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# STUDENTS' ADAPTATION TO TASK ENVIRONMENTS IN RESOURCE ROOM AND REGULAR CLASS SETTINGS

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This qualitative study compared the instructional environments of a resource room and two regular classrooms for 4 students identified by their school district as severely learning disabled. Target students were observed and interviewed in each of the two classrooms where they were assigned. Teacher interview data were used to supplement narrative data from classroom observations relating to task demands and expectations, predictability, and student self-regulation. Results indicated that regular classrooms may need to provide students with LD with more explicit conceptual explanations of cognitive requirements of tasks and provide all students with more personal responsibility for learning, if students' motivation and abilities are to be maximized in integrated classrooms.

Studies of instructional contexts for students with learning disabilities (LD) have begun to shed light on factors that may influence the relative success of these students in school. The variety of educational settings in which students with LD are placed, the teaching strategies and behaviors they experience, and the learning behaviors and attitudes of these students all contribute to the effectiveness of the educational environment for students with LD.

In a recent review of the literature on the instructional contexts experienced by students with LD, Bulgren and Carta (1993) reported that minimal differences have been observed between regular and special education classrooms in terms of time allocated in various subject areas or in terms of instructional tasks. However, studies of teacher behavior have shown that teachers in regular classrooms respond more frequently and negatively to off-task behavior by students with LD than to that by other students (Siperstein & Goding, 1985; Slate & Saudargas, 1986) and direct fewer academic questions and less extended feedback to students with LD than to their classmates (Alves & Gottlieb, 1986). Also, in a number of studies, classroom structure was found to vary across special and regular educational settings. Specifically, less whole-class instruction and more individual instruction was found to be typical of more restrictive (special education) settings, as compared to regular settings, while time allocated to small-group instruction was the same across settings (Thurlow, Ysseldyke, Graden, & Algozzine, 1984). It is notable that differences in structure between the two kinds of classroom are not attributed merely to differences in class size. For example, Evertson, Folger, Breda, and Randolph (1990) found that many of the teaching behaviors associ-

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ated with improved achievement were not observed in small classes any more than in larger classes, even when teacher inservices on classroom management, instructional strategies, and higher-order thinking/question-asking strategies were provided.

Results concerning academic and off-task behavior of students with and without LD in the regular classroom have been mixed. In two studies (Fellers & Saudargas, 1987; McKinney & Feagans, 1984), students with LD were found to engage in more off-task behavior than their peers. On the other hand, Thurlow, Graden, Greener, and Ysseldyke (1983) found no differences between the two groups of students in terms of academic responding times, task management responses, or inappropriate responses, although specific kinds of academic responding differed. For instance, students with LD spent more time playing academic games and engaging in academic verbal interactions, while students without LD spent more time writing (Thurlow et al., 1983). In comparing the behavior of students with LD across settings, Thurlow, Ysseldyke, Graden, and Algozzine (1984) found no differences in proportion of time spent engaged in academic responding, task management, and inappropriate responses across five different settings, ranging from full-time placement in regular classrooms to full-time placement in resource rooms. Students with LD in all of these settings appeared to spend the majority of class time engaged in task management, spending less than 45 minutes per day in academic responding, on average (Thurlow et al., 1984).

These descriptive studies provide important information on the behavior of students with LD in regular and special education settings, as well as teaching behaviors and classroom contextual factors that are experienced by these students. However, to answer questions critical to planning and implementing instruction for students with LD, a clearer understanding of the linkages among classroom context variables, teaching behaviors, and students characteristics is needed. For example, recent research on motivation and achievement-related behavior has demonstrated the importance of students' perceptions of and beliefs about their competence as learners, about their control over success and failure, and about the tasks they face in school (Anderson, Stevens, Prawat, & Nickerson, 1988; Doyle, 1983; Paris & Byrnes, 1989; Rohrkemper & Corno, 1988). Considerable evidence shows that such beliefs and perceptions largely determine the amounts and kinds of effort students will expend in learning activities and the strategies they will use to achieve academic goals (Corno & Mandinach, 1983; Rohrkemper & Corno, 1988). This may be especially important for students with LD, who are frequently described as passive or "disassociated" learners, "who do not participate actively in the learning process" (Bulgren & Carta, 1993, p. 183). Moreover, students' task- and self-related beliefs may be affected in important ways by the instructional and social environment of the classroom (Anderson et al., 1988; Blumenfeld, Pintrich, Meece, & Wessels, 1982; Marshall & Weinstein, 1984, 1986).

## *Classroom Environments and Students' Beliefs*

Two instructional dimensions of classrooms found by Anderson et al. (1988) to be strongly associated with students' task-related beliefs were (a) "the extent to which teachers structured information about the environment to render it predictable and comprehensible," and (b) "the frequency of opportunities for students to regulate their own task activity" (p. 283). In particular, ratings on these classroom variables correlated positively with students' scores on a composite measure of task-related beliefs. The latter measure reflected students' beliefs about control over academic outcomes, their perceived academic competence, and their preference for situations involving intrinsic versus extrinsic motivation.

*Predictability and Comprehensibility.* The predictability and comprehensibility of the classroom environment will be affected by the ways in which tasks are presented and assigned, and by the communication of expectations about behavior and performance, through both explicit statements and consistent follow-through. Anderson et al. (1988) described classrooms that had been rated highly on "general climate" and on the composite ratings of student beliefs as ones in which teachers deliberately and explicitly presented information that would reduce the inferences students had to make about how to respond to task demands. This included the provision of procedural details, but teachers in these classrooms also explicitly linked ideas, such as relating specific rules to broader principles. As noted by Doyle (1988) in describing work environments in mathematics classes, "Teachers often focus only on whether students' answers are completed or 'correct' rather than on the thinking that was used to obtain the answers, so that mistakes and misconceptions frequently go unnoticed and uncorrected" (p. 178). All students, but especially those with learning difficulties, need explicit information about the cognitive, as well as the procedural, demands of classroom tasks. That is, in addition to procedural information, such as length and format requirements, or what a finished product might look like, students need to understand cognitive task demands, such as the kinds of thinking required, the kinds of substantive content that should be dealt with and in what depth, and learning goals inherent in the task.

Teachers' expectations for student behavior and performance need to be made explicit and to be followed through consistently in order to render the classroom predictable and comprehensible. This means that students must not only know specifically what is expected of them, but also be held accountable for meeting those expectations, both behaviorally and in terms of academic performance.

