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The Instructional Context of Inclusive Secondary General Education Classes: Teachers' Instructional Roles and Practices, Curricular Demands, and Research-Based Practices and Standards

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The purpose of this study was to gain information about the high school general educational context for students with and without disabilities. A questionnaire was administered to general education teachers who taught required high school courses in which students with disabilities and students who were low achievers were enrolled. Instructional context was explored in terms of (a) teachers' instructional roles and procedures; (b) curricular demands; and (c) teachers' views of research-based practices and standards. Participants were 70 high school teachers employed in nine public high schools serving grades 9 through 12 in four states, who taught one or more core classes in which students with disabilities were enrolled. In terms of their instructional roles and practices, teachers indicated that they preferred showing students how to learn at the same time they taught content. Planning time was limited, and unit tests or daily assignments, homework and worksheets were the most common forms of assessment. Teachers reported a willingness to make accommodations in curriculum materials, but did not report a high degree of use of accommodations in actual instruction. In reporting curricular demands, teachers put more emphasis on the mastery of content knowledge for students without disabilities, but for students with disabilities, the emphasis was on mastery of basic skills and strategies. As expected, participants indicated more learning deficits and reported lower expectations for students with disabilities than for other students. Teachers' perceptions of their schools' support for the use of research-based instruction varied. Teachers believed that typically achieving students were more likely than students with disabilities to meet standards. Teachers had recommendations they believed were needed to ensure that students with disabilities would meet standards.

Keywords: Adolescent, Disability, High School, Instruction, Curricular Demands

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Over the decades since the passage of P. L. 94-142 in 1975, the practice of including students with disabilities (SWDs) in general education classrooms for as much instruction as possible has grown (Bulgren & Lenz, 1996; Hock, Schumaker, & Deshler, 1999; Lenz & Deshler, 2004; McLeskey, Henry, & Axelrod, 1999; U.S. Department of Education [USDE], 2000; Wagner, Blackorby & Hebbeler, 1993). However, a full description of the instructional context of inclusive secondary general education classrooms is still lacking. This study provides such information in terms of the perceptions of general education teachers about their roles and classroom practices, curricular demands and challenges for students in their content areas, and the effects of research-based practices and standards for students in those classrooms.

The practice of including SWDs, students who are low achieving (LA), or others at risk for school failure in general education courses has been a recent focus for numerous authors, including McLeskey et al. (1999). Based on an examination of data from reports to Congress on the implementation of the Individuals with Disabilities Education Act, they concluded that students with learning disabilities (LD) are being educated in less restrictive settings, but that practices, attitudes, beliefs, and understandings of stakeholders differ from state to state.

Furthermore, Cook (2001) found that students with hidden disabilities (such as learning disabilities) are often those that teachers would have removed from their classes if given a choice. The author suggested that since these students do not appear significantly different from their nondisabled classmates, teachers do not adjust their expectations regarding behavior or performance for them. Cook's study was conducted at the elementary level; however, the findings raise questions regarding acceptance of students with disabilities in general education classrooms across the school years.

Other researchers have also explored teachers' attitudes toward the inclusion of SWDs in general education classes (e.g., Gersten, Walker, & Darch; 1988; Treder, Moese, & Ferron, 2000). Gersten et al. (1988) used a self-report measure of teachers' tolerance for maladaptive behavior and their propensity to resist placement of students with disabilities in their classes and compared the results to observations of teachers' behaviors. *They concluded that teachers who used the most effective teaching strategies that had the potential to help struggling students* ***might actually resist placement of students with learning or behavior problems in their rooms.*** *They suggested that one reason that they resisted placement of students with learning or behavior problems in their classes is that these teachers may be attempting to guard against inefficient use of academic instructional time, which could, in turn, lead to an overall decreased level of student performance.* However, using a different measure, the findings of Treder et al. (2000) were in direct contrast to the Gersten et al. (1998) results, painting a more positive picture of the relationship between teacher effectiveness and attitudes related to inclusion.

Such conflicting data pose many questions, but both sets of researchers agreed that general education teachers' acceptance of including SWDs in general education courses is a critical component in the education of students with special needs. Treder et al. (2000) emphasized that the level of responsibility that a teacher will assume for educating students with behavior or learning problems is related to specific attitudes that a given teacher holds. Teachers' attitudes toward educating students of diverse

abilities are often manifested in their willingness to incorporate into their instruction a variety of teaching methods that have been shown effective in helping SWDs learn. These include advance organizers, study guides and graphic organizers, peer and cooperative grouping, mnemonic devices, questioning, explicit skill modeling and practice, scaffolding, and exploration of prior knowledge (Bulgren & Lenz, 1996; Bulgren & Schumaker, 2006; Swanson & Deshler, 2003).

The types of curricular demands that all students, including those with disabilities or who are LA, are likely to face in inclusive general education classrooms have also been examined by several researchers. For example, Deshler et al. (2001) and Wagner et al. in the National Longitudinal Transition Study (1993) have noted the pressures to cover large amounts of information and to ensure student mastery of increasingly complex middle-school and high-school level curricula. Complexity in curricular demands is evidenced in the growing demand for thinking and problem-solving skills (Kame'enui & Carnine, 1998). This emphasis on higher-order thinking is also found in national standards representing a variety of content areas (International Reading Association and the National Teachers of English, 1996; National Center for History in the Schools, 1996; National Council of Teachers of Mathematics, 1989; National Research Council, 1996).

Another complicating factor in student response to complex curricular demands is the presence of characteristics that may hinder efforts to fully benefit from instruction. These characteristics include learning deficits such as the lack of prerequisite background content knowledge. Indeed, many of these students enter high school with large academic skill deficits and, therefore, have difficulty meeting the demands of the required general education classes. As a result, they struggle to pass, and often fail altogether (e.g., Bulgren, Schumaker, & Deshler, 1988; Hughes & Schumaker, 1991; Wagner et al., 1993). Therefore, it is important to understand the instructional context of inclusive secondary classrooms, especially from the viewpoint of content-area teachers who know curricular demands and common student characteristics.

In addition to teacher attitudes about inclusion of students of diverse abilities in general education classrooms and challenges associated with increased curricular demands, expectations associated with research-based instructional practices and higher standards (No Child Left Behind Act; U.S. Department of Education, 2002) pose further challenges. Thus, all learners, including those with disabilities, are expected to meet curriculum standards adopted by states and professional organization (Erickson, Ysseldyke, Thurlow, & Elliot, 1998), and programming for SWDs must be outcome based within the context of successfully mastering the general education curriculum (Turnbull, Rainbolt, & Buchele-Ash, 1997).

