP and SWD students? How are they funded and supported? [Staff development software, contact people: ESL teacher, SWD Resource teacher]
2. What helps you promote learning for SWD, LEP, and lower-income students at grades 3-5? K-2? [at elementary, ask if strategies vary for grades 3-5 versus K-2]
3. What do you see as the major barriers limiting performance of the SWD and LEP program in this school? [Scheduling, resources, grouping]
4. Do you find you need to adjust the NC SCoS and how flexible are you in its application? [Pacing guide, for LEP specifically: English language development knowledge-do you use levels for clustering?] (also see question #9)
5. What information do you use to monitor if your SWD and LEP instructional program needs attention? How often do you do running records? [SWD have data notebooks- language for learning, corrective reading, reading for mastery- do the SWD teachers use these?]
6. To what extent is the faculty united in support of the SWD and LEP instruction program? Do you have opportunities to plan in SWD and LEP instruction together? [How do you collaborate?]
7. How does your school administration show support for the SWD and LEP instruction program?
8. To what extent has your staff participated in training on dealing with economic diversity? Does your school have particular strategies they use with lower-income families to support student achievement? What do you find to be most helpful?
9. Do you feel teachers at this school are well prepared to use the North Carolina Standard Course of Study with the instruction of SWD and LEP students? Explain [note: for individual interview ask if they think they are...] [Only need if not addressed under #4]
10. How are parents included in the SWD, LEP, and FRL instructional program at your school? How are they involved in other ways? [How is information sent home to ESL parents? Are parents given]

**Effectiveness Study
Teacher Interview Questions
Spring 2006**

1. What programs, materials, and technology do you use for instruction of your LEP and SWD students? How are they funded and supported? [Staff development software, contact people: ESL teacher, Special Education Resource teacher]
2. What helps you promote learning for SWD and LEP students? [And FRL to the extent you know]
3. What do you see as the major barriers limiting performance of the SWD and LEP program in this school? [Scheduling, resources, grouping]
4. Do you find you need to adjust the NC SCoS and how flexible are you in its application? [Pacing guide, for LEP specifically: English language development knowledge-do you use levels for clustering?]
5. What information do you use to monitor if your SWD and LEP instructional program needs attention? How often do you do running records? [SWD have data notebooks- language for learning, corrective reading, reading for mastery- do the Special Education teachers use these?]
6. Who assumes leadership for SWD and LEP instruction; how does that leadership influence SWD and LEP instruction in your school? How are they funded? [Who is the reading contact (Special Education), do you have school based lit teams, lit coaches, Special Education contact- computer issues]
7. To what extent is the faculty united in support of the SWD and LEP instruction program? Do you have opportunities to plan in SWD and LEP instruction together?
8. How does your school administration show support for the SWD and LEP instruction program?
9. How often does the principal, an assistant principal, or department chair visit your classrooms? [Probe: with SWD and LEP?] What kind of feedback do you receive after an observation? [differentiation]
10. What kinds of academic support for SWD and LEP instruction are available to students who need additional help? [Where- pull out or push in, in class resource, IEP (individualized instruction plan), LEP testing plan/accommodations?]
11. What kinds of strategies do you use in SWD and LEP instruction to accommodate different abilities, interests, or learning styles? [Pull out vs. push in, intensive- 5 days per week/double dip, clear objectives, explicit, direct (corrective reading, reading for mastery, language for learning), systematic, multi-sensory, research based, frequent rewards, teaching to mastery, pre-teach vocabulary]
12. Do you feel teachers are well prepared to use the North Carolina Standard Course of Study with the instruction of SWD and LEP students? Explain [note: for individual interview ask if they think they are...]
13. How are parents included in the SWD, LEP, and F/R instruction program at your school? How are they involved in other ways? [How is info sent home to ESL parents?]

14. Can you tell me about a time you've been very successful with SWD or LEP students? [Do you collaborate with other teachers, to what extent do you use small group work, what opportunities do LEP students have to talk during class, what % of the time do LEP students talk in class]
15. What about a time when you weren't successful? What do you think were barriers?
16. What kind of support from others in your schools helps or would help you be successful?

Effectiveness Study--Principal Checklist Questions Spring 2006

School_____

Please answer the following to give us a sense of your background and resources available to your students.

1. What programs and resources do you have available in your school? (check those that apply and fill in the appropriate blanks).