*Opportunities for Self-regulation.* Teachers can create opportunities for students to regulate their own task activity in several ways. For example, while holding students accountable for completing tasks, teachers in highly rated classrooms in the Anderson et al. (1988) study allowed students freedom to monitor and pace some of their work in terms of what tasks were done when, in what order, and in what manner. Another aspect of self-regulation is that of self-appraisal, or monitoring of one's own performance, comprehension, or progress in meeting learning goals. Opportunities for both self-monitoring and self-appraisal are important in promoting beliefs about self and tasks that are associated with high levels of cognitive engagement and intrinsic motivation to learn (Corno & Rohrkemper, 1985; Marshall & Weinstein, 1984).

### Adapting to Different Classroom Environments

If differences in classroom environments can influence students' perceptions of themselves as learners and their interpretations of the tasks they engage in during school, it may be important to consider their effects on students with LD who alternate between different instructional settings. Many students assigned to resource rooms receive part of their daily academic instruction in the regular classroom. The expectations placed upon students with LD by themselves, their teachers, and their peers in these two environments may differ radically. Thus, it may be hypothesized that these students' task-related beliefs and their self-perceptions as learners would be specific to one setting or the other, influencing their effort and performance in each classroom. Peterson (1988) has noted the same kind of "fragmentation of instruction" in cognitive terms, pointing out the difficulties students may have in learning higher order skills when they must integrate such learning across two learning situations (i.e., pull-out program and regular classroom). Peterson also aptly noted that lower achieving students may have even more difficulty than their higher achieving peers in learning higher order skills under these circumstances (1988, p. 323).

In the present study, two regular classrooms and one resource room were observed to assess their instructional ecology along the two dimensions identified by Anderson et al. (1988). Also examined were the self- and task-related beliefs of 4 students in the context of each of these different instructional environments. Due to the very small sample involved in this investigation, the results reported here must be considered with caution. However, if these results are confirmed by future studies using a similar design and methodology, they may have important implications for the integration of students with special needs into regular classroom settings. In particular, differences in classroom environments experienced by students with LD as they move from one setting to another, and any concomitant changes found in their task-related beliefs and behavior, would suggest a bidirectional approach to integration. That is, for learners with special needs to become less "special," yet have their learning needs met in the regular classroom, not only must they learn to cope with the demands of regular class instruction, but also, the instructional environment of regular classrooms must be flexible, supportive, and comprehensible to all students. This may mean additional efforts on the part of the regular classroom teacher to make expectations and task requirements clear to students who are not spending their whole day in that class. Such an approach to integration involves an emphasis on both the students' and the teacher's responsibility for communicating their needs, perceptions, and expectations in the classroom.

## METHOD

### Sample

Three boys and one girl who had been assigned to a resource room program for students with learning disabilities were involved in the study. All 4 participating students spent five mornings per week in the resource room. During the afternoons, 2 boys attended a regular Grade 4/5 class; the other boy and the girl attended a regular Grade 6/7 class. The fifth-grade boys, Rick and Michael, were 10 years 7 months and 10 years 5 months old, respectively, at the time of data collection in October/November. The seventh-grade girl, Julie, was 12 years 4 months, and the seventh-grade boy, Duncan, was 11 years 10 months old.

Because criteria for placement in special education programs vary widely among schools and districts, and because only 4 students were observed in this investigation, some background information about their academic performance and placements is appropriate to include here. One fifth-grade boy, Rick, was first referred for special services in the first grade. Rick had repeated kindergarten and had difficulty coping academically in first grade. He showed widely varying Performance scores on the Wechsler Intelligence Scale for Children–Revised (WISC-R) (Wechsler, 1974), ranging from 4.5- to 10.5-year-old levels (CA 7.10), with problems in verbal reasoning, auditory attention, visual discrimination and visual memory, fine motor coordination, and directionality. His WISC-R Verbal score was at the 40th percentile and other subtest scores were within the "average" range. At the time of this study, his regular class performance was characterized as adequate in terms of quantity of work completed, but with persistent difficulties in comprehension and accuracy. He was described by his regular class teacher as highly motivated to succeed.

Michael, the other fifth-grade boy, also was referred for assessment and subsequent special class placement after repeating kindergarten. According to school records, his overall intellectual functioning fell in the mildly mentally handicapped range on the McCarthy Scales of Children's Abilities (McCarthy, 1972), with his true score falling between the first and fourth percentiles 90% of the time. At the time of this study, his psychological test results, including those of the WISC-R, agreed closely with the earlier assessment. Except for strengths in rote memory and concentration during problem solving, Michael showed weaknesses across language-based and nonverbal areas, especially in visual memory, visual discrimination, visual–motor integration, and verbal functioning. At the time of the study, he was described as making slow but steady improvements in academic areas, but as socially immature.

The seventh-grade girl, Julie, first was referred for assessment and subsequent special class placement while having difficulty in her second year of first grade. Overall, she performed in the borderline/low-average range on the WISC-R, with a Performance score 25 points higher than the Verbal. On oral verbal tasks requiring attention to verbal detail, her scores ranged from the 1st percentile (abstract verbal reasoning) to the 91st (digit recall). Wide variation also occurred on visual tasks, with scores ranging from the 2nd percentile (picture arrangement) to the 84th percentile (block design). In summary, her assessment identified weaknesses in a variety of areas of functioning, but especially those related to verbal–conceptual ability and auditory attention. At the time of this study, Julie's Wide Range Achievement Test–Revised (WRAT-R)[2] (Jastak & Wilkinson, 1984) scores were at the 3E, 3E, and 4B grade equivalents in reading, spelling, and arithmetic, respectively. She was described as motivated and cooperative in class, but as often having difficulty understanding instructions and expectations.

Jason, the seventh-grade boy, was referred for initial assessment at the end of his second year in kindergarten and was placed in a special education class that fall. At that time he was functioning in the average range, as measured by the Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983), with simultaneous and sequential processing abilities being approximately equal. However, he showed weaknesses in spatial memory and had poor perception and attention. At the time of this study, Jason was functioning well in the regular class during the afternoons, showing a positive attitude toward learning. At the same time, he required support in several academic areas to improve his basic skills.

Three teachers were involved in the study: a resource room teacher and the two regular classroom teachers, to whom participating students were assigned for the afternoons. Both regular classroom teachers were male, had over 12 years' teaching experience, and were considered by their colleagues and school principal to be competent, dedicated teachers. The female resource room teacher had over 15 years' teaching experience with special needs learners. She had developed and pilot-tested the resource room program, which was in its third year of operation at the school where the study was conducted.

The school draws students primarily from lower middle class homes in a multiethnic area of a west coast city of approximately 100,000 people. Many of the children in this area of the community are considered at risk for school failure by the local school and social authorities.

