WHAT'S EVIDENCE GOT TO DO WITH IT?

AN OBSERVATIONAL STUDY OF RESEARCH-BASED INSTRUCTIONAL BEHAVIOR IN HIGH SCHOOL CLASSES

BY

Jake Cornett

Submitted to the graduate degree program in Special Education and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Master's of Science in Education.

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Chairperson, Donald D. Deshler, PhD

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Thomas M. Skrtic, PhD

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B. Keith Lenz, PhD

Date defended: April 27, 2010

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The Thesis Committee for Jake Cornett
certifies that this is the approved version of the following thesis:

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ABSTRACT

This study examined typical instruction and management in general education classes that are co-taught by a special educator (co-taught CWC), general education classes that are taught by a special educator (adapted), and resource room instruction by a special educator. Over three days, twelve teachers in a middle class urban high school were observed using momentary time sampling relative to four foci: student engagement, transition time, learning arrangement, and instructional activity. On average, across the three settings students were on-task 83.9 percent of all intervals, in transition 4.4 percent of intervals, and teachers were disengaged from instruction during 23.2 percent. Whole group instruction, the least differentiated and effective mode of instruction, consumed the largest portion of observation intervals. If effective differentiated instructional practice is the *sine qua non* of providing students with disabilities access to general education curriculum, the data provide little evidence to suggest that appropriate instructional practice is frequently used.

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Enacted in 1975, the Individuals with Disabilities Education Act (IDEA) requires that students with disabilities be educated in the least restrictive environment (LRE). Moreover, amendments made to IDEA during the 1997 reauthorization require that every individualized educational plan (IEP) include how the student will progress in the general education curriculum. However, disagreement about how to interpret access to "the general education curriculum" (IDEA, 1997) has dogged the disability community; especially for students whose need for support is not as great, including students with learning disabilities. Greater clarity for integrating students with disabilities into the general education curriculum came with passage of IDEA amendments during the 2004 reauthorization (Individuals with Disabilities Education Improvement Act, IDEA, 2004). As Soukup, Wehmeyer, Bashinski, and Bovaird (2007) noted, "IDEA requires that the IEPs of all students receiving special education services…identify specific accommodations and curriculum modifications to ensure student involvement with and progress in the general education curriculum" (p. 101).

According to the *Digest of Education Statistics*, approximately 13.4 percent of students enrolled in public schools in the U.S. receive special education services (Snyder & Dillow, 2010). Among students to be given access to the general education curriculum under the IDEA, the largest categorical group is students with a specific learning disability (LD) (Snyder & Dillow, 2010). LD is defined as,

> Having a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not

> include children who have learning problems which are primarily the result of visual, hearing, or environmental, cultural, or economic disadvantage (IDEA, 2004).

The meaning of "access to the general education curriculum" is not well understood, however. Central issue in the debate over the meaning of access are physical placement and who delivers content (Daniel & King, 1998). Concerns about physical placement are focused on the type of classroom where students with disabilities are educated (*e.g.*, regular, resource room, segregated, etc.). Concerns about who teaches the content are focused on questions of instructional training and certification (*e.g.*, general education teacher, special educator, para-professional). Although this debate has continued among scholars, special education administrators appear increasingly to favor more integrated settings for students with mild disabilities (Waldron & McLeskey, 1998; Snyder & Dillow, 2010). For example, we have seen marked decreases over the past twenty years in the amount of time students with disabilities spend outside of general classrooms (Snyder & Dillow, 2010). Whereas in 1989, 31.7 percent of students with disabilities spent 80 percent or more of the school day in general education classrooms, by 2007 the number of students doing so had grown to 56.8 percent (Snyder & Dillow, 2010). Because students with disabilities spend larger portion of the school day inside general education these classroom are more academically diverse today than at anytime in the preceding 20 years.

Unfortunately, receiving less attention in the debate on access to the general education curriculum is concern for instructional practice. That is, how curricular content is delivered and what instructional supports are provided to ensure students are benefiting from instruction. This latter concern for instructional practice should be a primary concern. This is not to question the importance of physical inclusion, but inclusive education is merely a half-victory for disability advocates if the only benefit is the reduction of social stigma. Students with disabilities should

realize both academic and social benefits as a result of inclusion. This is the real meaning of gaining access to the general education curriculum. Accomplishing this requires greater focus on academic achievement and classroom instruction, especially at the high school level where student achievement appears to be stagnant.

The academic achievement of 17-year olds taking the 2008 National Assessment of Educational Progress (NAEP) in reading did not differ from 2004 or 1971 (Rampey, Dion, & Donahue, 2009). Likewise, 2008 NAEP mathematics scores for 17-year olds did not differ from 2004 and only marginal increases were observed since 1978 (Rampey, Dion, & Donahue, 2009). Wang, Haertel, and Walberg (1993) provide insight on the lack of progress in American education by distinguishing between distal and proximal variables. Distal variables, like state, district, and school level policy and demographics, are at least one step removed from the daily learning experiences of students. However, distal variables are the target of most educational innovation and attention in the U.S. As Wang et al. explain, "implementing a policy of maximized learning time, for example, does not guarantee that students in a given classroom will receive instruction from a teacher who plans lessons with special attention to eliminating poor management practices and inefficient use of time" (p. 276). Proximal variables like curriculum, instruction, and assessment that directly impact teaching and learning have a more immediate and direct influence on student achievement (Wang et al., 1993). These proximal variables are the epicenter of the instructional core of education. The stagnation of high school NAEP scores, some suggest, is due, at least in part, to a lack of focus on the instructional core of education (City, Elmore, Fiarman, & Teitel, 2009).

According to City et al. (2009), "in its simplest terms, the instructional core is composed of the teacher and the student in the presence of content" (p. 22). Outside the instructional core

are the student's home life; school governance, financing, and administration; and peer effects. Using hierarchical linear modeling to estimate variance in student achievement in New Zealand, Hattie (2003) found that teachers account for approximately 30 percent of the total variance in achievement while the students account for approximately 50 percent and their home life, school, and peers account for 15 to 30 percent. What teachers know and how they instruct are powerful predictors of student achievement. Beyond what students arrive prepared to do, teacher effects are the largest single contributor to student achievement.

The importance of the instructional core is central to student learning because teaching is the moderation of learning between a knowledgeable source (*e.g.*, teachers, books, etc.) and a novice learner (*i.e.*, student). In essence, learning itself is encapsulated within the instructional core. As such, there are three ways to manipulate the teaching and learning enterprise: (a) change the content to be learned, (b) change the student, or (c) change teaching. In the U.S., control over content is decentralized such that state and local education agencies determine what will be taught in public schools. Likewise, it appears untenable to change the student. Although much can be done to improve the school readiness of academically disadvantaged and at-risk students, social and cultural politics are a formidable barrier to doing much more in this regard. Therefore, educational improvement must be driven by the third component of the instructional core, the teacher. How teachers manipulate content to make it more accessible and thereby mediate content for the student, largely determines academic success (Hattie, 1999; Sanders & Rivers, 1996).

Teachers impact student academic success by the control they exercise over a series of closely coordinated instructional activities and management strategies. Combining these in such a way that meaningful access to the general curriculum is achieved for all students, regardless of

current skill, requires careful consideration of four separate yet interrelated categories of instruction and management foci: student engagement, transition time, learning arrangement of students, and instructional activity. In order to meet the needs of all learners, high school teachers must effectively use the instructional period, keep students engaged, create opportunities for individualized learning, and match instructional activities to the skill level of students. Given the importance of these four foci to the teaching and learning enterprise, and their centrality to this study, they warrant closer examination.

Student Engagement

Research on classroom management indicates a variety of instructional activities and classroom management techniques can reduce the likelihood of student problem behavior and enhance student achievement (Doyle, 1986). McNamara and Jolly (1990a; 1990b) investigated ways to increase on-task behavior while reducing off-task and disruptive behaviors of 12 and 13-year old students, they concluded that, "when disruptive behavior is dealt with by the promotion of on-task behaviors then all types of off-task behavior, from innocuous to grossly disruptive, are reduced" (1990b, p. 248). When off-task and disruptive behavior are reduced, the opportunity for student learning increases. Doyle (1986) made clear the link between the learning arrangement of the students and engagement when summarizing the research of several leading scholars (Gump, 1967; Kounin, 1970; Rosinshine, 1980). In general, Doyle concluded that student engagement was highest in teacher led small groups and lowest in unsupervised seatwork.