Stodden, Galloway, and Stodden (2003) noted that standards-based efforts put more emphasis on accountability to apply uniform standards rather than individualized goals and instruction. As a result, they contended that linking promotion and graduation to performance on high-stakes assessments could harm SWDs because, although there are positive consequences for SWDs in terms of learning and achievement, there may be higher rates of failure and dropout. These authors contended that supports are needed to achieve the goals of full participation in standards-based curricula and that research knowledge must be incorporated into the culture of schools and daily instructional practices. However, the needs of educators as they respond to

these challenges must also be considered; such needs include professional development (Bull & Buechler, 1997) as well as increased use of technology to enhance the chances of success for SWDs (Stodden et al., 2003) and collaboration with special education teachers (McLeskey & Waldron, 2002).

Thus, many factors contribute to the complex context of secondary classes for SWDs as teachers attempt to meet rigorous academic standards (Schumaker, Deshler, Bulgren et al., 2002). To date, no study has examined this issue from the point of view of general education teachers by simultaneously focusing on the perceptions and practices of general education teachers related to inclusion of SWDs in their classes, the curricular demands in those classes, and the additional challenges of responding to research-based practices and standards.

The purpose of this study was to determine how general education teachers perceived their instructional roles and practices relative to (a) planning, teaching, and assessment in classes that contained SWDs and LA students; (b) curricular demands in their course, student deficits related to those demands, and expectations for student learning in their inclusive secondary content classes; and (c)research-based practices, standards, and the changes needed to help students succeed in those classes. These areas were considered as crucial in determining the instructional context of inclusive secondary classes. The study was conducted with secondary general education teachers in rural, suburban and urban settings whose classes contained SWDS and well as students who were LA.

The study provided additional insights by exploring the instructional context of inclusive secondary classes not only in suburban but also in rural schools based on the issue of variations in rural student achievement and schooling conditions raised by Lee and McIntire (2000), and in urban schools based on the needs of urban students relative to knowledge bases, classroom culture, instruction, roles of teachers, technology, and other critical areas that affect achievement (Obiakor, Obi, & Algozzine, 2001).

The study was part of a larger effort described in Schumaker, Deshler, Bulgren et al. (2002) and Schumaker, Bulgren, Davis et al. (2002). The purpose of the larger study was to determine ways to substantially improve the educational outcomes for adolescents with disabilities who can be educated within the general education curriculum by conducting a program of research that took into account the unique characteristics presented by these students and the complex dynamics that defined the setting and circumstances unique to secondary curricula and schools (Schumaker, Deshler, Bulgren et al., 2002).

METHOD

Participants

Seventy teachers working in nine high schools volunteered to participate and signed consent forms accordingly. All participants taught one or more core classes (i.e., language arts, math, science, foreign language or history) in which SWDs and LA students were enrolled.

Of the 70 teachers, 21 taught in rural schools, 26 taught in suburban schools, and 23 taught in urban schools. Sixteen teachers taught language arts; 20 taught algebra; 14 taught biology; 10 taught U.S. history; and 10 taught Spanish.

Fifty-six percent of the subjects were female; 44% were male. However, the percentages varied according to type of school as follows: 70% of the teachers in the suburban schools were female, whereas 52% of the teachers in urban schools and 43% of the teachers in the rural schools were female. Sixty-nine of the subjects answered a question about ethnicity. Sixty-two (88.6%) were white. Two were Black/African American; both were male and taught in urban schools. One participant was American Indian/Alaskan Native, and four participants placed themselves in the "other" category.

Forty-seven of the participating teachers (67%) had earned a master's degree, and two of them (2.9% of the 70 participating teachers) had earned doctorates. A greater percentage (81%) of the teachers in the suburban schools had degrees beyond a bachelor's than did teachers in urban schools (57%). Approximately 62% of the rural teachers had earned master's degrees. Overall, approximately one third of the teachers had *not* completed any special education courses. Six teachers had completed three special education courses, and three teachers had completed five special education courses.

More than one third (37%) of the teachers had taught for 20 years or longer. Thirty percent of the teachers in the study had taught for five years or fewer; this figure did not vary much among types of schools (27% of the suburban teachers, 30% of the urban teachers, and 33% of the rural teachers). All but two teachers in the study were certified to teach in the areas of their teaching assignment.

Settings

The teachers were employed in nine public high schools serving grades 9 through 12 in four states (Kansas, Washington, California, and Oregon). Three types of high schools were included. Three of the high schools (hereafter referred to as "rural high schools") represented schools located in low-density population areas (i.e., towns of fewer than 10,000 people or fewer than 150 people per square mile) and in which more than 10% of the student population was living in poverty. Three of the high schools (hereafter referred to as "suburban high schools") represented schools located in towns having a population of more than 45,000 but fewer than 150,000 people, and in which less than 10% of the student population was living in poverty. Finally, three of the high schools (hereafter referred to as "urban high schools") represented schools located in high-density areas (i.e., urban/metropolitan areas populated by more than 150,000 people). They were schools in which more than 50% of the student population included "students living in poverty." For the purposes of this study, "students living in poverty" were defined as students who had applied for and received free or reduced-cost lunch privileges.

The student populations in the rural schools ranged from 330 to 693 students, in the suburban schools from 931 to 1,691 students, and in the urban schools from 1,031 to 3,508 students. (For more information on the participating schools, see Schumaker et al., 2002b.) The classes had enrollments of between 22 and 27 students, and most teachers taught two or three sections of the same course.

Measurement Instruments

The participating teachers completed two forms: the General Education Teacher Information Form and the General Education Teacher Questionnaire. The purpose

of the General Education Teacher Information Form was to gather information such as gender, date of birth, degrees held, certifications, and teaching history. (Information from this form was reported in the Participants section above.)

The General Education Teacher Questionnaire focused on the classroom context for SWDs and LA students who had been enrolled in required classroom courses for academic, as opposed to social, purposes. In addition, some questions targeted subgroups of SWDs (i.e., EBD and LD) as well as other groups of students such as those who were normally achieving (NA). The survey was specially designed for this study, and the items were used for descriptive purposes.

Responses to the items were of four types: (a) ratings on 7-point Likert-type scales that were used to explore items such as the degree to which factors contributed to academic failure of SWDs (e.g., a rating of "7" indicated that the factor contributed a great deal to academic failure; a rating of "4" indicated that the factor contributed somewhat; and a rating of "1" indicated that the factor did not contribute at all; (b) open-ended items that asked for short, restricted responses to questions such as, "How much time do you spend formally planning or preparing for this course during the contracted school day each week?"; (c) other open-ended items that allowed the teachers to write several lines of response to questions such as, "Why do you believe students with disabilities sometimes fail in your school?"; and (d) items that asked participants to rank a set of listed items (e.g., possible ways to spend extra time if it were available). Specific questions are presented in the Results section preceding each set of responses.