## *Measures and Procedure*

*Classroom Environments.* The instructional environment of each of the three classrooms was assessed through observation, interviews with teachers, and a self-report paper-and-pencil measure completed by the teachers. Observations were conducted by one principal investigator and one research assistant over a 5-week period in the autumn. Each of the two researchers observed for three half-day periods per week over the 5 weeks, totaling five observation visits in each of the three classrooms. Because all 4 students spent every morning, and only the mornings, in the resource room, all resource room observations were conducted during the morning and all regular class observations took place in the afternoon. During data collection, the observers wrote running narrative descriptions of classroom events, focusing especially on teacher and student interactions and behaviors reflecting the two dimensions described earlier—that is, predictability and comprehensibility of the task environment and opportunities for student self-regulation (Anderson et al., 1988).

Approximately 6 hours of training were completed by each researcher to prepare for observing classroom events and student and teacher behaviors, and for writing narrative observation notes. Videotapes of the three classrooms, taped during regular instructional periods, were used as a basis for observer instruction and practice. While viewing the tapes, the observers practiced writing narratives, using two guiding questions. First, "What classroom characteristics or events, including teaching behaviors, make this environment predictable and comprehensible for students?" That is, how do the teacher and teaching practices structure information such that students know what to expect and understand how things are done in this classroom? Second, "What teaching behaviors and practices provide opportunities for student self-regulation?" The definitions and examples of these terms offered by Anderson et al. (1988) were provided as a reference for the observers.

During the first two observation periods in each classroom, the observers were instructed to focus on the class as a whole, using the two guiding questions as a basis for characterizing the events, standards, and procedures. In subsequent observation periods, they focused on the 4 students who were participating in the study. These students' interactions with teachers and peers and their task-related behaviors were recorded, again in relation to the two identified dimensions of classroom environment.

Interviews were conducted by the other principal investigator with each of the three teachers, focusing on their classroom policies, typical instructional methods (e.g., whole-class vs. small-group activities, individual vs. cooperative learning, etc.), and attitudes and approaches toward special needs students in their classes. These interviews involved open-ended questions, enabling the teachers to explain in their own terms how they managed classroom instruction. Each interview took approximately 35 minutes and was conducted before other measures were administered.

The self-report instrument relating to classroom environment that was completed by the teachers was the Problems in Schools Questionnaire (Deci, Schwartz, Sheinman, & Ryan, 1981). This measure is designed to assess adults' orientations toward control versus autonomy with children. It consists of a series of eight vignettes describing common problems in schools. Following each vignette are four possible responses reflecting four points along a continuum, from highly controlling to highly autonomous. The instrument showed internal consistency estimates ranging from .63 to .80, and test–retest reliability between .77 and .82 when tested with 68 teachers in Grades 4 through 6 (Deci et al., 1981). Deci et al. (1981) also found that a relationship between teachers' control orientations and students' perceived competence and intrinsic motivation appeared within 2 months of the start of the school year and remained stable over the year.

*Students' Perceptions.* Two kinds of data were collected to provide information on students' perceptions of their own learning-related behaviors and of the classrooms in which they worked. One of these measures, the Self-Regulated Learning Rating Scale (SRL) (Corno, Collins, & Capper, 1982), was used to measure students' learning behaviors and cognitions during classroom instruction. A lower-bound Guttman reliability estimate (Guttman, 1945) of .91 was reported for the SRL scale by Howard (1990). This scale contains 20 items, to which students may respond, *most of the time, sometimes,* or *hardly ever.* An example of an item from this scale is, "When your teacher is talking, do you think of things you already know and how they are like the *new* things the teacher is talking about?" In this study, the researcher read all questions aloud to the student to avoid potential problems in students' being able to read the questions. The SRL scale was administered to each child twice: once in reference to the resource room and once in reference to the regular classroom.

The second measure of students' perceptions was a series of interviews conducted during the 5-week classroom observation period. The two researchers who were observing in the classrooms conducted individual semistructured interviews with the participating students periodically throughout the observation periods. An initial 20-minute interview was conducted individually with each child in the school library. In this "general interview," students were asked to describe their general perceptions and feelings about each classroom where they spent time. Specifically, they were asked to describe how the two settings seemed different from each other and how they adjusted their thinking and/or behavior when going from one classroom to the other. Examples of the questions asked in the general interview are (a) "Do you like it better in the resource room or the regular classroom?" "What's better about [that] room?" "Can you tell me more about that?" (b) "Is the work harder in the resource room or the regular class?" "Is there anything special that you do to get help or deal with the harder work in there?" "Can you tell me more about what you do?" and (c) "In doing work in [this] class, do you get to decide about some things yourself—like, when you'll work on certain things, or where?" "And in [this] class, are you the one to decide when your work is ready to hand in, or does the teacher decide?" "Can you tell me more?" The latter question was one of four in the general interview that were asked twice. For these four questions, the child was asked to think about how things are, first in the regular classroom, then in the resource room, as the questions were repeated.

Once a child had completed the general interview, he or she participated in a series of "task-specific interviews." These were intended to find out how the students approached particular tasks they found challenging and how they might have handled similar tasks in the other classroom setting. An attempt was made to time these interviews so that they followed immediately after some instructional activities the student could talk about. In each instance, the interviewer began by saying, "I'd like you to think of something in class this [morning/afternoon] that you found hard or complicated." Examples of questions asked in relation to this activity were, (a) "What part of this activity was especially hard?" "Can you tell me more about that?" (b) "When you first got to the hard part, what did you think or say to yourself?" "What did you do? [if no response] Like, did you ask a question, wait for the teacher to explain more, or watch other kids . . . things like that?" and (c) "If this happened in the [other classroom], what would you have done? Anything different? Can you tell me more?"

Due to the potential disruption to the child's academic work, the task-specific interviews were kept to approximately 5 minutes in length and were conducted in a quiet corner of the classroom. Each student was interviewed two to three times during 1 day of each week throughout the 5 weeks of observation. All interviews were tape-recorded, then transcribed verbatim into print form. (The general and task-specific interview schedules are available from the first author.)

## Analysis of Qualitative Data

*Teacher Interviews and Classroom Observations.* Two sources of qualitative data used in assessing classroom environments were the observations and teacher interviews. Information obtained from these sources are reported together, as both were analyzed in similar fashion to construct descriptions of differences and similarities in classroom settings, teacher behavior, and target students' behavior.