Transitioning Between Activities

While students transition between places, activities, phases of a lesson, or lessons there is great opportunity for wasted time and off-task behavior; moreover, there is little opportunity for

student learning. Transition periods are lost instructional time that teachers should endeavor to reduce. Research in elementary classrooms has found that approximately 31 transitions occur daily accounting for about 15% of classroom time (Burns, 1984; Gump, 1967). In high school classrooms, much less is known about the frequency or duration of transitions. However, it is commonly assumed that because the seating structure or "room arrangements in secondary classes typically remain the same across activities, major transitions take less time" (Doyle, 1986, p. 406). Also, whereas the instructional period in elementary schools is typically 6-hours, in high schools each period is 45 to 90 minutes; when the instructional period is shorter there should be fewer discrete tasks and less need for multiple transitions during a single instructional period. Therefore, transitions in high school classrooms should take less time (Doyle, 1986) and be fewer in number.

Learning Arrangement

Although whole or large group instruction is most prevalent in high schools, it is not regarded as an appropriate learning arrangement for extended periods of time in academically diverse classrooms (Hughes & Archer, in press). During whole group instruction, the teacher gears the lesson to the average ability of the students in the classroom, assuming to thereby meet the educational need of the greatest number of students (Ornstein, 1995). This type of instruction is thought to be an economical and convenient format of teaching large quantities of new information, especially to large class sizes. However, students within high school classrooms have diverse academic needs, and whole group instruction only meets the needs of the few students whose ability is at the middle of the group average.

Small group learning allows students to excise different skills not used in whole or large group instruction. Cohen (1994) found that students who worked well together in small groups

were better able to manage competition and conflict among team members, listen to and combine different points of view, construct meaning, and provide support to one another. The most common means of creating small groups is within-class ability grouping, also referred to as skill grouping[1]. Although skill grouping is the preferable term the researcher's term will be used here.

Chorzempa and Graham (2006) surveyed a random sample of primary teachers from across the U.S. and found that 63% of the respondents used ability grouping in their classroom. Research suggests that two or three homogeneous ability groups within one classroom is better than a larger number of very small groups because it permits frequent and extended monitoring and feedback by the teacher, reduces transition times, and limits time spent on individual seatwork (Hiebert, 1983; Webb & Farivar, 1994). Moreover, students in each skill group should be carefully and frequently monitored such that regrouping is common. When heterogeneous classes are split into small homogeneous learning groups then students academically benefit, especially struggling students, in the content areas of reading and mathematics (Gamoran, 1992; Oakes, 1987; Slavin, 1989).

Instructional Activity

Rosenshine and Stevens (1986) synthesized the work of several leading scholars (Gagné, 1970; Good & Grouws, 1979; Hunter & Russell, 1981) on effective teaching practice to create a list of six "fundamental instructional 'functions'" (p. 379). These functions are,

[1] The term "ability grouping" implies that current assessment and group assignment is intrinsic, immutable, and a permanent reflection on the individual's potential to learn. The term "skill grouping," however, suggests that current ability bear no reflection on the individual's intelligence or ability to learn. Therefore, skill grouping should be considered the preferable term such that grouping is not implied to be a reflection on an individual's potential for academic success or ability to learn. Further, skill grouping should not be a semester-long assignment for the student. Instead, for a struggling student, skill grouping should be used to remediate the skill rapidly then shift the student out of the lowest skill group.

1. review, check previous day's work (and reteach, if necessary)
2. present new content/skill
3. guided student practice (and check for understanding)
4. feedback and correctives (and reteach, if necessary)
5. independent student practice
6. weekly and monthly reviews (Rosenshine & Stevens, 1986, p. 379).

Across these six functions are six instructional practices. These practices are presenting new information, describing new skills, monitoring, providing feedback, re-teaching, and scaffolding supports toward student mastery. Within each of these six practices are several instructional activities that are used by teachers; instructional activity is one of the foci of this study.

Assessing student knowledge is an instructional activity associated with Rosenshine and Stevens' (1986) first and sixth functions. Assessing student knowledge and checking for understanding is an important instructional activity to monitor mastery of new skills, identify struggling students, and pinpoint what learning process was not mastered during initial teaching. Broadly, there are two types of assessments: formative and summative. Formative assessments are not for credit but rather are intended to inform future instruction by rapidly identifying current level of mastery and specific skills that a student did not grasp. Formative assessments are also referred to as progress monitoring assessment. Summative assessments include tests and quizzes intended to measure knowledge and assign credit based on that measurement. Both formative and summative, can be used to inform future instruction, provide feedback to students, and identify skills that need to be re-taught. Assessments of learning are key to effective instructional practice.

Reviews should be guided by results from formal assessments. Often, reviewing past content is used as an activity to re-teach and monitor student knowledge (Hughes & Archer, in press). Reviewing can focus on fact or concept recall, ability to manipulate or generalize previous learning to novel situations, or processes for learning that include broad skills (*e.g.*,

summarizing) or strategies (*e.g.*, comparing concepts or writing paragraphs). Research indicates that reviewing and summarizing the key information from a lesson is associated with increased student achievement (Armento, 1976; Wright & Nuthall, 1970). Moreover, review activities can be used to re-teach content that was not mastered during initial teaching and learning. Reviewing past content is an opportunity to provide feedback to students and assess current knowledge.

Four instructional activities used when initially presenting new information or skills are lecturing, describing, giving directions, and modeling. These instructional activities are associated with Rosenshine and Stevens' (1986) second function. These four activities are all led by the teacher and are typically characterized by the teacher talking to the class. Lecturing is thought to be an efficient way to present large blocks of information to students. When teachers lecture, students are typically instructed to take copious notes as the main method of learning the content. However, although commonly used, this is a passive learning process that may lead to disengagement and confusion on behalf of the student. Rarely is extended periods of lecture preferable to other instructional activities.

Monitoring students is an instructional practice associated with Rosenshine and Stevens' (1986) third function. Teachers monitor students using a variety of instructional activities including multiple types of questioning, physically observing student work, and listening to students' academic talk while working in small groups. Effective teachers use these monitoring activities to assess student understanding of new content, provide correction or feedback, re-teach, and adjust future instruction (Hughes & Archer, in press; Rosenshine & Stevens, 1986). Research has shown that when teachers circulate the classroom to physically observe student performance student engagement increases (Fisher et al., 1978), academic achievement may be

bolstered (Evertson, Anderson, & Brophy, 1978), the pace of the lesson is maintained (Doyle, 1984; Evertson & Emmer, 1982), and a clear message is sent to the student that the teacher is available to help.

Giving feedback is an instructional practice associated with Rosenshine and Stevens' (1986) fourth function. In his meta-analysis of more than 180,000 studies, encompassing 450,000 effect sizes, on the effects of instruction on student achievement, Hattie (1999) found that "the most powerful single moderator that enhances achievement is feedback" (p. 9). According to Hattie, feedback is providing information about how and why a student understands, and next steps the student should take to continue toward mastery. There are multiple instructional activities associated with feedback. Hattie and Timperley (2007) examined other types of feedback and found them to be powerful moderators of student achievement also, but not all types were equally powerful. Notably, reinforcing student success, giving corrective feedback, and remediating feedback were shown to positively impact student achievement with average effect sizes of 1.13, 0.94, and 0.65, respectively (Hattie, 1999).

Missing from the list of six instructional functions and practices synthesized by Rosenshine and Stevens (1986) is modeling and graphic organizers. Although they do include modeling "the skill or process (when appropriate)" as one element of presenting new skills or processes (p. 381), they fail to emphasize the importance of modeling at various stages of learning and to differentiate between explicit and implicit modeling as separate instructional activities. As an instructional activity, explicit modeling has two components—physical demonstration of the steps or procedure and verbalizing the meta-cognitive thought process used to guide actions. Implicit modeling is teacher demonstration of the steps or procedures without verbalizing the meta-cognitive process. Research indicates that students with disabilities may

not use self-talk to guide performance on academic tasks (Warner, Schumaker, Alley, & Deshler, 1989). Therefore, educators need to teach both the procedural steps of completing a task and the meta-cognitive process that guides self-talk and leads to successful completion. In other words, they need to both present and make explicit the thought process used by skilled learners. Such explicit modeling is key to the academic success of students, especially those who struggle with information processing, and those with LD (Gildroy, 2001). Given the diverse levels of academic skill found in most high school classrooms, explicit modeling is almost always appropriate as an instructional activity when presenting new skills or processes.