Procedures

Participating teachers completed the questionnaire independently on their own time and were given approximately three weeks to do so. (Completion of the questionnaire was part of their responsibilities relative to participation in the study, for which they were each paid $50.00.) As teachers completed the questionnaire, they were asked to think about a specific class they taught in which SWDs were enrolled (hereafter referred to as the "targeted class") and to answer the questions as they focused on that class.

Data Analysis

Descriptive data were compiled to determine means and standard deviations for the Likert-type items. Responses to open-ended questions were tallied and rank-ordered, when appropriate, and percentages of response types were determined, also when appropriate.

RESULTS

Results will be presented for the following areas to describe the instructional context of inclusive secondary classrooms: (a) teachers' reports of their instructional roles and practices in terms of planning time, instructional procedures, and decisions related to assessment of learning and grading; (b) teachers' reports of curricular demands, student deficits associated with those demands, and their expectations about students' success in meeting those demands; and (c) teachers' perceptions of research-based practices, standards-based reform efforts, and the changes that they thought were needed to help students meet standards.

Instructional Roles and Practices

The instructional context in secondary classrooms that contain SWDs is determined, in part, by teachers' perceptions of their roles and reports of their practices associated with planning, instruction and assessment..

Perceptions of instructional roles. To understand how general education high school teachers perceived their instructional roles, they were asked to rate the importance of teaching strategies and content. Thus, survey questions were designed to elicit teachers' views relative to teaching strategies and content, reinforcing student use of strategies that special education or remedial teachers had taught, and allowing another teacher to come into their classroom to teach strategies.

Overall, the teachers perceived that part of their instructional role was to show students how to learn at the same time that they taught content. They did not believe that they should teach content without showing or teaching strategies. However, the teachers were only somewhat in agreement that they should let other teachers come into their classrooms to teach strategies. (See Table 1 for specific results.)

Instructional planning. To determine the amount of time teachers spent planning to teach a course in which SWDs were enrolled, respondents were asked to think about the targeted class in which SWDs were enrolled and answer the following question: "How much time (in hours) do you spend formally planning (i.e., sitting down with books and materials to prepare and make instructional decisions for this course) (a) during the contracted school day each week; (b) after and before the contracted school day each week; (c) on weekends; and (d) during summers ?"

On average, teachers reported spending a total of between 10 and 11 hours per week ($X = 10.69$, $SD = 7.74$) on course planning activities for the targeted course – less than four hours during the school day ($X = 3.85$, $SD = 2.76$), slightly more than four hours beyond the school day ($X = 4.11$, $SD = 4.29$), and slightly less than three hours during the weekend ($X = 2.82$, $SD = 2.89$). By type of school, the means (X) and standard deviations (SD) for hours spent planning per week during the school year were as follows: rural, $X = 11.24$, $SD = 10.85$; suburban, $X = 9.87$, $SD = 5.54$; and urban, $X = 11.11$, $SD = 6.68$. By comparison, teachers in urban and rural schools reported spending, on average, slightly more than one hour more each week than did teachers in suburban schools. However, teachers in suburban schools reported spending a mean of 9.3 ($SD = 9.03$) days in the summer. This was more time spent during summers than reported by teachers in urban schools ($X = 6.72$, $SD = 7.08$) or teachers in the rural schools ($X = 7.16$, $SD = 6.67$ days).

A follow-up question was posed because time is often listed as one of the greatest barriers to meeting the needs of students (Bulgren & Lenz, 1996). Thus, teachers were asked how they would spend more planning time if it were available that would have the greatest impact on increasing the success of SWDs in their courses. Suggestions about ways to spend that time included planning, working on curriculum, participating in various types of professional development, working with individuals or groups of students, or collaborating with other teachers. Participants were asked to rank-order their choices using "1" to indicate their first choice for spending time, "2" to indicate their second choice for spending time, and so on. Across urban, suburban, and rural schools, working individually or working with students in small

Table 1

Teachers' Perceptions of Their Instructional Roles

In your role as a teacher do you think that:	Urban			Suburban			Rural			Total		
	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*
• Teaching strategies to students has equal importance with teaching content?	5.96	1.26	23	5.96	1.31	26	6.00	1.34	21	5.97	1.29	70
• Teaching strategies to students is important, but teaching content is more important?	3.70	1.61	23	3.85	1.74	26	3.60	1.61	20	3.78	1.63	69
• You should reinforce student use of strategies that special education or remedial teachers have taught?	5.45	1.28	20	5.92	0.97	24	5.50	1.10	18	5.65	1.12	62
• You should show students how to learn at the same time that you teach content?	6.27	1.12	22	6.08	0.89	26	6.00	1.14	21	6.12	1.04	69
• You should allow another teacher to come into your classroom to teach strategies?	4.48	1.81	21	4.92	1.63	25	4.65	1.81	20	4.70	1.73	66
• You should teach content without showing or teaching strategies?	1.55	0.91	22	1.73	1.34	26	1.48	0.81	21	1.59	1.06	69

groups were each consistently ranked among the top three choices. Teachers also indicated that they would spend time in activities that would directly influence classroom actions (e.g., planning, redesigning curriculum, collaborating with other teachers) rather than in professional development activities.

Instructional practices. A major factor in the instructional context of inclusive secondary classes involves the perceptions of general education teachers regarding the practice of including SWDs and LAs in their classrooms. One aspect of a willingness to include SWDs who may learn in different ways is the degree to which teachers use instructional practices that have proven effective with SWDs (Bulgren & Lenz, 1996; Bulgren & Schumaker, 2006; Swanson & Deshler, 2005). As an initial step in determining this component of the instructional context of inclusive secondary classes, teachers were asked if they were willing to improve poor curriculum materials through adaptations and accommodations. Rural teachers, on average, reported a willingness to do so ($X = 6.1$, $SD = 1.09$) as did suburban teachers ($X = 6.1$, $SD = 1.14$), while urban teachers were moderately willing to do so ($X = 5.4$, $SD = 1.70$).

Teachers were then asked about which techniques they incorporated into their instruction such as accommodations, adaptations, questioning, individualization, organizers and varied presentational techniques. For teachers in all three types of schools, the highest degrees of reported use involved interactive questioning between teachers and students and varied presentational techniques. Mean ratings below 4.0 were awarded by urban teachers to questions on self-questioning, opportunities for self-questioning, and accommodations.