Narrative descriptions of the classrooms and transcripts of teacher interviews were read independently by the two principal investigators. In each case, one reader had been involved in data collection; the other had not. In addition, one of the two investigators had no knowledge of students' self-perception scores when analyzing observation and interview data. Each reader first looked for differences and similarities among classroom settings along the dimensions of (a) predictability and comprehensibility and (b) opportunities for student self-regulation—the two instructional dimensions of interest. In several instances, one reader initially overlooked an event or setting feature that the other reader had identified as reflecting one of the dimensions of interest. There was 100% agreement between the two readers in terms of including these identified events and setting features in the final descriptions (i.e., all were included), and in terms of which instructional dimension (*a* or *b*, above) was reflected in each event or setting feature.

Next, a second reading of the narratives was conducted by the first author (who had not been an observer or writer of the original narratives) to further classify the classroom descriptions under each instructional dimension of interest according to more specific setting features (e.g., teaching techniques, instructional methods, policies within the class, etc.). The purpose here was to organize the descriptions according to events and setting characteristics that illustrated the two dimensions of interest, and that were comparable across settings, without losing important information from the original narratives. For example, explaining task demands to students was a teacher behavior observed in all three classrooms on several occasions, and thus was easily compared. It also illustrated how these classrooms differed on the dimension of predictability and comprehensibility. Once the classroom descriptions were organized in terms of these more fine-grained features, the two principal investigators worked together to reconcile any differences in interpretation, so that the final descriptions accurately reflected the original observations made in each classroom.

A third reading of the observation and interview transcripts was then conducted by the first author in order to write a description of similarities and differences in students' skills and behaviors across the two classroom settings. This description, focusing on the transfer of learning behaviors, was then discussed with the other principal investigator (who had been involved in observations and interviews) to reconcile any differences in interpretation. In both the second and third readings, only minor differences in descriptions were required. The most significant change was made to the description from the second reading, where praise was considered by the observer to be a major differentiating feature across classrooms. It took considerable discussion to incorporate this aspect of classroom life into the descriptions in a way that reflected its role vis-à-vis the dimensions of interest, yet did not distort its role or relative importance as originally observed. As a result of this discussion, praise was eventually incorporated into two parts of the description—those related to the explication of task demands and to self-appraisal.

*Student Interviews.* Student interview transcripts were summarized on paper by the researcher who was not involved in conducting the interviews. The other researcher then read these summaries to verify their accuracy and inclusiveness. Data from these interviews are reported in terms of the interview questions themselves. Some of these questions relate specifically to students' learning behaviors; others ask about their perceptions of classrooms as task environments. In the latter case, certain questions related directly to the two instructional dimensions of interest and thus resulted in responses that could be corroborated with observation and teacher interview data.

## RESULTS AND DISCUSSION

### CLASSROOM ENVIRONMENTS

One measure of the task environment within classrooms was the "Problems in Schools" Questionnaire. Scores on this measure for the three teachers indicated that all three had highly autonomous orientations toward their students. When these scores were compared to those of the validation sample reported by Deci et al. (1981), the scores for the resource room teacher and the two regular class teachers were 1.69, 2.62, and 2.74 standard deviations above the mean, respectively. Thus, while the resource room teacher scored closer to the normative mean on this measure, these teachers could not be differentiated in terms of control versus autonomy in their self-reported teaching styles.

Results from classroom observations did show differences among classrooms in terms of Anderson et al.'s (1988) two dimensions. However, differences between the two regular classes along these dimensions were minimal compared to the variation observed between each of them and the resource room. For this reason, most of the following description compares the resource room and the regular class settings. The final part of this section deals with transfer of learning behaviors from the resource room to the regular class setting. Described here are areas where students did and did not appear to use skills learned in the resource room when functioning in the regular classroom.

#### *Predictability and Comprehensibility*

*Explication of Task Demands.* This dimension reflects features of instruction that rendered tasks more or less comprehensible through focusing on students' engagement with substantive content. Differences between the two types of classrooms along this dimension were especially apparent when teachers were explaining task or assignment instructions to the class as a whole. In each case, teachers presented information about their expectations in terms of the end product of the assigned work. However, in the resource room, information also was presented concerning how students should deal cognitively with the task. More specifically, the resource room teacher instructed students in content requirements of assignments, including examples of ideas and concepts that might be included, and the ways students should be thinking about the questions asked in an assignment. These cognitive aspects of task expectations were emphasized through direct instruction and modeling.

In the regular classes, this information consisted of procedural instructions and examples of what the finished product might look like. Features such as format, length, and scope of topics to be covered were emphasized. Some questions were asked by students during these episodes, but never by those with LD. Moreover, the students with disabilities frequently were observed to be confused and inattentive at these times. When the class began to work on the assigned task, the students with LD invariably began work, but often with seemingly little understanding of the nature of the task, as indicated by the appearance of their work. For example, the following excerpt from one observer's notes shows how Julie, one of the students participating in the study, operated with only partial understanding of the teacher's stated expectations: "Meanwhile, Julie laboriously completes the task, but it is evident that she has not heard the requirements accurately as she has used capital letters and misplaced the directional arrows." The observation that the students with LD frequently had difficulty understanding task instructions was corroborated by all three teachers in their interviews.

The presentation of task instructions in the resource room appeared to be much more a substantive lesson than a set of directions. The content of the assignment, including concepts and ideas to be addressed and ways students should think about their task, was emphasized rather than procedural or formatting concerns. The teacher modeled such conceptual thinking by talking through examples aloud to herself. Students also were asked to provide examples of ideas they might include, and then were given feedback specific to the understanding of the task that their examples showed.

In addition, it was noted that praise in the regular classroom generally appeared to be focused on students' attending to or completing tasks, while in the resource room the emphasis was on students' increased understanding or improved performance. Students in the resource room often received praise for "getting the idea" or "getting them all done perfectly." Thus, cognitive engagement in learning tasks, and especially in attempting to understand the requirements of those tasks, was directly modeled and reinforced by the resource room teacher.

The resource room teacher's presentation of instructions concerning a "report card" assignment serves as a clear example of how she engaged students cognitively in the task by focusing on its substantive content rather than presentation or format. In this assignment, which is described in more detail below, students were asked to evaluate their own skills in listening, speaking, reading, mathematics, handwriting, and work habits. During one of several presentations relating to this task, the teacher was observed clarifying to students that she did not want simple yes/no responses to questions she had asked them to address in their report cards, but would like them to contemplate the questions seriously and try to "place themselves" mentally in a math or reading task and picture their listening and reading skills. Another time she interrupted a group activity to discuss this listening/speaking self-evaluation. She announced that this was an opportunity for them to pay attention to their own listening and speaking behavior so that they would be able to remember how they were doing when they worked on their report cards.