Graphic organizers are a visual representation of ideas or concepts intended to show relationships and demonstrate the organization of concepts (*e.g.*, hierarchical lists, flowcharts, outlines, concept maps). Graphic organizers are used for many purposes, including as reading enhancement (DiCecco & Gleason, 2002; Dunston, 1992; Griffin & Tulbert, 1995; Robinson, 1998; Vekiri, 2002), a mathematical problem-solving tool (Ives & Hoy, 2003), note taking strategy (Katayama & Crooks, 2003; Katayama & Robinson, 2000), and an accommodation for students with disabilities (Boudah, Lenz, Bulgren, Schumaker, & Deshler, 2000; DiCecco & Gleason, 2002; Horton, Lovitt, & Bergerud, 1990; Kim, Vaughn, Wanzek, & Wei, 2004). Evidence suggests that graphic organizers aid in comprehension by providing students a method to organize new information and understand the interconnections between newly learned and recently learned knowledge (Alvermann, 1981; Robinson & Kiewra, 1995). Stone's (1983) meta-analysis of the effects of graphic organizers presented in advance of the lesson found that long-term learning was on average .66 standard deviations better. Furthermore, when an organizer is provided at the beginning of the lesson it can help students with disabilities retain more of the information presented (Lenz, Alley, & Schumaker, 1987).

Purpose of Study

There is little known about differences in classroom instruction and management among general education classes that are co-taught by a special educator (co-taught CWC), general education classes that are taught by a special educator (adapted), and resource room instruction by a special educator (resource room). Given the literature on effective instructional practices and activities, the purpose of this study was to systematically catalogue how teachers instruct students in these settings by observing how they manage and use the instructional period relative to four foci: student engagement, learning arrangement, transition time, and instructional activity. The goal of this study was to understand typical and routine instruction and management in high school classrooms that promote access to the general curriculum for students with disabilities.

CHAPTER II

METHODOLOGY

Setting and Participants

Teachers in one public high school serving grades nine through twelve participated in this study. Within the school district this high school has a reputation for high academic achievement. The high school is located in a large urban city in the Midwestern United States with an approximate population of 350,000. The student population served by this high school is best characterized as middle class with 31.9 percent of the students eligible for free or reduced meals (NCES, 2009). Among the students who attend the high school, 3.0 percent are American Indian or Alaskan Native, 3.8 percent are Asian or Pacific Islander, 10.3 percent are Hispanic, 14.7 percent are African-American, and 68.2 percent are Caucasian (NCES, 2009). All teachers observed had at least 5 years of teaching experience and were certified in the area observed.

Three types of instructional settings were observed: adapted classrooms, co-taught class-within-a-classroom (CWC), and resource rooms. Adapted classes use the same curriculum as regular education classes; however, the instructor is a certified special educator and all students enrolled in the class are qualified for special education services. McCall and Skrtic (in press) have referred to these classes as "*special* regular classrooms." The number of students in these adapted classrooms is slightly fewer than in general education classrooms; this is intended to allow the special educator opportunity for more individualized instruction and greater student participation. Students in these adapted classrooms receive credit that applies toward earning a regular diploma.

CWC classrooms are co-taught by a general education teacher and a certified special educator (Hudson, 1990; Schulte, Osborne, & McKinney, 1990). In these classes, the general

educator was primarily responsible for teaching the content with the special educator acting in a support capacity. The special educator would circulate the room providing assistance to individual students and would occasionally engage in whole group teaching to augment the general educator's instruction.

Resource classrooms are taught by a certified special education teacher; all students enrolled in the class are qualified for special education services (Wiederholdt, 1974). Resource classrooms do not follow the general education curriculum but rather are intended to support individual student needs or small homogeneous groups of students. The number of students in these resource classrooms is very few, ranging from two to six at any given time. Special educators in these classrooms are expected to augment prior general education instruction received in content areas by tutoring students, pre-, and/or re-teaching information, and working on other skills as needed (*e.g.*, organizational strategies for assignments, note taking, learning strategies).

Measurement Instrument

There is little known about differences in classroom instruction and management among co-taught CWC, adapted, and resource room settings. Given the literature on effective instructional practices and activities, the purpose of this study was to systematically catalogue how teachers instruct students in these settings by observing how they manage and use the instructional period relative to the four foci. The goal of this study was to understand typical and routine instruction and management in high school classrooms that promote access to the general curriculum for students with disabilities.

There were four foci of the observation instrument. The first concern was to determine the level of student engagement. Student engagement is the amount of time students are on-task

and involved in the assigned instructional activity. The second focus was to determine what portion of each class period was spent in major transitions. Major transitions are those transitions that occur while the class moves between places, activities, phases of a lesson, or lessons. The third focus was to determine the learning arrangement of the classroom. Several types of learning arrangements are possible, ranging from whole group instruction to independent work being completed by one student. The fourth focus was to determine the proportion of engaged time spent in each of 30 types of instructional activity appropriate for high school identified on the observational instrument. See Appendix B for the observation instrument.

To develop the teacher observation instrument, a comprehensive literature search was conducted to identify empirical and prescriptive literature regarding instructional practice appropriate for secondary classrooms. Beginning with ERIC, PsycINFO, and Dissertation Abstract International online databases, the following keyword search terms were used: instructional practice, instructional method, teaching method, classroom instruction, and inclusion teaching. From this corpus of literature, seminal articles were identified and used for ancestral searches. Further, the three most recent editions of the *Handbook of Research on Teaching* was carefully examined (Gage, 1965; Richardson, 2001; Wittrock, 1986).

Culled from this literature base were 142 instructional and management activities. For each activity, a brief definition was written based upon the literature and printed onto 3-inch by 5-inch index cards. These index cards were then sorted into categories such that similar instructional and management activities were grouped together. After initial sorting was complete, some categories were combined due to their extreme similarity. Then, a description and operational definition was written for each instructional and management activity. These

categories were presented to an expert panel with extensive background in conducting intervention research and teaching in inclusive settings. The panel had nine members, five of the nine hold doctorates in education or developmental psychology while the remaining four each have 15 or more years experience teaching students with disabilities in inclusive high schools. The panel was asked to (a) identify any missing instructional activities, (b) provide references for those activities, (c) critique the description and operational definition of the activities, and (d) offer advice on the organization, categorization, or elimination of the categories of activities.

Based upon the literature and this expert advice, the following categories and sub-categories of activities were identified. Presented below is a brief description for each category; the operational definitions used as decision criteria by both observers when using the observation instrument can be found in Appendix A.

Student On-Task. Student on-task was a dichotomous category; either the student was on- or off-task during the observation interval. On-task was recorded when the students were engaged in an instructional activity. Off-task was recorded when the students were not engaged, misbehaving, or out of the room.

Learning Arrangement. Learning arrangement consisted of six subcategories. The subcategories were whole group instruction, large group instruction, small group instruction, individual teacher led instruction, student peer pairs, and individual-independent work.

Transition Time. Transition time was a dichotomous category; either occurring or not during the observation interval. Transition time was recorded when the students were shifting between classroom activities.

Instructional Activity. Instructional activity consisted of 30 subcategories of activities and a not-engaged observational option. The subcategories of instructional activity were lecture,

describe, two types of modeling, two types of giving directions, six types of monitoring, three types of reviews, two types of feedback, three types of graphic organizers, six reading activities, three types of formal assessment, and video. An additional not engaged time category was used to capture off-task teacher behavior during respective instructional activities.

Procedures

Two independent observers conducted the observations over a three-day time period; one served as the primary data collector and the second as the inter-observer agreement data collector. Both observers were trained on data collection procedures of momentary time sampling (MTS). First, both observers read and discussed the operational definition for each category of time-on-task, learning arrangement, transition time, and instructional activity. Second, both observers practiced data collection using the observation form in two classrooms in an urban public high school. Third, observers practiced recording the data using publicly available video recordings of students not involved in this study. Once the two observers were in 90 percent agreement in each of the four foci, data collection was scheduled.

Data collection was conducted in real-time using MTS beginning when the teacher began instruction and ending when the teacher stopped instruction. Partial interval recording (PIR) and MTS are two commonly used time sampling methods in educational observation research. Both methods divide large blocks of time (*e.g.*, a class period) into a number of small segments (*e.g.*, 30 seconds). The small segment becomes the time sampling interval whereby behavior occurrence or nonoccurrence is coded based upon the pre-determined decision criteria described previously. Data is collected during each interval in each of the four foci.

PIR and MTS differ by virtue of when the behavior is observed and coded and what decision rule is used to guide this. When PIR is used, the observer records the behavior if it

occurs at least once during the interval period. In other words, the observer behaves like a video recorder, capturing behavior during the entire sampling interval (*e.g.*, 30 seconds). If the behavior is observed at all, the behavior is recorded. However, when MTS is used, the observer records the behavior that occurs the moment the sampling interval begins. In other words, the observer behaves like a still camera, capturing behavior at the beginning of the sampling interval. The first behavior observed is the only behavior recorded. Neither PIR nor MTS are concerned with frequency or duration of individual behavior within each interval; only one behavior is recorded each sampling interval.