Another indication of instructional perceptions about using innovative instructional practices and improving curriculum materials involves the use of technology. Thus, teachers were asked to indicate the degree to which they used technology in instruction generally and the extent to which they used it specifically to help SWDs or LA students. They were also asked whether they required students to use the Internet. Overall, teachers indicated that they used technology "somewhat" in their instruction. Specifically, suburban teachers reported a mean rating of 5.27 ($SD = 1.54$), while rural teachers' rating was 4.90 ($SD = 1.76$), and urban teachers' mean rating was 3.78 ($SD = 1.76$). All other mean ratings for technology and Internet use were below the 4.0 ("somewhat") rating. (See Table 2 for results.)

Assessment. To find out the kinds of assessments teachers used to determine student mastery of content, respondents were asked to indicate the degree to which they used each of the following: (a) authentic performance assessment tasks; (b) class participation; (c) daily assignments, homework and worksheets; (d) group presentations; (e) group projects; (f) individual presentations; (g) individual projects; (h) portfolios; (i) quizzes; (j) research/reaction papers; (k) student notebooks; (l) textbook/publisher unit tests; and (m) teacher-prepared unit tests.

Suburban teachers reported using primarily unit tests that they prepared themselves ($X = 6.42$, $SD = .76$); quizzes ($X = 6.23$, $SD = .86$); and daily assignments, homework and worksheets ($X = 6.08$, $SD = 1.09$). Rural teachers reported that they were most likely to use daily assignments, homework and worksheets ($X = 6.33$, $SD = .91$) or unit tests they prepared themselves ($X = 6.0$, $SD = 1.52$). Finally, urban teachers awarded a mean rating for daily assignments, homework, and worksheets of 6.30 ($SD = .93$). No other mean rating was 6.0 or above.

Table 2

Teachers' Reports of Use of Technology

To what degree do you:	Urban			Suburban			Rural			Total		
	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*
• Use technology in instruction?	3.78	1.76	23	5.27	1.54	26	4.90	1.76	21	4.67	1.78	70
• Use technology to specifically help students with disabilities learn?	2.43	1.57	21	3.68	1.77	25	3.41	1.73	17	3.19	1.78	63
• Use technology to specifically help students without disabilities who are low achieving learn?	2.57	1.57	21	3.64	1.78	25	3.81	1.69	21	3.36	1.75	67
• Require that students with disabilities utilize the Internet?	2.05	1.86	21	2.80	2.31	25	3.61	2.20	18	2.78	2.19	64
• Require that students without disabilities who are low achieving utilize the Internet?	2.05	1.86	21	2.80	2.31	25	3.53	2.27	19	2.77	2.21	65

In a follow-up question, teachers were asked about the degree to which they were willing to make adaptations or modifications for SWDs for types of assessments, especially for assessment methods that teachers reported they were most likely to use. The only types of assessments for which adaptations or modifications received ratings above 6.0 were individual presentations ($X = 6.13$, $SD = 1.06$) and individual projects ($X = 6.04$, $SD = 1.01$); these rating were awarded by suburban teachers only. For the most commonly used assessments, unit tests prepared by the teacher, results for the likelihood that teachers would make modifications/adaptations were as follows: rural teachers, $X = 5.0$, $SD = 1.73$; suburban teachers, $X = 5.54$, $SD = 1.14$; and urban teachers, $X = 4.35$, $SD = 2.08$. For the cluster of daily assignments, homework and worksheets, all mean ratings were between 5.43 and 5.81, and all *SD*s fell between 1.23 and 1.44. For quizzes, results were as follows: rural teachers, $X = 3.90$, $SD = 1.81$; suburban, $X = 4.88$, $SD = 1.56$; and urban, $X = 4.36$, $SD = 1.84$.

Associated with assessments are grading practices. Teachers were asked the following open-ended question: "When assigning grades in your course, what factors other than mastery of content are considered?" The highest number of responses within the total of 142 related to student effort (31 responses, accounting for 21.8% of the responses), followed by participation and discussion (24 responses, accounting for 16.9% of the responses). Therefore, almost 40% of teacher responses fell into the two categories of student effort and participation and discussion. The completion of assignments and attitude/conduct were each mentioned 11 times, for 7.7% of the responses each. No other response was reported more than three times.

Curricular Demands, Related Student Deficits, and Expectations for Student Learning

The area of curricular demands was explored to determine the types of content knowledge that teachers believed students had to master to be successful in their classes. Two other topics were also explored: (a) deficits that students in some groups might experience related to the types of content knowledge that teachers identified as important, and (b) teachers' expectations for student learning.

Types of content knowledge required for success. A critical question for students enrolled in secondary content courses relates to the types of knowledge that they must acquire and master to succeed in those classes. This issue was explored by asking teachers the degree to which success, defined as a grade of C or better, for students *without* disabilities in their courses depended on demonstration of basic skills/strategies; content knowledge; manipulation of content knowledge; or transfer and application of knowledge (Bulgren & Lenz, 1996). The same questions were also asked with respect to SWDs.

These four types of knowledge, or use of knowledge, incorporate components of various taxonomies, such as Bloom's Taxonomy of Knowledge (Bloom, 1956). Bloom and his colleagues provided a taxonomy of educational objectives intended to provide for the classification of the goals of our educational system. Cognitive domains include those of knowledge, comprehension, application, analysis, synthesis and evaluation.

Teachers were provided with examples of each of the four types of knowledge or use of knowledge explored in this study. Examples of *basic skills/strategies* included asking a student to demonstrate the ability to write a paragraph, read the textbook,

Table 3

Teachers' Reports of Types of Knowledge Required for Success

To what degree does success (grade of C or better) in your course depend on the demonstration of the following:	Urban			Suburban			Rural			Total		
Students without disabilities	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*
• Basic skills/strategies?	6.17	0.98	23	6.04	0.92	26	5.85	1.39	20	6.06	1.08	69
• Content knowledge?	5.78	1.20	23	6.46	0.58	26	6.25	0.85	20	6.17	0.94	69
• Skill in manipulation of content knowledge?	5.87	1.10	23	6.35	0.80	26	6.15	0.75	20	6.13	0.91	69
• Skill in transfer and application of knowledge?	5.30	1.52	23	5.65	1.57	26	5.25	1.48	20	5.42	1.52	69
Students with disabilities												
• Basic skills/strategies?	5.70	1.11	23	5.96	0.93	23	6.06	1.03	17	5.89	1.02	63
• Content knowledge?	5.30	1.18	23	6.00	0.95	23	6.00	0.94	17	5.75	1.08	63
• Skill in manipulation of content knowledge?	5.30	1.33	23	5.74	1.01	23	5.94	0.83	17	5.63	1.11	63
• Skill in transfer and application of knowledge?	4.77	1.51	22	4.96	1.55	23	5.00	1.58	17	4.90	1.52	62

or study for a test. Learning *content knowledge* included knowledge and comprehension of facts, concepts, and definitions such as an algorithm, showing how to use a microscope, knowing the Bill of Rights, or defining "simile." Manipulation of *content knowledge* required application and analytical abilities such as identifying causes and effects associated with the major events leading up to U.S. involvement in World War II or comparing and contrasting information with the use of a graphic organizer. Finally, the ability to *transfer and apply content knowledge* involved synthesis and evaluation associated with problem-solving or generalization of learning; the real-world situations might involve working with the Audubon Society to chart bird migrations, working with neighborhood groups to evaluate the impact of new highway construction, or conducting a project with local employees to answer a question or solve a problem.