*Accountability.* The clarity with which expectations are articulated and the consistency with which positive and negative consequences are delivered may be viewed as measures of a learning environment's degree of predictability. Interesting variations appeared between the two kinds of classroom settings in terms of these features. One such variation related to students handing in homework or assigned projects. A common practice in both the regular classes was for teachers to continue assigning homework and in-class assignments on schedule, regardless of whether students had handed in work assigned previously. Students were reminded, but generally not required, to hand in all of their work—a practice that would be expected in many North American classrooms. Knowing that homework contributes to report card grades would normally be seen as incentive enough to encourage students to hand it in. However, as a consequence of day-to-day behavior, grades may seem both vague and distant. Tangible results of not submitting homework are not faced until report cards are received, and often it is unclear to students how much an individual assignment will affect the final outcome.

By comparison, students in the resource room were held accountable for their assigned work much more immediately. All tasks that were assigned as either classwork or homework had to be completed. Students were consistently faced with such tasks as "work in progress" and could not progress to new tasks in that subject area until the assigned work was completed satisfactorily. Also, a consistent requirement in the resource room was that work completed in class had to be corrected. In responding to an interview question about students correcting their own work, the resource room teacher clarified this aspect of the instructional system:

> We are very stringent about corrections, because things can fall apart very quickly for the LD child and they need that structure. [Otherwise] they feel you're not serious about them being active in their work. Then they can get very untidy and you generally monitor corrections very carefully. And yet the risk—there really isn't a whole lot of risk attached to it. They never feel that we're down on them for making errors. For instance, we never mark an "X"; we put a little dot beside a correction.

These practices relating to accountability were not imposed in a punitive manner, but rather were presented in a matter-of-fact, logical tone such that students quickly learned that they could not avoid completing the work they were given. The teacher noted that in response to this system, task-avoidance behavior disappeared after a student's first few weeks in the classroom, and students quickly learned to maintain their efforts at each assignment until it was completed. When asked if students were made responsible for making sure they completed all of their work each day, the resource room teacher noted,

> Yes and, amazingly, they do a great deal of work every day. I'm constantly impressed with what they do. They just charge through the Daily Plan and there's a minimum of avoidance. Maybe it's conditioning or the fact that they're motivated to do it because it's satisfying to complete this list of tasks. But there's a tremendous amount of independence involved in the way it's set up . . . [New kids in the program are] much more impulsive than the other kids, because they still haven't learned that . . . it still hasn't registered that yes, there is accountability; if you do mess up and if you have all these answers wrong, you will have to redo them, you will have to go back and relearn that.

The fact that, once they understood the system, these children did not try to avoid completing their assigned tasks was no small gain for them, considering their history of the kind of work-avoidant behavior that is typical of low-achieving students. The resource room teacher described new students' entry behavior as follows:

> Well, avoidance—avoid a job that you don't want to do. I hate math, so I'm sure not going to do it as long as I don't have to. Yes, I'll sit down and do it as the last job. And they don't intend to attack the most difficult job first. Yeah, that's pretty general for them. They want to do what's easy and neater for them to do. And also part of their avoidance is emotional—to be angry some of the time and get frustrated, "I can't do this," and have a little mini-tantrum . . . and they have to be talked out of this, because part of what we try to do here is to get them to understand their emotions around the learning disability. And I can see the kids who have been here a long time are much better at handling anger with themselves for not understanding and not picking things up.

These differences in accountability are not surprising, given the concerns of regular class teachers for maintaining a consistent pace for the class as a whole. The individualized instructional programming in resource rooms lends itself to students working at varied rates. Nonetheless, in the resource room observed here, students typically did submit their work on time, and they were highly motivated to do so, knowing that only then could they move on to new and potentially more interesting tasks. Such a result suggests that similar outcomes might occur in regular classes. That is, assigned tasks such as homework might be completed consistently if students realized that avoiding work merely resulted in a delay in progression to novel material, and that they would be faced with the same tasks again and again in the meantime. Our data indicate that this lesson was learned in the resource room in the first part of the school year, resulting in little delay in overall progress through the curriculum for these students.

## *Opportunities for Self-Regulation*

*Self-Monitoring.* The frequency of opportunities for self-monitoring of instructional tasks in the resource room differed dramatically from that of the two regular classes, in part due to differences in the degree of individualization. In the resource room, students generally worked on similar types of skills and subject matter, but were on individual plans in terms of curriculum materials and level and pace of instruction. For example, every day students worked on reading comprehension exercises, math computation, spelling, journal writing, reading aloud and silently, and life skills exercises presented via audiotape. Awaiting students on their arrival each morning was an individualized Daily Plan that listed their assigned tasks for that day. In this way, students were able to begin working as soon as they entered the classroom, without waiting for others to arrive or the class to be called to order. Most of the time, they in fact did this. As written tasks were completed, students were required to have them checked by the teacher or teaching aide. Teaching staff spent most of their time working individually with students, although some small-group and whole-class instruction also were observed, particularly when new kinds of tasks were introduced.

In contrast, most of the instructional activities observed in the two regular classrooms consisted of teacher-led whole-class recitation or seatwork whereby all students completed the same task during a given time period. The teacher introduced each new task or activity according to his own instructional agenda. There was a general order in which subjects were taught during the day, but beyond this, students were not aware of what activities were planned until they were introduced by the teacher. Most of the instructions were given orally, with no written guides for students to follow unless they were completing worksheets. Although attempts were made to provide individual attention during seatwork activities, this attention appeared to be limited to clarification of task instructions in response to students' questions.

The individualization of instructional planning that occurred in the resource room allowed for considerably more flexibility in pacing than was possible in the regular classrooms. Thus, one way in which the resource room format enabled students to regulate their own task activity was in determining how long they spent working on each in-class task. Students worked through their Daily Plans at their own pace, moving on to subsequent tasks as they completed each one. The teacher also reported that, once students demonstrated that they consistently could complete all their work for the day, they were allowed to determine the sequence in which they worked on their assigned activities.

Throughout the majority of activities in the resource room, emphasis was placed on student self-direction. Students were often asked to work at the blackboard, where they could show the sequence of steps used to solve problems. They were commonly heard "talking themselves through" their exercises while working at the board or their desks. This might involve saying aloud questions to be answered and then trying out possible answers or steps toward a solution. As noted in the section on explication of task demands, the teacher modeled this kind of learning behavior when she demonstrated or presented instructions to the class as a whole.

In addition to sequencing and pacing of instructional tasks, students can be given opportunities to regulate their own learning through self-monitoring of progress and self-evaluation of performance. These aspects of self-regulation are discussed next.

*Self-Appraisal.* Students in the resource room were encouraged to employ a variety of educational devices to assist them in monitoring their performance. During silent reading, students used a timer to keep track of the time. Another tool was a grid showing the times-tables, which was used during multiplication exercises. Also, calculators were used for checking arithmetic.