In this study, MTS was used to estimate percentage of time (a) on-task, (b) spent in each learning arrangement, (c) lost in transitions between instructional activities, and (d) used for each instructional activity. Each of these four foci were recorded every 30-second observation interval. The research comparing PIR and MTS has determined that PIR overestimates time percentage of behavior whereas MTS gives a reasonably accurate estimate of behavior when brief intervals (30 seconds or less) are used (Gardenier, MacDonald, & Green, 2004; Murphy & Goodall, 10980; Powell, Martindale, Kulp, Martindale, & Bauman, 1977; Tyler, 1979).

The two observers arrived prior to the start of class and occupied seats in the rear of the classroom where they would not interfere with instruction but could see every student. Each observer sat with a data collection sheet and a clipboard in their lap, and a pen in hand. A digital 30-second repeating countdown clock was positioned near the two observers. When the teacher began class (*e.g.*, asking students to sit or beginning to instruct) the clock was started. Once the clock reached zero, the two observers looked at the teacher and designated student, then recorded whether the student met the criteria for on-task behavior, what the learning arrangement of the class was, if the transition criteria was met, and what instructional activity was used by the

teacher. The repeating countdown clock automatically reset to 30 after each interval and began counting down again. After recording the behavior, the observers watched the clock until it reached zero again, this process was repeated in each classroom until the instructor ended the class period.

When rating student time on-task, both observers began with the student in the front-left seat of the class, then worked their way across the first row of students, and then began the second row continuing until every student had been observed and rated on the observation sheet. Only one student was scored during each time interval. Once all students had been scored, the observers began again at the beginning front-left seat and would repeat this until the class ended. Both observers took care to ensure they were observing and rating the same student during each time interval. See Appendix B for the observation instrument sheet.

Inter-Observer Reliability

To determine inter-observer agreement, the two data collectors independently observed and scored 98.7 percent of the time sample intervals. Inter-observer percent reliability agreement was calculated using the following formula: Percent Reliability = (Number of Agreements / Number of Agreements + Disagreements) X 100. Inter-observer agreement across all intervals was 95.6 percent reliability. When both observers did not agree, the data was removed from analysis such that all results presented below represent 100 percent agreement between the two observers.

CHAPTER III

RESULTS

Results will be presented beginning with student on-task behavior and major transitions then continue with results from the learning arrangement and instructional activity. In each of the three sections that follow, data from all classrooms in all settings is summarized first; then results from each of the three types of settings are presented. A one-way between subjects ANOVA was calculated to compare the observation data collected in the three instructional settings for percentage of time intervals that students were on-task. A second one-way between subjects ANOVA was calculated to compare the observation data collected in the three instructional settings for percentage of time intervals that major transitions occurred. However, no statistical test of mean difference was used for learning arrangement or instructional activity due to inadequate power. Instead, these comparisons are presented descriptively.

On-Task Behavior and Major Transitions

Observations across all classrooms and settings indicated that on average students were on-task 83.9 percent of all intervals. A one-way between-subjects ANOVA indicated there was no significant difference in percent of time on-task between the three instructional settings, $F(2, 87) = 2.79$, $p > .05$. See Table 1 for the mean percentage and standard deviation of on-task intervals in each type of setting (*i.e.*, adapted, co-taught CWC, and resource room).

In all settings, observations suggest that very little time was lost in major transitions during the class period. Transition time accounted for 4.4 percent of all intervals, which is markedly less time than Burns' (1984) and Gump's (1967) 15 percent of classroom time. Further, a one-way between-subjects ANOVA indicated that there was no significant difference in major transition time between the three instructional settings, $F(2, 87) = 1.41$, $p > .05$. See

Table 1 for the mean percentage and standard deviations of major transition intervals in each type of setting (*i.e.*, adapted, co-taught CWC, and resource room).

Table 1

Mean percentage of intervals of student time on-task and major transitions for adapted, co-taught CWC, and resource room settings

Observation Code	*Adapted (N = 4 Classes) Mean(SD)*	*Co-Taught CWC (N = 5 Classes) Mean(SD)*	*Resource Room (N = 3 Classes) Mean(SD)*
On-Task	82.2(16.2)	81.6(12.6)	89.9(11.9)
Transition	6.0(18.6)	5.4(9.4)	0.5(1.5)

Learning Arrangement

Table 2 shows the mean percentage of intervals in which teachers in all classrooms and settings arranged the students in the six formats. Students in these classes spent the largest portion of observation intervals in whole group instruction (47.2) and the second largest in independent work (33.3). During observations, teachers did not instruct students to work with one peer in any classroom. Teachers spent less than 10 percent of time intervals in each of the remaining instructional arrangement with 1.1 percent of intervals in small group learning.

Table 2

Mean percentage of intervals, standard deviation, and rank of each learning arrangement across all classrooms

Learning Arrangement	*Mean Percentage*	*SD*	*Rank*
Whole Group	47.2	44.7	1
Independent	33.3	41.1	2
Large Group	9.6	28.1	3
Teacher Led 1-1	8.9	24.6	4
Small Group	1.1	10.5	5
Peer Pairs	0.0	0.0	6

Table 3 shows the mean percentage of intervals in which teachers in each classroom setting arranged learning. In each of the three settings, whole group instruction consumed the largest portion of observation intervals. The percentage of intervals teachers used whole group instruction in adapted, co-taught CWC, and resource rooms is 37.5, 51.0, and 55.5, respectively. Small group instruction occurred only in adapted classrooms, and infrequently in that setting. Teacher led one-on-one instruction occurred during 28.8 percent of the intervals in the resource room setting whereas 4.7 percent in the co-taught CWC classrooms and not at all in adapted classrooms.

Table 3

Mean percentage of intervals in each learning arrangement for adapted, co-taught CWC, and resource room settings

Learning Arrangement	*Adapted (N = 4 Classes) Mean(SD)*	*Co-Taught CWC (N = 5 Classes) Mean(SD)*	*Resource Room (N = 3 Classes) Mean(SD)*
Whole Group	37.5(45.5)	51.0(42.9)	55.5(45.6)
Independent	36.3(45.7)	41.4(42.3)	15.7(25.0)
Large Group	23.2(41.2)	2.9(13.2)	0.0(0.0)
Teacher Led 1-1	0.0(0.0)	4.7(18.3)	28.8(38.2)
Small Group	3.0(17.4)	0.0(0.0)	0.0(0.0)
Peer Pairs	0.0(0.0)	0.0(0.0)	0.0(0.0)

Instructional Activity

The mean percentage of intervals in which teachers in all settings engaged in instruction was 76.8 whereas the mean percentage not engaged in instruction is 23.2. Figure 1 shows the mean percentage of intervals in which teachers in all settings engaged in each of the 30 instructional activities or did not engage in any instructional activity. The bars in Figure 1 are arranged from largest percentage of intervals to smallest percentage of intervals.