- a. ALP Grades 3-8____ Number of months allotted to your school____
 In what subjects? Reading____ Math____ Writing____ Other____
 Do you provide ALP:
 During the regular school day?____ Outside the regular school day?
 - b. English as a Second Language____
 Number of months allotted to your school____
 - c. Project Achieve _____
 - d. Special Education:
 # of teacher months allotted____ TA months allotted____
 # self-contained classes _____
 - e. Title I 3-5____ At what grade levels? ____ # months____
 - f. ALP/Literacy Teacher at K-2____ # months____
 - g. Communities in Schools (CIS) _____
 - h. SOS_____
 - i. Partnership for Educational Success_____
 - j. Helping Hands _____
 - k. Mentor Wake_____
 - l. Positive Behavior Support_____
 - m. Parent volunteers:____ Roles: tutors ____ mentors____ other roles____
 - n. Other volunteers _____ Source:_____
 - o. Other programs or resources (please specify)_____
-

Of the resources listed above, which have been most helpful in supporting your struggling students? (Please star above) Why?

In your opinion, which resource(s) were less helpful in supporting your struggling students? (list below)
 Why?

4. Do you feel most (75% or more) of your students in the following groups who will take the standard EOG this year can score at Level III or IV? Why?

SWD Reading: Yes ____ No____ Math: Yes ____ No____
 Why?

FRL Reading: Yes ____ No____ Math: Yes ____ No____

Why?

LEP Reading: Yes ____ No____ Math: Yes ____ No____

Why?

5. Describe your educational background: (mark all that apply)

- a. Certified Teacher ____
- b. National Board Certified ____
- c. Highest Degree Earned BA____ Masters____ PhD or EdD____

6. Describe your experience in education

- a. Years of experience as a teacher_____
- b. Years of experience in educational administration_____
- c. Years at this school _____

**Effectiveness Study
Teacher Checklist Questions
Spring 2006**

Please answer the following questions.

1. Are you a:
 - a. Regular classroom teacher _____
 - b. Supplemental teacher _____
 - c. Other (specify) _____

2. If you teach, what subject(s)? (mark all that apply)

Reading Math ESL Special Education

3. Describe your educational background: (mark all that apply)

Certified Teacher or Counselor Natl Bd Cert BA Masters Ph. D.

Years of experience _____ Years at this school _____

4. Have you ever:
 - a. Helped write or review State EOG items or curriculum? Yes No
 - b. Helped write or review State reading/math curriculum? Yes No
 - c. Served as your department chair (middle only)? Yes No

5. Did you receive staff development focused on instruction in 2002-03, 2003-04, or 2004-05? Yes No

6. What grade level did you teach in:

2002-03		2003-04	
2004-05		2005-06	

7. About how much time per week do you spend giving instructional assistance to students outside of regular class time (e.g., outside the normal language arts block)?

Hours _____

8. Which formats do you use when giving instructional assistance outside of class?

Whole group _____

Small group work _____

Partner work _____

One on one _____

Other (Describe) _____

9. Do you use the WCPSS C&I webpage of resources available for teachers?
 Yes No Was not aware of resource

10. Do you use the WCPSS Pacing Guide? (circle one)
 Yes, tasks/strategies _____
 Yes, essential questions _____
 Unaware of resource _____

11. How comfortable are you with using the NC Standard Course of Study for your subject area:
 Very comfortable
 Somewhat comfortable
 OK with some parts of the SCS
 Not comfortable with my understanding of the SCS

12. How have your SWD students performed in the last three years?
 Above my expectations
 At my expectations
 Below my expectations

13. How have your LEP students performed in the last three years?
 Above my expectations
 At my expectations
 Below my expectations

14. How do you feel about the overall success of your teaching over the last three years?
 Very successful
 Successful
 About average
 Unsuccessful
 Very unsuccessful

**Effectiveness Study
Counselor Checklist Questions
Spring 2006**

Please answer the following questions.

1. Your school _____

2. Total years of experience _____ Years at this school _____

3. Did you receive staff development focused on supporting FRL, LEP, or SWD students in 2002-03, 2003-04, or 2004-05?

Yes, FRL____ LEP____ SWD____
No_____

4. Do you provide supplemental instructional assistance to students outside of regular class time? If so, about how much hours per week?