Overall, for students without disabilities, basic skills, content knowledge, and manipulation each received a mean rating above 6.0, with content knowledge receiving a mean rating of 6.17 ($SD = .09$). However, for SWDs, lower ratings were awarded for all four areas. The highest mean rating for SWDs, indicating the type of knowledge that teachers believed students had to master to be successful in their class, was the degree to which they could demonstrate basic skills and strategies. (See Table 3 for results.)

Student deficits in types of content knowledge. A portion of the questionnaire was designed to elicit information on four groups of students that were likely to be included in general education classes. This was done to focus on deficits that teachers thought members of some groups might experience. The four groups were learning disabled (LD), emotionally/behaviorally disabled (EBD), low achieving but not identified as having a disability (LA), and normally achieving (NA).

Specifically, the teachers were asked to indicate the degree to which the various groups of students lacked basic skills and strategies. (A "7" indicated that students lacked a great deal of basic skills and strategies; a rating of "4" indicated they "somewhat" lacked these skills and strategies; and a rating of "1" indicated no lack of the basic skills and strategies.) The same question was asked three more times for each group, substituting "background content knowledge," "manipulation of content knowledge," or "content knowledge transfer and application" for "basic skills/strategies."

In all cases, teachers reported that NA students demonstrated fewer deficits than the other groups; in general, teachers gave similar ratings for students with LD, EBD and LA students. Overall, students with LD were perceived to have deficits, particularly in the areas of sufficient prerequisite abilities for manipulation of content knowledge and the ability to transfer and apply knowledge. (See results in Table 4.)

Expectations for student success in mastery of content. To determine what teachers thought about the importance of having all students master the content, they were asked what percentage of critical content *all of their students* had to master before they would go on to the next unit. The question was asked three more times, substituting "most of your students," "half of your students," or "some of your students," for "all of your students."

Across all nine schools, teachers reported that they deemed approximately 63% of the content to be critical for success. When asked to judge what percent of the content was critical for all students to master before going on to the next unit, teachers

Table 4

Teachers' Perceptions of Students' Deficits in Types of Knowledge

To be successful in your course, to what degree do the groups of students listed below:	Urban			Suburban			Rural			Total		
Lack basic skills/strategies	Mean	SD	*N*	Mean	SD	*N*	Mean	SD	*N*	Mean	SD	*N*
• Learning disabled	4.48	1.47	21	4.37	1.22	28	4.78	1.83	18	4.48	1.42	85
• Emotionally/behaviorally disabled	4.39	1.79	18	4.43	1.21	21	4.28	1.78	18	4.37	1.57	57
• Low achieving but not identified as having a disability	4.90	1.64	23	4.19	1.41	26	4.70	1.65	20	4.59	1.54	59
• Normally achieving	3.70	1.22	23	2.82	1.60	28	3.05	1.50	21	3.21	1.47	70
Lack sufficient prerequisite background content knowledge												
• Learning disabled	4.85	1.49	20	4.12	1.36	25	5.25	1.39	16	4.58	1.48	61
• Emotionally/behaviorally disabled	4.83	1.85	17	4.14	1.49	21	4.47	1.73	15	4.39	1.66	53
• Low achieving but not identified as having a disability	5.17	1.67	23	4.04	1.34	25	4.65	1.36	19	4.58	1.52	68
• Normally achieving	3.58	1.53	26	2.77	1.50	25	3.30	1.39	20	3.22	1.36	69

Table 4 continued

Teachers' Perceptions of Students' Deficits in Types of Knowledge

lack sufficient prerequisite abilities required for manipulating content knowledge or doing higher order thinking												
• Learning disabled	5.05	1.47	20	5.04	1.61	28	5.65	1.59	17	5.21	1.58	65
• Emotionally/behaviorally disabled	5.18	1.51	17	4.67	1.48	21	5.06	1.52	17	4.95	1.51	55
• Low achieving but not identified as having a disability	5.36	1.41	28	4.60	1.24	25	4.95	1.73	20	4.93	1.45	69
• Normally achieving	4.14	1.17	22	2.96	1.22	28	3.67	1.58	21	3.62	1.43	69
lack sufficient prerequisite abilities required for content knowledge transfer and application												
• Learning disabled	5.44	1.50	16	5.15	1.70	26	6.29	1.79	17	5.26	1.65	60
• Emotionally/behaviorally disabled	5.47	1.42	17	4.81	1.54	21	6.06	1.75	17	5.09	1.57	55
• Low achieving but not identified as having a disability	5.59	1.46	16	4.76	1.48	25	4.80	1.85	20	4.94	1.54	69
• Normally achieving	4.59	1.37	19	3.44	1.50	25	3.67	1.65	21	3.94	1.54	65

reported a mean of 51.5%. Sixty-three percent ($N = 44$) of the teachers reported that they would stop and reteach only if the majority (50% or more) of students in the class showed evidence (e.g., on quizzes or tests, or in discussions) that they did not understand the critical content. Approximately 7% of the teachers ($N = 5$) reported they would reteach information if a group smaller than 50% of the class showed evidence that they did not understand the content; approximately 6% ($N = 4$) reported that they would reteach only if their top students did not seem to understand; approximately 15% ($N = 11$) reported that their decision to reteach would be based on ongoing classroom checks on student learning; 8.6% ($N = 6$) reported that they would never reteach content that they had already covered. Thus, a majority of the teachers noted that approximately 50% of the students had to show that they had mastered only about 50% of the content before they would choose to reteach the content.

Research-Based Practices, Standards, and Changes Needed to Help Students Succeed

The move toward research-based teaching practices has been the focus of current educational reform movements (Deshler et al., 2001). How teachers view this move and its impact on their teaching is critical, especially for students of diverse abilities in their classes. In addition, the effects of standards and the changes that teachers thought would be needed to help students achieve those standards were explored.

Research-based practices. One set of questions was designed to elicit information about adoption of research-based practices and what teachers considered to be research-based practices. Teachers were asked to indicate the degree to which their *school* supported implementation of research-based practices designed to enhance the learning of students *with* disabilities and students *without* disabilities who are low achieving, and whether there were *constraints* or *barriers* that prevented teachers from implementing research-based practices.