Figure 1. *Instructional activity by percentage of intervals*

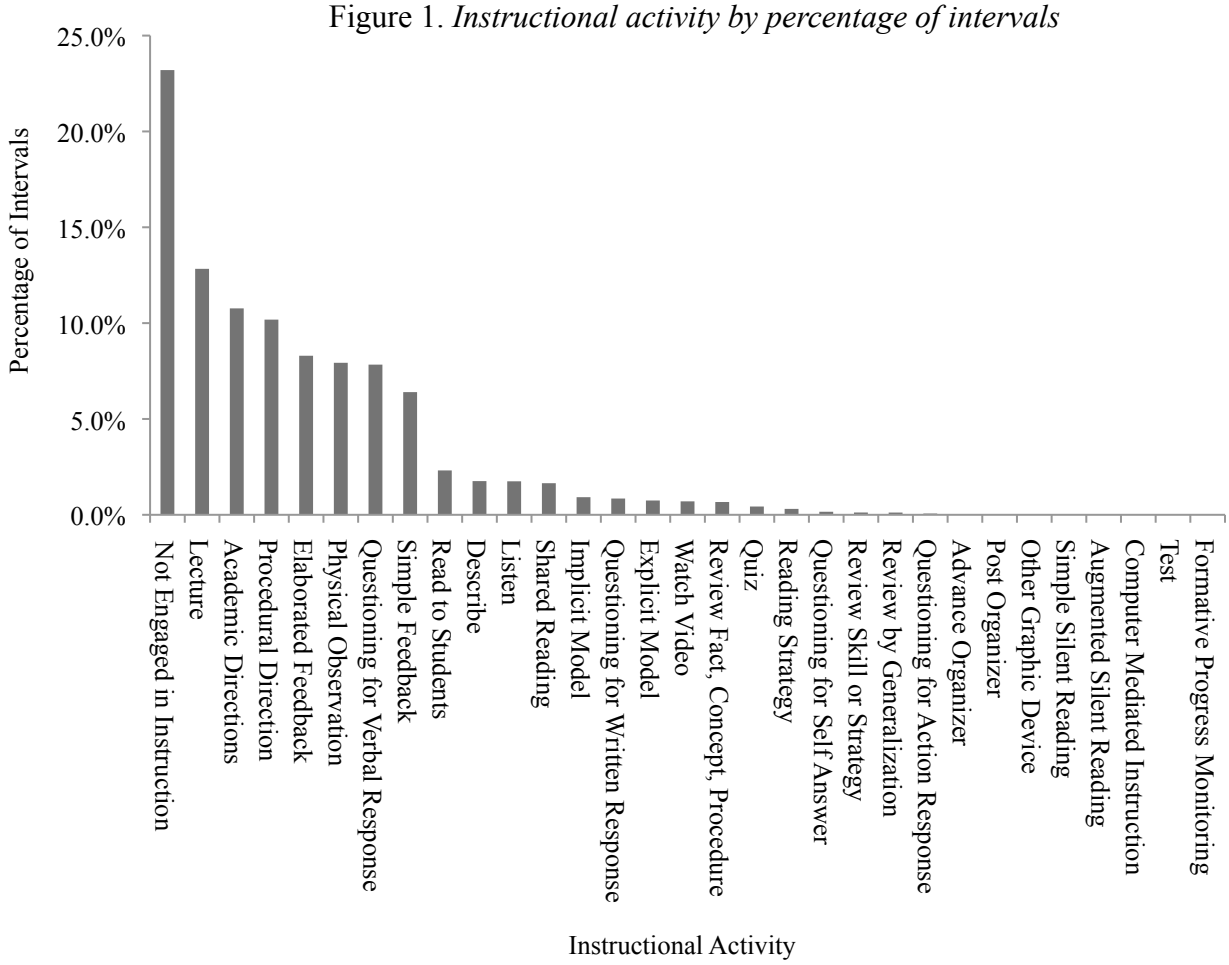


Table 4 shows that in general teachers were not engaged in instruction for more intervals than any of the 30 instructional activities. Instructional activities in which teachers spent more than ten percent of time were lecturing, giving academic direction, and giving procedural directions. Teachers engaged in elaborated feedback, physical observation of students, asking questions for student verbal response, and simple feedback five to ten percent of time intervals. Few, if any, intervals were spent using instructional activities that research indicates are appropriate for diverse academic learners (*e.g.*, using advance organizers, explicit modeling, monitoring progress with formative assessment).

Table 4
Mean percentage of intervals, standard deviation, and rank of each instructional activity across all classrooms

Instructional Activity	*Mean Percentage*	*SD*	*Rank*
Lecture	12.8	21.4	2
Describe	1.8	4.0	10
Implicit Model	0.9	4.9	13
Explicit Model	0.7	3.1	15
Academic Directions	10.8	11.9	3
Procedural Direction	10.2	12.1	4
Physical Observation	7.9	15.8	6
Questioning for Self Answer	0.2	1.1	20
Questioning for Verbal Response	7.8	12.9	7
Questioning for Written Response	0.8	5.9	14
Questioning for Action Response	0.1	0.6	23
Listen	1.7	4.7	11
Review Fact, Concept, Procedure	0.7	2.1	17
Review by Generalization	0.1	0.8	22
Review Skill or Strategy	0.1	0.8	21
Simple Feedback	6.4	10.5	8
Elaborated Feedback	8.3	14.5	5
Advance Organizer	0.0	0.0	24
Post Organizer	0.0	0.0	24
Other Graphic Device	0.0	0.0	24
Read to Students	2.3	9.6	9
Shared Reading	1.6	7.8	12
Simple Silent Reading	0.0	0.0	24
Augmented Silent Reading	0.0	0.0	24
Reading Strategy	0.3	2.9	19
Computer Mediated Instruction	0.0	0.0	24
Test	0.0	0.0	24
Quiz	0.4	4.1	18
Formative Progress Monitoring	0.0	0.0	24
Watch Video	0.7	5.2	16
Not Engaged in Instruction	23.2	26.8	1

Table 5 display similar data to those reported above except they are organized according to the type of instructional setting. As a group, teachers in the adapted setting are on average

Table 5

Mean percentage of intervals of each instructional activity for adapted, co-taught CWC, and resource room settings

Instructional Activity	*Adapted (N = 4 Classes) Mean(SD)*	*Co-Taught CWC (N = 5 Classes) Mean(SD)*	*Resource Room (N = 3 Classes) Mean(SD)*
Lecture	2.5(6.4)	7.2(11.1)	30.5(29.9)
Describe	0.7(1.9)	0.9(2.5)	4.8(6.4)
Implicit Model	0.0(0.0)	2.8(9.5)	0.7(2.5)
Explicit Model	0.0(0.0)	0.2(1.1)	2.8(5.8)
Academic Direction	7.3(9.0)	11.3(13.3)	12.3(11.8)
Procedural Direction	10.4(11.1)	13.3(16.1)	4.8(7.0)
Physical Observation	10.4(21.9)	7.3(8.0)	3.2(10.8)
Question for Self-Answer	0.0(0.0)	0.0(0.0)	0.6(2.1)
Question for Verbal Answer	10.4(16.7)	3.4(6.1)	10.8(13.2)
Question for Written Answer	2.3(9.7)	0.0(0.0)	0.0(0.0)
Question for Action Response	0.0(0.0)	0.3(1.3)	0.0(0.0)
Listen	0.8(2.2)	1.9(5.0)	2.1(3.8)
Review Fact, Concept, Procedure	1.0(2.4)	0.0(0.0)	1.0(2.8)
Review by Generalization	0.3(1.3)	0.0(0.0)	0.0(0.0)
Review Skill or Strategy	0.3(1.3)	0.0(0.0)	0.0(0.0)
Simple Feedback	10.4(15.1)	4.1(5.9)	4.1(5.9)
Elaborated Feedback	5.0(9.3)	16.4(23.4)	6.4(9.1)
Read to Students	6.3(15.1)	0.0(0.0)	0.0(0.0)
Shared Reading	2.7(7.9)	2.7(12.5)	0.0(0.0)
Reading Strategy	0.8(4.8)	0.0(0.0)	0.0(0.0)
Quiz	0.0(0.0)	1.8(8.3)	0.0(0.0)
Watch Video	0.0(0.0)	2.9(10.5)	0.0(0.0)
Not Engaged in Instruction	28.4(34.6)	23.4(24.5)	15.8(16.9)

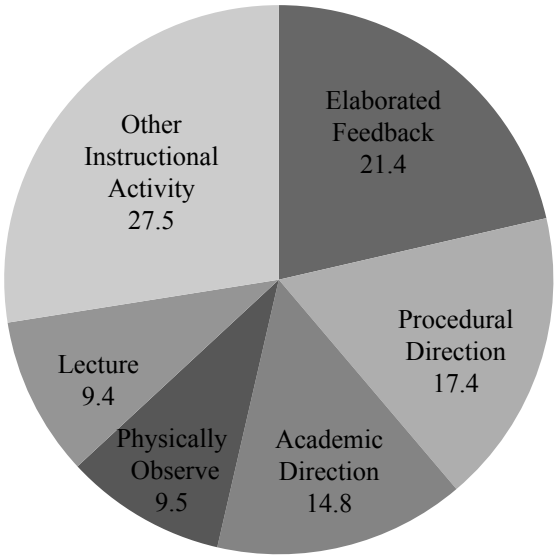
Note: Among the types of learning arrangements, no class used student peer pairs. Likewise, among the list of instructional activities no teacher used graphic devices of any kind, silent reading of any kind, computer mediated reading instruction, formative assessments, or tests. Therefore, means and standard deviations are not reported for these variables.

involved in instructional activities 71.6 percent of time intervals and not engaged in instruction 28.4 percent of time intervals. While engaged, these teachers used four types of instructional activities most frequently (*i.e.*, procedural direction, physical observation, questioning for verbal

response, and simple feedback). These four instructional practices accounted for 41.6 percent of all time intervals in adapted classrooms. Modeling of any kind was not observed in any adapted classroom nor was use of graphic devices of any kind, silent reading of any kind, computer-mediated reading instruction, formative assessments, or tests.

As a group, teachers in the co-taught CWC setting are on average involved in instructional activities 76.6 percent of time intervals and not engaged in instruction 23.4 percent of time intervals. Figure 2 shows that only five instructional activities account for nearly three quarters of the time intervals that teachers in this setting were engaged in instructional activities. The five activities are elaborated feedback, procedural directions, academic directions, physical observation, and lecture. Several instructional activities were never observed (see Table 5).