Resource room students also were able to monitor their performance by asking peers for assistance in clarifying or checking the accuracy of work. Consulting with peers for this purpose was encouraged and, for some skill areas, such as using the computer, spelling, or math, particular students were designated as class "experts" to whom others could go for help. Thus, individual students were able to judge when they would benefit from input from others before having completed work checked by the teacher. Moreover, this system generated an atmosphere of cooperation in the resource room, where students actively helped one another to reach their learning objectives, even though (or perhaps *because*) their objectives were not the same.

Students were encouraged to evaluate, or at least reward, their own performance in two of the three classrooms observed. However, as evidenced in the report card assignment, this aspect of self-regulation appeared to be more formally incorporated into the curriculum and procedures in the resource room than in either of the regular classes. Resource room students routinely acknowledged their achievements by choosing stickers from a box once the teacher or aide had checked their work. It also was standard practice for students to reward themselves with free time or an enrichment activity once they had completed their work satisfactorily. Teacher-delivered rewards or praise nearly always appeared to be linked to self-evaluation and self-reward in the resource room.

Although less systematically designed than curriculum plans such as report card assignments, another powerful method of encouraging student self-evaluation was observed on one occasion in the regular classroom. After partly drawing and labeling an insect, Julie asks the teacher, "Is this good enough for you?" The teacher responds by saying, "Is it good enough for *you*?" This on-the-spot response aimed at fostering responsibility for self-appraisal in students was typical of this teacher's style. Although his teaching style was much less structured than that of the resource room teacher, he frequently was observed to promote independent thinking in his interactions with students.

Because teacher-led, whole-class instruction predominated in the regular classrooms, it is not surprising that fewer opportunities for self-monitoring were evidenced there. Students generally were working on the same task at the same time, and thus the timing and sequence of classroom activities was easily controlled by the teacher. However, the lack of self-checking devices for students to use was apparent in both of these classes, resulting in greater dependency on the teacher for things like correcting seatwork tasks. It was noted in the students' interviews that in the regular class they were allowed to ask other students for clarification, and in some cases were assigned a "buddy" at the desk next to theirs to fulfill this role. However, the students with LD seldom were observed to do this, and instead were generally observed to ask the teacher when they needed help. It may have been that their own embarrassment or the social norms among their peers prevented them from asking peers for assistance. In addition to the buddy system, one of the two regular teachers encouraged students to use reference books at any time and made a selection of these available in the room.

### *Transfer of Learning Behaviors*

Students' ability to transfer learning skills from special education settings to the regular class situation has received a great deal of attention in recent literature (e.g., Peterson, 1988; Wang, Peverly, & Catalano, 1987). The self-monitoring skills that target students practiced in the resource room program observed here appeared to be extremely important for their success in the regular classroom. As noted earlier, there is little doubt that these students had difficulty in comprehending task instructions in the regular class. However, when they did (or at least *thought* they did) understand what they were to do, their ability to engage in and remain engaged in the task seemed to far exceed that of the students without LD. Target students often were observed diligently talking their way through seatwork exercises while all around them was a cacophony of joking, calling out, and wandering about the class by others.

Our interviews with both teachers and students revealed a strong desire on the part of these students to succeed in the regular classroom. To them, the achievements they made in the regular class really "counted," even though they clearly found the resource room a more supportive environment in which to work and succeed. At the same time, it was noted in several student interviews that they preferred to work in the regular class rather than in the resource room, even though the work there was harder. Based on their expressed concern for doing well in the regular class, one could speculate that the task-engaged behavior of students with LD in that setting was partly due to motivation to succeed there. It also seems reasonable to interpret that same behavior as resulting in part from a "work ethic" that these students had come to possess through being held accountable in the resource room and to the self-monitoring skills they had acquired there.

However, although the students with LD appeared highly motivated to do well in the regular class, their task-engaged behavior did not always take the form of cognitive engagement. Instead, their efforts frequently were directed at getting assigned work finished and to getting on with the next task, regardless of how the work got done. One regular teacher discussed during an interview how students with LD frequently would copy answers or hand in assignments other than what was assigned, such as something they had handed in previously:

> Maybe they would try all of these things and not see anything really wrong with it—think that's just a way to get the job done . . . and I'd explain to them that I'd really like to see what [they] can do. That's when the emotional side comes in. "I can't do anything, you know that, I've been told I can't do anything, so I thought I would just copy it from over there." Then also the idea is there that the end of the assignment, getting it done, is the objective, not ensuring that they know it and could do it again on their own.

Thus, the students with disabilities often did not appear to transfer the *cognitive* effort observed in the resource room to regular class tasks. In fact, as the following example illustrates, it may be that their keen motivation to succeed in the regular class in their perception required them to take shortcuts toward reaching product objectives at the expense of learning or understanding. Students were asked to complete a series of fill-in-the-blank questions using an encyclopedia excerpt on insects. To answer the question, "Insects make noise that can be heard ________ away," Julie skimmed the passage in search of a number to plug into the sentence, rather than reading to find the information she needed. When asked about her strategy, Julie noted that her primary objective was to finish the exercise in time, so that she would not have to hand in an incomplete paper.

On the other hand, an elegant illustration of how students did use some of the skills learned in the resource room during regular class activities was observed during "Buddy Time." Once a week, students in the regular Grade 6/7 class were paired with children from primary classes to give them an opportunity to help them with assigned tasks. On one of these occasions, the 2 target students demonstrated many of the teaching skills they had experienced in the resource room. The following excerpt from an observer's notes clearly reflects this transfer of skills:

"What colors do you want to use? Let's keep the crayons out of the box that we're going to use." Then he asks, "What colors should we use for the wings?" As his buddy colors, Duncan encourages and praises, stating, "Good job, that's pretty." He continues to give instructions in a step-by-step fashion, praising each completed portion. For example, he states, "Now could you color the head? . . . okay, now let's glue on the wings . . . does this look right? Okay, now where should we glue on the other wing? OK, that sounds like a good idea."

A factor that appears to have contributed to students' ability to adapt to the regular classroom setting was that both of the regular teachers in this study seemed to recognize the need for frequent positive reinforcement for effort, even when these students' efforts did not result in the level or kind of performance expected of students without disabilities. Although such encouragement was seen as necessary in order to increase these students' self-esteem, the teachers also pointed out the paradoxical need for treating students with LD as normal in their classes. As one teacher stated,

The last thing [Julie] wants to be told is that "This is a little tough on you, maybe you shouldn't try it." You just don't say that to her; she just wants to try it and she isn't upset or doesn't hide her paper if there are only four questions filled out on it, or it's not complete. She just comes and asks for more time or a little extra help. She doesn't want to impose, but when she does get it done, she's just thrilled."