Overall, school support was rated in the "somewhat" range for enhancing learning of either students with or without disabilities. However, mean ratings by type of school varied from suburban ($X = 5.47$, $SD = 1.47$) to rural ($X = 4.53$, $SD = 1.68$) and urban ($X = 3.92$, $SD = 1.50$) for SWDs. Similar mean ratings were awarded by teachers in different types of schools for students without disabilities who were low achieving. Teachers generally did not believe that they were facing barriers to implementing research-based practices; however, urban teachers, on average, perceived more barriers than suburban or rural teachers. (See results in Table 5.)

Teachers were also asked to list up to five research-based teaching methods that they used. The 70 teachers in the study generated a total of 150 responses. The most frequent response, "cooperative learning," was named 25 times (17% of the responses). The second most frequent response was "group discussions and activities," named 13 times (8.7% of the responses). Thus, over a quarter of what teachers perceived as examples of researched-based practices involved student groupings. These were followed by "direct instruction," named 12 times (8%), "graphic organizers," named 6 times (4%), "questioning," named 4 times (2.7%), "brain-based teaching," "project-based teaching," "hands-on activities," "silent reading," and "individualized instruction," each named 3 times (2%). The remaining 75 responses were distributed across 61 different categories.

Table 5

Teachers' Perceptions of Support for and Barriers to Implementing Research-Based Practices

To what degree:	Urban			Suburban			Rural			Total		
	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*
• Does your school support implementation of research-based practices designed to enhance the learning of students with disabilities?	3.92	1.50	13	5.47	1.47	19	4.53	1.68	15	4.74	1.65	47
• Does your school support the implementation of research-based practices to enhance the learning of students without disabilities who are low achieving?	3.86	1.61	14	5.53	1.39	19	4.50	1.55	18	4.71	1.63	49
• Are there constraints or barriers that prevent you from implementing research-based practices?	4.67	2.17	15	2.90	1.68	20	3.18	1.33	17	3.56	1.90	52

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Effects of standards. The survey included a definition of a standards-based teaching model as an approach to teaching, in which planning, instruction, and assessment may be directly linked to mastery of national, state, and district subject-area standards. The teachers were asked to think about (a) how they planned the targeted course and the degree to which standards affected their planning and teaching; (b) the advantages of a standards-based teaching model; and (c) their expectations that students would meet standards in their course. Relative to the latter question, for students without disabilities, teachers awarded an overall mean rating of 5.61 (*SD* = 1.41); but for SWDs, the overall mean rating was 4.71 (*SD* = 1.49). (See Table 6.)

Recommendations for changes related to helping students meet standards. One set of questions was designed to explore teachers' perceptions of changes needed to help students meet standards at the school level. In open-ended questions, teachers were asked what changes had to take place in their *school* to help SWDs meet standards. Teachers offered 157 responses. The category receiving the largest number of responses (20) was "smaller class size," accounting for 12.7% of the responses. "More collaboration and communication with special education staff" was named 19 times, accounting for 12.1% of the responses. Other changes included the following: more competent staff such as teachers, aides, tutors, and counselors (mentioned 15 times, 9.6%); more work with students individually or outside of class (13 times, 8.2%); time to collaborate or more collaboration (12 times, 7.6%); changes in the curriculum to make it appropriate and to improve basic skills (9 times, 5.7%); training and information about students with disabilities and how to help them (9 times, 5.7%); parent conferences and parental involvement (8 times, 5%); more planning time and more time in general (6 times, 3.8%); updated and accessible technology/facilities and equipment (6 times, 3.8%); increased or better communication (6 times, 3.8%); and earlier identification of SWDs or informing general education teachers earlier about the needs of SWDs (5 times, 3.1%). No other response was given more than three times.

Teachers were also asked to name three changes they would make in the way they *plan* courses to help SWDs meet standards. A total of 145 responses were given. Nearly one fourth of them (22.8%, 33 responses) related to modification of the curriculum. Other changes mentioned included changing teaching methods and strategies (mentioned 16 times and accounting for 11% of the responses); increasing knowledge about disabilities and specific students with disabilities (13 times, 9%); planning for more individual time with students (10 times, 6.9%); using more cooperative learning or more small groups and paired structures (9 times, 6.2%); using or providing alternative materials (9 times, 6.2%); collaborating more with the special education staff (8 times, 5.5%); planning with standards in mind (7 times, 4.8%); and reducing workloads and assignments (6 times, 4.1%). No other response was given more than five times.

Teachers were then asked to name three changes they would make in the way they teach courses to help students *with* disabilities meet standards. Sixteen responses (out of a total of 143) related to providing more individual attention to students; this accounted for 11.2% of the responses. Fourteen responses (9.8%) related to using a variety of teaching methods. Working more productively and more frequently with special education staff (mentioned 13 times) and changing lessons to meet students'

Table 6

Teachers' Perceptions of Use of a Standards-Based Teaching Model

A standards-based teaching model is an approach to teaching in which planning, instruction, and assessment can be directly linked to mastery of adopted national, state, and district subject-area standards. Think about how you plan a course as you answer the following questions. To what degree:	Urban			Suburban			Rural			Total		
	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*
• Do standards affect your instructional planning?	4.74	1.76	23	5.38	1.72	26	5.33	1.28	21	5.16	1.62	70
• Do you use a standards based teaching model?	4.36	1.79	22	4.46	1.53	24	4.24	1.22	21	4.36	1.51	67
• Does this model offer advantages for students with disabilities?	3.40	1.88	20	3.87	1.39	23	3.12	1.45	17	3.50	1.59	60
• Does this model offer advantages for other at-risk youth?	3.35	1.95	20	3.95	1.43	22	3.11	1.32	18	3.50	1.61	60
• Does this model offer advantages for all youth?	4.33	1.68	21	4.43	1.27	23	4.35	1.53	20	4.38	1.47	64
• Do state standards affect your course planning?	4.78	1.76	23	5.23	1.80	26	5.29	1.49	21	5.10	1.69	70
• Do state standards affect your unit planning?	4.91	1.54	22	4.96	1.89	26	4.95	1.43	21	4.94	1.63	69
• Do standards affect your lesson planning?	4.73	1.72	22	4.85	1.89	26	5.00	1.48	21	4.86	1.70	69
• Do you expect that students without disabilities will meet state standards in your course?	5.09	1.65	23	5.92	1.19	25	5.81	1.25	21	5.61	1.41	69
• Do you expect that students with disabilities will meet state standards in your course?	4.74	1.45	23	4.72	1.54	25	4.65	1.53	20	4.71	1.49	68

needs (also mentioned 13 times) each accounted for 9.1% of the responses. Other comments included going at a slower pace and spending more time (mentioned 9 times, 6.3%); using more cooperative learning and small groups (8 times, 5.6%); and using more hands-on activities and fewer lectures (7 times, 4.9%). No other response occurred more than five times.