Figure 2. *Percentage of time intervals while engaged in instruction across all co-taught CWC classrooms*



As a group, teachers in the resource classroom setting were on average involved in instructional activities 84.2 percent of time intervals and not engaged in instruction 15.8 percent of time intervals. This is the largest percent of time intervals engaged in instruction among the three settings. However, in resource classrooms much of the instructional time was used to lecture. Only a few time intervals were spent reviewing in resource classrooms. Further, reading instruction of any kind was not observed in any resource classroom nor was use of graphic devices of any kind or assessments of any type.

Great variability among the classes was indicated by the large standard deviations, particularly in percentage of time intervals that teachers were not engaged in instruction and the percent of time intervals that whole group and independent learning arrangements were used. These results have limited generalization to adapted, co-taught CWC, and resource room settings in other schools.

CHAPTER IV

DISCUSSION

There is little known about differences in classroom instruction and management among co-taught CWC, adapted, and resource room settings. Given the literature on effective instructional practices and activities, the purpose of this study was to systematically catalogue how teachers instruct students in these settings by observing how they manage and use the instructional period relative to four foci. The goal of this study was to understand typical and routine instruction and management in high school classrooms that promote access to the general curriculum for students with disabilities.

These three settings are common in large high schools that attempt to provide meaningful access for students with disabilities to the general education curriculum. Observations in four focused areas were used to create a profile of instruction in each of these settings. The four foci were student engagement, major transition time, learning arrangement of the students, and instructional activity. Learning arrangement was split into six subtypes spanning from whole group instruction to independent learning. Likewise, instructional activity was split into 30 separate instructional practices plus not engaged time.

Conclusions and Implications

Four major findings emerged from this study. First, disengaged from instructional activity was the most frequently observed behavior. Second, instructional activities that occurred frequently (*e.g.*, giving academic or procedural direction and lecturing) are not associated with student academic outcomes in the empirical or prescriptive literature. Third, practices that have been shown to increase learning (*e.g.*, feedback, graphic organizers, modeling) were observed

sporadically. Fourth, students spent the class period engaged primarily in whole group or independent learning arrangements.

When examining the proportion of time teachers were engaged and not engaged in instruction the results show that a large amount of instructional time is not utilized. In the adapted and co-taught CWC settings, this was the largest percentage of time, and second largest in resource classrooms. However, in the resource setting teachers were engaged in instruction during more intervals than were teachers in the adapted or co-taught CWC settings, 12.6 and 7.6 percent respectively. On average, teachers were not engaged during 23.2 percent of observation intervals; in a 90-minute class period this represents 20.9 minutes per school day per class period, or nearly 1.75 hours per school week per class. Typically, teachers were checking, writing, or reading emails at a computer in the classroom or preparing to teach the lesson for the next class period. Although these are necessary tasks that teachers must complete, it is inappropriate to be completing those tasks during instructional time. This is cause for great concern because if approximately one-quarter of all instructional time is used by teachers to check their email, there is a reduction in the potential for learning.

Across the three settings, lecturing, giving academic direction, and giving procedural direction were the second, third, and fourth most frequently observed instructional practices, respectively. In other words, when teachers are engaged in instruction, they were found to be spending a large portion of the class period talking; that is, of the time teachers are engaged in instruction, the teacher is talking 44 percent of the time. These instructional activities, although common in most high schools, are not regarded as appropriate practice when teaching new content or skill (Hughes & Archer, in press), and rarely are these instructional activities

preferable, especially for students with disabilities (Deshler, Ellis, & Lenz, 1996; Hughes & Archer, in press; Swanson & Deshler, 2003).

More effective teaching practices such as explicit modeling, frequently reviewing, using graphic organizers, giving formative assessment, and small group instruction occurred infrequently across the three settings. These instructional practices have been shown to impact student academic achievement (Armento, 1976; Gildroy, 2001; Hattie, 2003; Hattie & Timperley, 2007; Lenz, Alley, & Schumaker, 1987; Stone, 1983) and should be used more frequently during instruction. Across the three settings, students were arranged as a whole group for nearly half of the observation periods. Teachers in the resource room setting used the whole group learning arrangement 18 percent more than teachers in the adapted setting and 4.5 percent more that teachers in the co-taught setting. However, research has shown that regardless of the size of class, whole group learning is less effective than one-to-one tutoring or small group learning (Ornstein, 1995; Slavin, 1989). On average students were instructed to work independently during 36.3 percent of time intervals in adapted classrooms, 41.1 percent in co-taught CWC classrooms, and 15.7 percent in resource rooms. Moreover, across the three settings, students were instructed to work independently on a task during one third of the observation periods. Although independent work is important for progressing toward and displaying mastery learning, it appears to be used as an activity to occupy students so that the teacher can engage in non-instructional behavior (*e.g.*, checking email, grading papers). Rarely is it appropriate for students to spend 30 minutes during a 90-minute class period working independently on a task, especially given that on average teachers in this study were disengaged from the learning process for 21 minutes during a 90-minute class. These disappointing results may be related to the increasing content demand of curriculum and the prevalence of pacing

guides that require large quantities of information be covered in relatively short time. Teachers may feel the only conceivable way to teach the prodigious required content is by using less effective but more efficient instructional activities (*e.g.*, lecture, video, describing). In effect, curricular demands and standards based accountability may result in a race to the bottom with regard to instructional activities. In essence, sacrificing differentiated instruction and scaffolds of support for curriculum content.

When taken together, the four major findings from this study raise serious questions about meaningful access to the general education curriculum for students with disabilities. The results indicate that physical inclusion in the general education classroom does not guarantee access to the general curriculum as required by IDEA. Moreover, it is questionable whether co-taught CWC classrooms are the least restrictive environment given the learning arrangements students are placed into and the instructional activities that teachers use. And, the same conclusion can be drawn regarding adapted and resource room instruction. In summary, the quality of education, as assessed by the instructional and management activities observed in this study, is of questionable quality in each of the three instructional settings. These four findings raise questions about the quality of education not only for students with disabilities but for all students.

Limitations

This study has several limitations. Data collection occurred over three days and only in one high school. Therefore, limited generalization can be justified. However, given the middle class nature of the school where data were collected and the school's reputation within the community for high academic achievement, it is doubtful that dramatically better instruction would have been observed elsewhere.

Another limitation of this study is that the observational methodology of MTS does not capture all behavior. When behaviors are extremely brief or occur infrequently MTS can underestimate percentage of intervals in those behaviors (Repp, Roberts, Slack, Repp, & Berkler, 1976); however, Murphy and Goodall (1980) and Gardenier, MacDonald, and Green (2004) establish that MTS is preferable to other time sampling methodology because it results in lower measurement error when intervals are brief. Nevertheless, results of this study related to student time on-task and major transitions should be viewed with some skepticism. After all, in well-managed high school classrooms, spotting off-task behavior can be difficult due to infrequency and the skill with which adolescents disguise off-task behavior. Finally, skilled instructors quickly transition between instructional activities and learning arrangements. However, with MTS these transition periods are only recorded if they occur at the beginning of the time interval; therefore, more transitions may have occurred than is reflected by percentage of time intervals, thereby underestimating transition time. Given these limitations, these findings are preliminary, but they do point to several trends in the educational experience of students with disabilities in large urban high schools.

Future Research

The following issues should be considered in future research efforts. First, research should continue in the area of typical instructional practice and activity in both general education and special education high school classrooms. Much attention has been paid to instructional practice in general education elementary classrooms, but little is known about the typical instructional experience of high school students. Continuing research in this area requires that measurement systems, like the observational system in this study, be developed, tested, and validated. Measurement systems could be used for three separate activities: first, as a research

instrument to compare different instructional settings, content areas, and educational systems; second, as a teacher evaluation tool for administrators; and third, as a data collection tool for coaches. As a research tool, the observation instrument used in this study may be appropriate. However, as an administrative teacher evaluation tool or coach's data collection tool the number of learning arrangements and instructional activities may need to be reduced in order to improve reliability among un- or less-trained observers.

Second, for students with disabilities, access to the general education curriculum requires at least two elements: physical inclusion with their peers and pedagogy that opens the curriculum to diverse learning needs. Given the results of this study, a new pedagogy may need to be learned by general and special educators who support students with disabilities in the general education curriculum. Regardless of what new practices must be learned, this will likely require changes to pre-service training at the academy and ongoing professional learning for currently practicing teachers. Research in this area is suggested.