Thus, while the students in this study seemed to require flexible and adaptive instructional methods to succeed in the regular classroom setting, it also appeared important to expect more of them than their initial performance might indicate. Having been pulled from the regular classroom for special education may have, in itself, affected their confidence about their ability to perform academically in a regular classroom situation. This, in turn, might well negatively influence their achievement-related efforts, as is documented in literature on learned helplessness (e.g., Blumenfeld et al., 1982; Marshall & Weinstein, 1986). Several kinds of evidence that convinced us of this are reported in the next section, on students' perceptions.

## STUDENTS' PERCEPTIONS

In this section, findings are presented from students' self-reports on their self-regulated learning behaviors in each classroom setting and their perceptions of setting differences as indicated through interviews.

### *Self-Regulated Learning*

Because quantitative analyses of data are not meaningful with only 4 subjects, responses on the SRL were compared on an item-by item basis across the two instructional settings. To facilitate comparisons across settings, only those items on which either 3 or all of the 4 students agreed are reported.

Self-regulatory activities that students reportedly used in both settings included (a) listening closely, (b) checking written work before handing it in, and (c) asking themselves what they still needed to learn when they made mistakes. However, these students stated that in both classrooms they did not usually pick out main ideas during lessons and, while attempting homework, they often had difficulty remembering how the teacher had worked similar problems.

Self-regulatory skills used more in the regular class than in the resource room included making connections among various parts of a lesson and trying to figure out *why* they did not understand things when they were confused. Their use of these skills more in the regular class may reflect a lack of teacher availability compared to the resource room. That is, perhaps in the latter setting they could rely on a teacher or aide to explain things more often and in more detail, while in the regular class greater self-regulation was required and expected. Students also reported that when doing homework assigned by their regular teachers, they often forgot to go over instructions again before beginning.

An interesting difference occurred in the planning strategies used in the two classrooms. In reference to the regular class, students reported sometimes trying to guess answers before starting to work on problems. In the resource room they were more likely to stop and think about how to do the work before beginning. This difference may reflect another way in which these students address their need to keep up with the rest of their classmates, a strategy that enables them to complete assigned work faster, even if it is less accurate or thoughtful than the approach taken to resource room tasks.

Aside from more thoughtful planning, other strategies used in the resource room more than in the regular class included self-questioning about the meaning of lesson content and about the correctness of their work during class, and comparing their own knowledge to that of classmates during recitation. It appears, then, that these students did use some self-regulatory strategies in both settings, but that often these skills were applied differentially across classrooms. While efforts to organize their knowledge and to clear up confusions they faced were common responses in the regular classroom, the use of thoughtful strategic planning and monitoring of their comprehension during lessons seemed to characterize their approach to learning in the resource room.

## *Student Interviews*

Three of the four students indicated that they liked to work in the regular class better than in the resource room, but all agreed that the work was easier in the resource room. Michael, the student who stated that he preferred to work in the resource room appeared to be bored, sleepy, and generally work avoidant compared to the other 3 students. During both classroom observations and the interviews, he yawned frequently. The interviewers noted that he appeared to give whatever answers he thought would be expected and then was unable to elaborate on any of his responses. The interviewers frequently had to redirect him to the question or topic being addressed, as his attention wandered. It should also be noted that his teachers both reported that this child frequently complained of being tired due to having slept only 3 or 4 hours the previous night.

The 3 students who preferred to work in the regular classroom all noted that they "got to do more fun things" in the regular class, indicating that the subjects and activities they worked on there were more interesting and varied. As their work in the resource room was focused on improving their performance in basic skills, such as reading, writing, and math, this is not a surprising outcome. The work these students did in the regular class involved more substantive content and, despite their difficulties in some tasks, such as those requiring reading and writing, the information covered in class appeared to be more interesting to them.

Students did not indicate that they had any major difficulties switching back and forth between the two classroom settings. In general, they seemed to have learned the norms and rules of each classroom quite readily and, if they became confused about what they were to be doing on arrival at one setting or the other, they reported that they merely asked a teacher or a peer to appraise them of the current activity. They did note that the daily plan served as a guide in the resource room, so that it was only on occasions when they arrived while the teacher was conducting a group activity or lesson that they were likely to be unclear about what was going on. In such cases, it was noted that the teacher would explain the activity individually at the first opportunity.

When asked whether they were able to decide what to work on when, or when to hand in completed work, the students indicated that there was some flexibility in both settings, although there was more autonomy in the resource room. For example, 3 students noted that they were allowed to take additional time to hand in reports or projects beyond the due date assigned to the regular class. Such variations were noted, however, as concessions made by the regular teachers to help out the students with LD. On the other hand, in the resource room it was standard procedure for students to decide when their work was ready to hand in, and they would then place it in the "marking box."

In terms of self-evaluation, students were asked if they were concerned about whether their work was good enough, or right or wrong when working in each setting, or whether they were more concerned about getting it finished in order to hand something in. Although, as noted earlier, on several occasions these students appeared to avoid engaging cognitively in their work, such as by copying from books or scanning a passage for numbers to plug in rather than reading for meaning, an interesting dynamic emerged through this interview question. When asked for their perceptions of their own performance, the students seemed very aware that they were not relying on their own cognitive resources to get the work done. However, they explained this as the only way they felt they could produce an adequate product. An expert from an interview with Rick illustrates this clearly:

*Interviewer:* What about your report?
*Rick:* I got a *B* on it. But if I did my title page I would've got a higher one, and if I didn't copy out of a book—I copied a little bit out of a book. But I had 20 pages and 2 pictures! Alice had only 10 pages and hers are only this much (shows part of page)—my pages are the whole thing.
*Interviewer:* Maybe Mr. S. wasn't that interested in or worried about having it super long . . .
*Rick:* I know, but I made it long. But I might have got an *A* if I made it shorter and better—and didn't copy out of a book.
*Interviewer:* Were some parts of the report harder than others?
*Rick:* No.

*Interviewer:* Would it have been hard to try and put it in your own words?
*Rick:* No, 'cause you just have to put it through your mind.
*Interviewer:* 'Cause I know sometimes I find it hard to do that . . . well, what stopped you from doing it then?
*Rick:* I don't know. I thought I might—if I didn't copy out of a book I probably would have got lower cause I don't know that much about science and stuff.

Thus, it appeared that it was Rick's concern for handing in an adequate product and his doubts about his own ability to produce adequate work that prompted him to rely on verbatim copying from a book for his science report. Interestingly, the interviewer verified that Rick is able to write and even enjoys writing lengthy journal entries in the resource room. However, even though he reported that he was aware of that capability and of the fact that he could use ideas from a book and put them into his own words, he apparently was not confident enough to do so.