Finally, teachers were asked to name three changes they could make in the way they *teach* courses to help students who are *low achieving* meet standards. Of the 138 responses received, the highest number (20) related to using a variety of teaching methods. This accounted for 14.5% of the responses. Next, with 12 occurrences (8.7%), was the response of giving more individual attention to students. Other changes, named at least six times, included changing the lesson to meet student needs (11 times, 8.0%); using more cooperative learning or small-group work (9 times, 6.5%); slowing the pace and spending more time (6 times, 4.3%); and providing more hands-on activities and fewer lectures (6 times, 4.3%). No other responses were mentioned more than five times.

Discussion

Educators are faced with a challenging goal of substantially improving the educational outcomes for adolescents with disabilities and others at risk for school failure who can be educated within the general education curriculum. This descriptive study explored how general education teachers perceived and carried out their instructional roles relative to planning, teaching, and assessment practices; how they perceived curricular demands, student deficits related to those demands, and expectations for student learning; and how they perceived research-based practices, standards, and the changes needed to help students succeed in the context of their inclusive secondary content courses. These are major contextual factors that contribute to the likelihood that general education teachers will be amenable to adopting practices that will improve the educational outcomes for high school SWDs.

Instructional Roles and Practices

First, context is defined, in part, by the realities of how teachers perceive their instructional roles, especially as they relate to SWDs. With regard to instructional roles, general education teachers reported that they saw their roles primarily as showing students how to learn as they teach content. In fact, they did not believe they should teach content without teaching strategies. Teachers were willing to shoulder the responsibility of teaching both strategies and content, but they were only somewhat willing to let others into their classes to teach strategies, although they would reinforce the use of strategies taught in other settings. This raises the question of whether or not, despite their best intentions and efforts, general educators can teach the necessary strategies to SWDs at a level adequate to ensure success in their course, particularly in light of limited time to plan new instruction.

Relative to planning, the amount of time allotted by teachers to planning can determine the likelihood of new interventions requiring additional planning time being adopted. Teachers across rural, suburban, and urban schools reported spending about the same amount of time in planning; on average, less than one hour a day at school and the same amount of time each day outside of school time. This raises the question of whether this amount of planning time is adequate if teachers are to

make significant changes in how they teach, or if more planning time is needed to adequately respond to the challenges of teaching increasingly diverse groups of students in general education classes This is of particular concern given the contention of McLeskey et al. (1999) that general education teachers will need to take on added responsibility for the education of students with LD and work closely with special education teachers to adapt curriculum and instruction. Therefore, more planning time may be required if general education teachers are asked to assume these additional responsibilities, an important area for future research

Furthermore, teachers indicated that if more time were available, they ranked working with individual students or small groups of students above participating in professional development activities. This reflects a preference for activities that may not involve substantial instructional changes. It also presents an additional challenge to realizing the suggestion of Bull and Buechler (1997) that professional development is necessary so that teachers can attain new skills required to help these students. In sum, the amount of time teachers are able or willing to spend in professional development activities or in implementing the kinds of instructional innovations needed by SWDs may not be sufficient to allow those students full access to the curriculum.

The use of technology is one example of an instructional innovation. The use of technology to help SWDs and LA students without disabilities was reported less frequently than the use of technology in instruction in general, which received an overall mean rating in the "somewhat" range—the highest of any rating regarding the use of technology or the Internet. Thus, ratings indicated that teachers are more likely to use technology in general than to use it specifically for SWDs or LA students. Nevertheless, the likelihood that they will use technology at all is low, a finding of concern given calls for more use of technology to help these students (Stodden et al., 2003). Reported use of the Internet with SWDs and LA students was infrequent. These findings agree with results compiled from observations conducted in the classrooms of these 70 teachers, which indicated that computer-based instruction was rare in their classes (Schumaker, Bulgren, Davis et al., 2002).

Similarly, teacher reports of instruction and assessment practices revealed few innovations. The highest rated types of instructional practices involved using interactive discussion and varied presentational techniques. The mention of accommodations as an instructional practice was infrequent. Furthermore, assessment procedures varied only slightly across suburban and rural schools, with teachers giving mean ratings of 6.0 or higher to the importance of unit tests and daily assignments, worksheets and homework; suburban teachers also rated quizzes in that range. Urban teachers provided ratings within the same range for the importance of daily assignments, homework and worksheets. In general, teachers were willing to consider factors such as student effort and participation and discussion in assigning grades in addition to tests, quizzes, daily assignments, worksheets and homework. Teachers considered making accommodations and modifications for individual presentations and projects, but not for the types of assessments most often used.

However, contradictions between teachers' reports and actual practices exist. For example, teachers in rural and suburban school reported that they were willing to make accommodations and adaptations in curriculum materials. However, their own self-reports indicated infrequent use of accommodations in instruction. In addition,

Deshler et al. (2004), in reporting results of classroom observations, indicated that use of accommodations and individual attention was observed in only 14% of the classes observed. Of 285 class periods observed, only 22 contained instances of accommodations, consisting mainly of individual attention provided by the teacher to a student. In only five instances did the accommodations require significant planning and adjustment by the teacher, such as making enlarged worksheets or arranging for the student to take a test outside the class.

In another apparent contradiction, general education teachers reported that they believed that they should teach strategies as they teach content and that teaching strategies is as important as teaching content. Nevertheless, observation studies showed that these teachers rarely taught components associated with strategies in their class (Schumaker, Bulgren, Davis et al., 2002). All these findings point to the need to determine the reasons for the differences in teachers' self-reports and classroom observations. In general, instructional practices, assessment procedures, and grading appeared to be highly traditional, and use of innovations such as technological support was rare, particularly for SWDs and LA students.

It may be that teachers are willing to teach strategies or teach students how to learn as they teach content and to make accommodations and adaptations in curricular materials or assessments, but need more time, support, or professional development to put these into practice in their classrooms. These findings raise questions about how to respond to the challenge raised by Schumaker et al. (2002) to redefine what teachers do relative to planning, instructional practices and innovations in order to help SWDs in inclusive secondary classes respond more successfully to challenging curricula. Additional research is necessary to provide more information on the questions raised in this study and in the studies of Treder et al. (2000) and Gersten et al. (1998) on teachers' responses to the inclusion of SWDs in general education classes.