Third, one variable not explored in this study was whether or not general and special educators co-plan for instruction prior to co-teaching a lesson, something that researchers (Walther-Thomas, 1997; Walther-Thomas, Bryant, & Land, 1996) have described as necessary for co-teaching. Moreover, co-planning was included in nearly all studies of co-teaching where improved student performance was found (Bear & Proctor, 1990; Harris et al., 1987; Klinger, Vaughn, Hughes, Schumm, & Elbaum, 1998; Marston, 1996; Patriarca & Lamb, 1994; Self, Benning, Marston, & Magnusson, 1991). It may be that co-planning for instruction has greater impact on instructional practice than the presence of a special educator inside the general education classroom. Results from this study suggest there is a gap between the research and prescriptive literature and the instructional practices used by teachers in schools. Additional

research is necessary to confirm this finding, ideally using a nationally representative sample of schools.

Fourth, research to understand why teachers are not engaged in instruction for such a large portion of the instructional class period is suggested. Qualitative research methods are uniquely suited to identify the barriers that prevent teachers from utilizing this time. Once these barriers have been identified, interventions can be developed and implemented that reduce the portion of class time that teachers are not engaged in instruction, therefore increasing the potential for learning in high schools. These interventions may be focused on the individual teacher, organizational configuration, or communication systems. Once these interventions have been implemented, research should continue to measure the effects.

Finally, learning arrangements and instructional practices used in the adapted and resource classroom settings closely mirrored teaching in co-taught general education classrooms. This raises questions about whether instructional differences exist between general education and special education for students with LD. Granted, adapted class sizes were smaller than co-taught classes, however the profile of instructional activities looked largely the same. Therefore, more research on the typical educational experience of students with disabilities in various settings is warranted.

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APPENDIX A

Scoring Protocols and Decision Criteria

Classroom Observation Sheet

STUDENT ON TASK: *At each time interval, please score this box. You should begin with the student in the front-left seat of the class, then work your way across the first row of students, and then begin the second row continuing until every student has been observed and scored on the observation sheet. If all students have been observed, begin again at the beginning front-left seat. If the student is on-task, mark "1" in the box. If the student is off-task, mark "O" in the box. Take care to ensure that both raters are observing and scoring the same student during each time interval.*

Student on Task will be checked whenever the student is not actively engaged in the appropriate instructional activity. The student is off task if they are violating rules, engaging in social talk with peers, doing nothing, throwing something away, in the restroom, playing a non-instructional computer game, getting organized for a task (*e.g.*, putting papers away into backpack), using their cell phone, etc. For example, if the teacher is lecturing and the student is looking through her backpack for a pencil, the student is not engaged and therefore off task.

LEARNING ARRANGEMENT: *At each time interval, please score one of the following learning arrangements. Mark "1" in the box that best describes the learning arrangement of the students. If there is more than one type of learning arrangement in the classroom, only score the learning arrangement that the teacher is instructing or monitoring. For example, if a large group of students is working independently while the teacher provides additional instruction for a small group of students you should score the learning arrangement as "Small Group." The focus is on the teacher's behavior or activity.*

Whole Group will be checked whenever all the students in a classroom are being instructed together. For example, the teacher might be lecturing, the class might be involved in a class-wide discussion, or the class might be watching a movie.

Large Group will be checked when most students in the classroom are provided the same instructional activity directed at most students simultaneously. Large groups range in size from greater than 1/3 of the students to one less than the entire class.

Small Group will be checked whenever the students have been assigned to work in small groups. Small groups range in size from 3 students to 1/3 of the class. For example, students might be doing a cooperative learning activity or engaged in small group reading instruction.

Individual Student-Teacher Led will be checked whenever the students are working one-on-one with a teacher in a clinical manner. For example, the teacher may be doing "experimental teaching," direct phonics instruction, or monitoring reading errors.

Student Peer Pairs will be checked whenever the students are working in pairs and have been formally instructed to work in pairs. If the class contains an odd number of students, one group may contain 3 students and still be scored "Student Peer Pairs." For example, students might be doing a "Turn-to-Your-Neighbor" activity or a class-wide peer tutoring activity.

Individual-Independent Work will be checked whenever the students are working independently. Students may be working quietly at their desks on a worksheet or whispering to a peer, but they have been asked to work on their own.

TRANSITION TIME: *At each time interval, score this box. If the class is transitioning between activities, mark "1" in the box. If the class is NOT transitioning between activities, mark "O" in the box. Note, if some students appear to be transitioning and others students are not transitioning score "1."*

Transition Time will be checked when the students are transitioning between classroom activities but not yet engaged in any learning activity. For example, if the bell rings to begin class and students are not seated yet. Or, if the teacher completes the lecture then asks students to begin working on their homework, the time between ending the lecture and when student beginning to work is transition time. Finally, if students quit working before the end of class, this is also transition time.

INSTRUCTIONAL ACTIVITY: *At each time interval, score one of the following instructional activities. Mark "1" in the box that best describes instructional activity. If more than one instructional activity is observed during the observation time period, only score the first instructional activity observed.*

Lecture will be checked when the teacher talks to students without any, or minimal, student participation. The teacher may use the chalkboard, maps, or an electronic media (*e.g.*, PowerPoint) while lecturing.

Describe Skill or Strategy will be checked for each interval the teacher is observed giving task explanations or explaining how to do something orally that requires several steps. For example, "In order to write this paper, you will need to do the following four things…," "To complete this experiment, you will need to follow the five following procedures…," "This math algorithm has three parts…," "This strategy has five steps….". The steps or parts must be described.

Modeling

Implicit Modeling will be checked for each interval the target teacher spends modeling how to do something for instructional purposes. This refers to showing how to do an academic task that is to be copied or imitated by the student. For example, the teacher demonstrates how to solve a math problem. Please note, if the teacher physically demonstrates while also thinking out loud to verbalize the teacher's thinking, then you should check "Explicit Modeling."

Explicit Modeling will be checked for each interval the target teacher spends modeling how to do something for instructional purposes. This refers to showing how to do an academic task that is to be copied or imitated by the student WHILE verbally modeling the thought process the teacher is using to complete the task. For example, the teacher demonstrates how to do a lab experiment while asking questions and answering the questions so that students understand the thought process of a scientist. Please note, if the teacher only physically demonstrates while stating each step, then you should check "Implicit Modeling." Also, if the teacher does not physically demonstrate the procedure, a designation would be placed in the "Describes a Skill or Strategy" column.

Give Directions

Give Academic Directions will be checked for each interval the teacher spends orally giving simple instructional directions. This includes verbally directing, supervising, or managing classroom academic tasks and describing a grading rubric. For example, the teacher saying, "Turn to chapter 9 in your book," or "Please do the first 10 math problems on the worksheet."

Give Classroom Procedure Directions will be checked for each interval the teacher spends orally giving simple procedural directions. This includes (a) verbally directing students' behavior, (b) managing classroom procedures (*e.g.*, bathroom and hall passes), (c) giving non-instructional directions to students (*e.g.*, "Please shut the window,

Susan."), (d) telling students how many points an assignment is worth, or (e) expressing disapproval, dislike, dismay, dissatisfaction, or disgust with a student's class work, appearance, or behavior. For example, the teacher saying, "Jonathan, please take your seat," or "Allison, that is not what our bathroom pass procedure is; you need to…."

Monitoring and Questioning

Physical Observation will be checked for each interval the target teacher spends doing physical observation of students in order to monitor students. Examples of physical observation for the purpose of monitoring are: The teacher walking around students' desk or visually observing students to determine if they have completed work or are successfully doing work. When the teacher is monitoring a cooperative group activity or a pair activity, please note what the activity is in the description area. Please note, this activity should not be confused with giving feedback.

Questioning for Self-Answer will be checked when the teacher invites student to ask self-questions by way of engaging the learner but allows the learner not to self-disclose on a potentially sensitive subject (*e.g.*, no response is required from the student). For example, the teacher asked a question to the class as a whole and said, "I don't want a verbal answer or show of hands, but think to your self: 'How many of you ever thought you'd wished you could be more confident when talking to your peers at school?'"

Questioning for Verbal Response will be checked when the teacher poses a question pertinent to the instructional topic at hand and asks one or more students to respond orally. Students are instructed to respond with a verbal answer but answers can be provided to a partner, generated by a team, individually, or as a choral response.

Questioning for Written Response will be checked when the teacher poses a question pertinent to the instructional topic at hand and asks one or more students to respond in writing. Students are instructed to respond with a written answer using response cards, response slates, by writing on the chalkboard, or writing on a sheet of paper.

Questioning for Action Response will be checked when the teacher poses a question pertinent to the instructional topic at hand and asks one or more students to respond with an action or movement. Students are instructed to respond with a physical movement by touching/pointing, acting out something, using gestures such as thumbs up, or giving facial expressions (smiley face/sad face).