Another factor that may have influenced Rick's strategy for completing this assignment is the type of task instructions he received. In particular, it may be that he was not aware of the consequences to expect, should he put information into his own words at the expense of writing quality in his final product. In fact, one lesson was observed in the regular classroom in which his teacher presented instructions about this report. Considerable detail was given concerning the topics, kinds of information to be included, and format, such as use of pictures. However, the extent to which students' own ideas or wording should be included was never mentioned. While it may have been assumed that students would write things in their own words, such an assumption may not be clear to all students by the time they reach the fourth grade. Especially for students who lack confidence in their academic ability, it may be necessary to assure them that they will be rewarded for doing original work, even if it is far less sophisticated than what they read—and to then follow through with those rewards.

One intention of the interviews was to assess the strategies these students used to identify and adapt to differences in tasks and task environments across the two instructional settings. However, direct questioning did not lead any of them to articulate variations in approach. Students seemed to respond to the demands of each setting with apparently little or no conscious consideration of differences in cognitive or strategic requirements. They did appear more confident about their ability to succeed in the resource room—as might be expected in an instructional system that dictates that success *in the form of comprehension* be reached before progression to more advanced work is allowed.

## SUMMARY AND CONCLUSIONS

The data collected in this study showed some important differences between the instruction experienced by students in regular and resource room classes. As noted previously, however, the small sample used here limits the generalizability of these findings, and the following conclusions should be considered with caution. Also, a larger sample including teachers with a wider range of classroom orientations (i.e., autonomy vs. control, Deci et al., 1981) may show differing outcomes in terms of students' ability to adapt to the classroom environment and their self- and task-related beliefs.

In terms of predictability and comprehensibility, instruction in the resource room was structured to foster greater cognitive engagement in students and to hold students accountable for completing assigned work to a much greater extent than was evidenced in the two regular classrooms. Greater opportunities for self-regulation also were observed in the resource room. This was made possible in part by the individualized nature of instruction, which allowed students more control over the pace and sequencing of learning tasks. Students in the resource room also were encouraged to self-monitor and self-evaluate, through a variety of instructional activities and methods.

The students in this study transferred some, but not all, learning skills to the regular classroom. In particular, they appeared to make effective use of self-monitoring skills and to take responsibility for their behavior, even when these skills were not being demonstrated by their regular class peers. On the other hand, these students did not appear to be as engaged cognitively with the work and activities in the regular classroom as they were in the resource room. This may have been due to their inability to comprehend what was expected when task instructions were given. It also appeared that these students may have responded more impulsively to tasks in the regular classroom, with efforts to complete their work on time and to keep up with others superseding their concerns with learning or understanding. Given their strongly expressed desire to succeed in the regular class setting, this strategy is not surprising.

A powerful theme emerging from the data collected here is the difficulty in balancing academic support and demands for achievement with students with LD. This theme permeates not only teachers' instructional decisions, where adaptations in academic requirements must be made, but also the messages carried to students by these adaptations. On the one hand, it appears critical that students with LD be given added flexibility and thus concessions in terms of time, movement, and mode of presentation in completing their schoolwork. However, it is clear from the observations here, as noted in earlier research, that low expectations of their achievement in cognitive terms results in low self-concepts regarding their own ability and subsequent lack of cognitive effort on their part. To arrive at such a balance is not easy, or perhaps even possible, given the difficulties with basic academic skills evidenced by these students early in their school life.

The typical argument for special placement rather than integration of students with LD results largely from the difficulty in achieving such a balance (Wang et al., 1987). However, from observing these students as they function in regular and special classroom settings, several recommendations can be made regarding ways in which less negative messages may be conveyed to them and in which they themselves may be helped to adapt to normal academic demands. Incidentally, these suggestions likely would help all students learn more and become more self-regulated, so they need not be restricted to those with identified learning difficulties. One suggestion relates to the presentation of instructions about the cognitive requirements of tasks. It appears critical for these students to be given explicit conceptual explanations of what they should do cognitively in order to complete academic work, rather than an exclusive focus on procedural and format instructions.

A second recommendation is to emphasize personal responsibility. If the suggestions above were followed concerning submission and resubmission of seatwork and homework, teachers would need to be prepared to individualize the curriculum (in terms of pacing) much more than they do now. However, as observed by Anderson et al. (1988), some effective teachers do this to some degree already. Also, such accountability probably would require more delegation to students of procedural tasks like record keeping, so that teacher time could be used in checking completed work and preparing students' instructional plans. These may sound like radical departures from typical classroom instruction, but the status quo may be neither better nor necessary. In fact, from the observations in this study, it appeared that the self-responsibility for monitoring daily work and for actual learning that was characteristic of the resource room setting empowered the students greatly. The results observed by their teacher in the form of their consistent hard work transferred readily to the regular classroom, despite the interference posed by other disruptive students and their own feelings of inadequacy (as Rick's interview indicated).

Moreover, the differences in class size (approximately 18 in the resource room, where a teacher's aide was available, and 28 in the regular classes) may have facilitated individualization in the resource room, but cannot be viewed as the only, or even primary, reason for this. In particular, while differences in class size have been shown to influence student achievement, such improvements typically are made only with dramatic decreases in class size, where tutoring of 1 to 3 students at a time is possible (Odden, 1990). Smaller classes do appear to provide some opportunities for teachers to instruct in ways shown to improve student performance. For instance, less time may be required for management, more probing questions may be asked of students, and longer wait time allowed (Bourke, 1986). However, as noted earlier, such instructional practices are not typically implemented in small classes any more than in larger classes (Evertson et al., 1990). In his policy recommendations, Odden (1990) has argued for class-size reductions only for reading instruction, combined with an ambitious program of staff development to help ensure teaching practices that research has found to improve student performance (e.g., teaching content-specific, higher level thinking skills, cooperative learning, peer tutoring, and effective classroom management).

All of the practices identified by Odden (1990) characterized the resource room program observed in the present study. Moreover, much of the difference in classroom task environment observed here seemed to lie in the organization of the resource room and its instructional activities compared to the others—in many cases, practices that might be incorporated in a class of 30 as readily as in a class of 18. If regular classroom teachers were able to use even some of the methods for individualizing instruction and giving students greater responsibility that were observed in this resource room, they might find that time saved in managing disruptions and in routine tasks, which students themselves could easily perform, would largely compensate for the extra planning time and individual instruction required. The rewards for implementing such methods appear to be powerful ones, and to that end might warrant some experimentation in the classroom.

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