Curricular Demands, Related Student Deficits, and Expectations for Student Learning

Context is also defined by curricular demands and expectations for the types of knowledge and use of knowledge that students will master. On average, teachers reported that they put more emphasis on basic skills and strategies for SWDs, whereas the emphasis for students without disabilities was on content knowledge and manipulation of content knowledge. As expected, participants identified more deficits in knowledge for SWDS and other at-risk students than for NA students. For example, responses indicated that students, particularly SWDs and LA students, were considered to be somewhat deficient in background content knowledge and skills and strategies, and somewhat to moderately deficient in the manipulation as well as transfer and application of content knowledge. In addition, teachers in urban schools reported that even some NA students were somewhat deficient in the higher-order thinking skills required to manipulate content knowledge and in content knowledge application and transfer.

These findings are particularly important in light of the NCLB legislation requiring that all students, including those with disabilities, respond successfully to standards (Erickson et al., 1992), and the contentions that *all* students must be held accountable for mastery of complex curricula and higher-order thinking in addition to basic skills and content (Bulgren & Lenz, 1996; Deshler et al., 2001; Kame'enui &

Carnine, 1998; Wagner et al., 1993). Based on the reports of these teachers, however, high expectations for all students are not always a part of inclusive secondary content classes. Furthermore, the relatively low expectations for student mastery of content (the finding that most teachers will reteach information if about half the students had mastered only about half of the content) is discouraging, given the important role that teacher expectations play in student achievement. This is particularly significant with respect to SWDs and LA students without disabilities since they are likely to fall within the 50% who are mastering 50% or less of the content.

In short, teachers appear to have a good understanding of the types of skills, knowledge and uses of that knowledge necessary for student success. However, they find SWDs and LA students in their classes at least somewhat deficient in such skills, but are willing to move on with instruction even if many students have not mastered the critical information. Yet, if SWDs and other at-risk students come into general education classes with a perceived deficit in required background knowledge, more emphasis, rather than less, is necessary to ensure that they learn the content necessary to make the progress required by NCLB. Attempts to resolve these contradictions are necessary to ensure that SWDs and LA students without disabilities will succeed in the general education curriculum and reach high standards.

It is relevant that teachers perceived that NA students, particularly in urban settings, may also be somewhat deficient in manipulation of knowledge and transfer and application of content knowledge. This finding suggests that teaching to mastery levels would benefit a wide range of students of diverse abilities. These goals are, of course, linked to research-based instruction and standards and may be even more difficult to achieve as standards increasingly contain an emphasis on higher-order thinking such as transfer and generalization of learning.

Researched-Based Practices, Standards, and Changes Needed to Help Students

A third aspect of the current general education context relates to research-based instruction and standards. An indication of teachers' inclination toward making changes that will improve the educational outcomes for high school SWDs is their knowledge of and interest in using research-based instruction. When teachers were asked to list research-based methods that they each used, the responses included practices such as group discussions, cooperative learning and group activities. Furthermore, reports of school support for use of research-based instruction varied by school type. Thus, among the teachers in the three types of schools, urban teachers, on average, reported that barriers prevented implementation of research-based procedures more than did rural and suburban teachers.

There are several issues of concern here, including the low number of actual research-based methods named, the fact that observation data in other studies show that teachers were using no research-based programs and only a few research-based methods (Schumaker, Deshler, Bulgren et al., 2002; Schumaker, Bulgren, Davis et al., 2002), and the perceptions of teachers in urban schools about barriers that prevented implementation of research-based procedures. On the whole, this finding points to the need for more research on the needs of students and teachers, with special attention to urban settings.

This research also points to the need to disaggregate data by school type to ensure an accurate picture of school contexts across settings. As indicated above, reports of

school support for use of research-based instruction for SWDs varied by school type (ranging from means of 5.47 in suburban schools to 4.53 in rural schools, and 3.92 in urban schools). Such differences are masked when results by types of schools are combined and an aggregate mean of 4.74 is reported. Differences in teachers' responses relative to research-based instruction are similar to their reports of barriers that prevented them from implementing research-based practices. Reports of barriers varied by school type (ranging from means of 4.87 in urban schools to 3.18 in rural schools, and 2.90 in suburban schools). Again, such differences are masked when results by types of schools are combined and an aggregate mean of 3.56 is reported. Therefore, research must be continued and reported by types of schools, and innovative practices may need to be tailored to fit unique challenges and barriers found in different types of schools.

Relative to standards, teachers reported that a standards-based teaching model had only a moderate effect on their planning and instruction. They thought it offered somewhat of an advantage for all youth, and were generally optimistic that NA students in general education classes would meet the standards, but they awarded ratings in the "somewhat" range with regard to the degree to which SWDs would be able to meet those standards. They were able to indicate the changes they believed were needed to ensure that SWDs would meet standards. Specifically, at the school level, teachers recommended smaller class sizes and more collaboration with special education teachers. In terms of planning, they recommended modification of curricula.

In teaching, they recommended more individual attention to students and a variety of teaching methods for both SWDs and LA students. In fact, when these two sets of recommendations were combined, they accounted for between 21–23% of recommendations for both groups of students. Since teachers recommended the same types of changes for both SWDs and LA students, this raises the question of how teachers perceive and respond to the needs and characteristics of students in different subgroups such as SWDs and LAs who may need extra support to succeed. Thus, the presence of standards-based assessments had some impact on how secondary general education teachers think about what they teach and changes they would recommend or consider. It is questionable, however, that the changes that they are willing to make on their own will be sufficient to enable these students to be successful in their general education classes. This is critically important because teachers reported that struggling adolescent learners often lack the necessary content and strategies to be successful in rigorous subject-matter classes, and they doubted that many will be successful in meeting standards.

This finding has implications for how students will acquire content expertise and strategies that will facilitate their ability to succeed within the context of secondary schools. If the responsibility for teaching strategies to SWDs falls primarily on the shoulders of the special education teachers, extra care must be given to ensure that there is close coordination and planning between general education and special education teachers to ensure that relevant strategies are taught in special education and reinforced in general education classes. If responsibility also falls on the general education teachers, ways must be found, as suggested by McLeskey and Waldron (2002), for schools to promote positive teacher attitudes and expectations towards SWDs by supporting collaboration and teamwork among teachers.

Therefore, pressing questions relate to the type and degree of instructional changes that general education teachers can indeed make on behalf of adolescents with disabilities. It is incumbent upon researchers to determine what instructional practices are both powerful (relative to student outcomes) and doable (relative to ease of use) for general education teachers to integrate within their ongoing teaching routines. Until more clarity is gained around these issues, attempts to fully include students with disabilities into rigorous subject matter will not be as successful as they could be. General education teachers will need research-based instructional programs designed and validated for use in inclusive secondary content courses, professional development associated with those programs that will be accessible and valued by teachers, and whole-school support for both. Only with these varied approaches can the promise of success for all students be achieved.

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