Hours _____

5. How do you support the success of FRL, LEP, and SWD students in your school?

6. What would you like to do? What keeps you from doing so?

SWD/LEP Effectiveness Classroom Observation

I. General Information

School _____ Teacher _____

Lesson Topic _____ Date _____

1) # of students in the class

- 10 or fewer
- 11-15
- 16-20
- 21-25
- 26-30
- over 30

2) Level of class

- Heterogeneous/unleveled
- Academic level
- Honors level

3) Number of SWD/LEP students

- 1-3
- 3-5
- 5-7
- 7+

II. Classroom Physical Environment

4) Space

- Crowded
- Adequate
- Abundant

5) Room Arrangement

- Inhibits student interaction
- Allows student interaction
- Facilitates student interaction

6) Learning resources in classroom

- (mark all that apply)
- Textbooks
 - Supplemental Print Resource
 - Reference Books
 - Models
 - Computers (_____stations)
 - Visuals

7) Classroom displays-posters, charts, bulletin boards, etc

- Learning aids, concept related items
- Ongoing activities, projects
- Examples of student work
- Student recognition
- Applications, careers
- Racial, cultural diversity
- Extracurricular opportunities

8) Visual environment

- Unengaging
- Neutral/mixed
- Appealing

9) Synthesis rating of classroom environment

- Inhibits effective student learning to attain standards
- Facilitates effective student learning to attain standards

III. Lesson Overview

10) Resources guiding lesson design (mark all that apply)

- Written lesson plan
- Written objectives
- Lesson/unit is from local curriculum
- Lesson is linked to state standards

11) Major instructional resource(s) used during the time observed (mark all that apply)

- Textbook
- Other print materials, worksheets
- Hands-on/manipulative materials
- Calculators
- Audiovisual
- Computers (software,internet)
- Visuals
- Extra adults

12) Dominant purpose(s) of the lesson during the time observed (mark only 1 or 2)

- Introduce/explore a new concept
- Deepen understanding of concept(s)
- Apply concept to a new context/problem
- Review/reinforce understanding
- Learn/rehearse process skill or procedure
- Learn/rehearse vocabulary/specific facts
- Assess student understanding

13) Dominant method(s) for organizing students during the time observed (mark only 1 or 2)

- Whole group
- Small groups, all working on same task
- Small groups working on different tasks
- Individuals working on different tasks

IV. Lesson Implementation – For each item, mark the box between the two statements that best reflects what happened in the lesson during the time observed.

a. Time on task	Students frequently off-task	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Students are consistently on task
b. Interruptions	Interruptions interfere with effectiveness of lesson to facilitate student learning	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No interruptions during observed period
c. Teacher role	Lesson is highly teacher-directed	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Lesson is highly student-directed
	Teacher is the knowledge provider	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Knowledge is built from students' thinking about their experiences
d. Learning focus	Focus on learning facts, skills, or procedures	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Focus on understanding concepts, making connections
e. Varied strategies	Lesson activities address only one mode of learning	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Lesson activities are varied to address diverse needs and learning styles
f. Teacher questioning	Questioning seeks predetermined (correct) answers	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Questioning encourages divergent responses, alternative explanations
	Questioning focuses on lower-order thinking (recall, comprehension)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Questioning focuses on higher-order thinking (analysis, synthesis, evaluation)
	Student responses are accepted without probing to reveal/clarify students' thinking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Students are probed to explain their reasoning or evidence that supports their answers
g. Manipulatives (if used)	Manipulatives used to demonstrate or confirm a known concept or procedure	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Manipulatives used to explore ideas, test conjectures, look for patterns
h. Assessment (if used)	Assessment mostly short-answer, multiple choice, etc., with emphasis on recall of fact, formulas, procedures	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Assessment items include extended-response requiring application, explanation, interpretation

i. SYNTHESIS RATING OF LESSON IMPLEMENTATION

V. CLASSROOM CULTURE		Not at all	Moderate	Great Extent
a. The teacher exhibits enthusiasm for the subject matter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. The teacher exhibits high expectations for all students in the class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. The teacher encourages and values the active participation of all students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. The teacher enhances students' confidence in their ability to do math/language arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. The teacher encourages/rewards students for taking risks, thinking creatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. The teacher treats students as active collaborators in their own learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Students are intellectually engaged with the content of the lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Students are interested and enthusiastic in their lesson participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Students demonstrate collaborative learning in their work during the lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Students show respect for other students' ideas and contributions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. SYNTHESIS RATING OF CLASSROOM CULTURE				
Inhibits effective student learning to attain standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facilitates effective student learning to attain standards

Notes/Comments:

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Effective Practices for At-Risk Elementary and Middle School Students

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