Listening will be checked when the teacher is attentively listening to a student's verbalizations for 10-seconds or longer. The teacher must emit at least one attentive behavior during the interval. Attentive behaviors include eye contact, "uh-uh" verbalizations, head nodding, and/or linguistic listening cues. (*e.g.,* "I understand," etc.).

Review

Facts/Concepts/Procedure will be checked when the teacher makes a statement or asks a question(s) that requires the student to show that the student remembers or understands the factual content or concept or knows the steps/procedures for completing a task (e.g., solving a particular type of math problem or the steps for constructing a good outline). For example, the teacher may ask the class to state the formula for calculating the area of a triangle.

Manipulate/Generalize will be checked when the teacher makes a statement or asks a question(s) that requires the student to show that the student can generalize or apply a previously learned skill, or manipulate new information using a recently learned skill to new content or to a novel or practical life situation. For example, if the class recently learned about osmosis and selective diffusion by experimenting with chicken eggs, the teacher may ask about how osmosis would occur in human cells.

Skill or Strategy will be checked when the teacher makes a statement or asks a question(s) that requires the student to show that the student understands the underlying skills or strategies of effective academic performance. For example, if students in astronomy are learning about the life cycle of stars, reviewing how to examine the textbook organization would be helpful to structuring student thinking and finding appropriate information in the text.

Feedback

Simple Feedback will be checked for each interval during which the teacher verbally tells a student or group of students whether their answer or performance is correct or incorrect. This includes summarizing information that students have said. For example, when student gives the correct answer and the teacher simply acknowledges it but does not give more elaborate feedback. Please note, if the teacher provides elaborated feedback or asks follow-up questions as a means of giving elaborated feedback, this should be scored as "Elaborated Feedback on Learning."

Elaborated Feedback will be checked for each interval during which the teacher orally provides private or specific feedback to a student with regard to something the student has done. Teacher gives information on student performance when constructing meaning, or related to the processes underlying strategies or skills of completing, relating, or extending a skill or strategy. The feedback might include describing an error category or pattern of error, explaining how to avoid the error, modeling a new way or performing, having the student practice a new way of performing, having the student paraphrase how to perform in the future, and having the student set one or more goals for the next performance. For example, if the student gives the correct answer to a math question but doesn't seem to understand how they reached the correct answer, the teacher provides elaborated feedback on the process used to reach the answer while checking for student understanding at different points in this re-teaching process.

Graphic Devices and Organizers

Advance Organizer will be checked for each interval the teacher orally presents information about the upcoming lesson in a relatively simple way. The oral presentation should provide an overview, cite the purpose or goal(s) of the lesson or activity, state the topic or present a specific order that the lesson or activity will follow. For example, the teacher might state, "Today we are going to be studying about the causes of the Civil War." This is different from the "Other Graphic Devices" category in that it does not involve a content map for the lesson, lesson questions, and other parts of the Content Enhancement Routines.

Post Organizer will be checked for each interval the teacher orally presents information about that day's lesson in a relatively simple way. This statement should be at the end of the lesson or instructional activity and should summarize the main points of the lesson or activity. For example, the teacher might state, "We just learned about the various causes of the Civil War. These causes were…."

Other Graphic Devices (*e.g.*, study guide, CE) will be checked for each interval the teacher is presenting information about the lesson with the aid of a graphic device. Teacher uses a graphic device to enhance learning by transforming, repackaging, or manipulating the content. Some examples of graphic devices include Venn diagrams, content maps, or study guides.

Reading Instruction

Teacher Reads to Students will be checked when the teacher is verbally reading a passage that students are expected to "follow along" with.

Shared Reading will be checked when one student in the class is reading out loud while other students are expected to follow along in the text. After a period of time, another student begins reading aloud and the first student stops, this continues at the direction of the teacher.

Simple Silent Reading will be checked when the teacher instructs all students to read silently to themselves.

Augmented Silent Reading will be checked when the teacher instructs all students to do the following two tasks: (1) To find the answer to a question in the reading and (2) instructs students who finish early to re-read the passage.

Reading Strategy will be checked when the teacher directs students to use a comprehension learning strategy while reading. For example, the teacher may ask a student to predict what will happen next, summarize plot developments for each chapter, or infer the meaning of some words and give a rationale.

Computer Mediated Instruction will be checked when the primary mode of instruction involves the use of a computer or computerized mechanism to either present reading instruction to the student, test a student, or provide assistance to a student during a learning task. This includes computerized reading instructional programs such as *Read 180*. Please note, if the teacher is working in small groups with some students engaged in instruction while other groups are using a computerized instructional program, do not check this item; instead, mark the appropriate instructional practice the teacher is using.

Formal Assessment of Learning

Test will be checked when the teacher instructs students to complete a long assessment during the class period. The test is a long exam given to students for the purpose of assigning a grade/value to the student's performance.

Quiz will be checked when the teacher instructs students to complete a short assessment during the class period. The quiz is a short exam given to students for the purpose of assigning a grade/value to the student's performance.

Formative Progress Monitoring will be checked when the teacher instructs students to complete a very short formative assessment. The results of the task are not assigned a grade/value but instead are used to inform the teacher about individual student's degree of mastery of a new body of knowledge or skill.

Video will be checked when a film, video, or clip is shown in class as the primary means of instruction.

Un-Engaged Time

Not Engaged in Instruction Time will be checked for each interval during which the teacher spends (a) grading papers, (b) passing out papers, (c) taking attendance/writing student pass, (d) having a discussion with another adult in the classroom, (e) completing paperwork or computerized forms, (f) talking on phone for any purpose, (g) engaging in personal activities (*e.g.*, reading a newspaper, filing nails, etc.), (h) reading professional reading materials, or (i) accessing, writing, or sending emails.

APPENDIX B

Teacher: ______________________ **Subject:** ______________________ **Date:** __________________

Directions: After the bell rings and the teacher begins the class, begin your timer. After 30 seconds have passed, you should make your first observation on the horizontal line. Your observation should be complete within 30 seconds. Then, wait 30 more seconds to begin the next observation. There are four categories of observation variable listed along the top row of this matrix (1-Student on Task, 2-Learning Arrangement, 3-Transition Time, and 4-Instructional Activity). Note, each category of variables is shown in a different color. At each observation interval, one mark should be made in each category so that every row contains 4 scores. If the designated student is on-task, mark 1 in that box, if the student is off-task mark O. Mark 1 in only one of the Learning Arrangement boxes. If the class is transitioning between activities mark 1, if they are not mark O. Mark 1 in only one of the Instructional Activity boxes. Finally, only mark the first instructional activity observed during the 10-second observation interval.

Scheduled Start Time: __________________ **Actual Start Time:** __________________ **Scheduled End Time:** __________________ **Actual End Time:** __________________

	1	2						3	4 INSTRUCTIONAL ACTIVITY																														
		LEARNING ARRANGEMENT									Modeling		Give Direction		Monitoring & Questioning						Review			Feedback		Graphic Dev. & Org.			Reading						Formal Assessment				
	Student on Task	**Whole Group**	**Large Group** *1/3 to Whole Group*	**Small Group** *3 stud. to 1/3 Class*	**Individual-Teacher Lead**	**Student Peer Pairs**	**Individual-Independent**	**Transition Time**	**Lecture** *Giving Content Information*	**Describe Skill/Strategy** *"To write ...(name steps)"*	**Implicit Modeling** *Demonstrate Only*	**Explicit Modeling** *Demonstrate AND Explain*	**Academic Directions** *"Turn to ch. ..." (simple)*	**Classroom Procedure** *Managing Classroom*	**Physical Observation** *(e.g., watching students)*	**Questioning for Self Answer**	**Questioning for Verbal Response**	**Questioning for Written Response**	**Questioning for Action Response**	**Listening** *(Full 10-seconds)*	**Fact/Concept/Procedure** *Recall Facts/Concepts*	**Manipulate / Generalize** *Use recently learned skill*	**Skill or Strategy**	**Simple Feedback** *Task perfomed correct*	**Elaborated Feedback** *Specific Info. / Re-Teaching*	**Advance Organizer** *Before Content is taught*	**Post Organizer** *After Content is taught*	**Other Graphic Device** *(e.g., study guide, CE)*	**Teacher Reads to Stud.** *(Full 10 seconds)*	**Shared Reading** *Student take turns reading*	**Simple Silent Reading** *Read to Self*	**Augmented Silent Read.** *Reading to complete a task*	**Reading Strategy**	**Computer Mediated Instruct.** *Read 180*	**Test**	**Quiz**	**Formative Progress Monitoring**	**Video**	**Not Engaged in Instruct.** *(e.g., email, hall pass,etc)*
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Classroom Observation Sheet

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