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A Curriculum-Based Evaluation of Written Expression

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A CURRICULUM-BASED EVALUATION OF WRITTEN EXPRESSION

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Curriculum-based evaluation (CBE) is a decision making process that provides a framework for guiding differentiated instruction, assessing individual student performance with a local curriculum, and providing educators with a tool for administering individually referenced, classroom-based assessments throughout the school year (Howell & Nolet, 2000). The most commonly used measures of student academic achievement are national and local norm-referenced standardized assessments. Unfortunately, these tests are given only at prescribed times (i.e., yearly or at certain grade levels) during one's academic career and are not adequate for ongoing student progress monitoring (Shapiro, 2004). The present study examines a "response to intervention" approach in student decision-making using CBE as a decision making tool for assessing student performance, guiding intervention development and progress monitoring. Results indicate that CBE is an effective decision making tool for assessing individual student performance, developing instructional interventions, progress monitoring, and making educational decisions.

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The state of education rests in an age of professional accountability and demands for improved student academic performance. The 2001 reauthorization of the Federal Elementary and Secondary Education Act of 1965 was signed into law in 2002 "to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind" (NCLB; United States Department of Education, 2002). The NCLB Act demands improvement in individual student academic achievement so that all students perform at a proficient level on state tests (United States Department of Education, 2002). Educators confront delivering instruction to heterogeneous groups of students with varying degrees of skill performance. Educating students with a variety of educational needs increases pressures to find and implement innovative ways of teaching so that all students have opportunities to learn and perform well. Successful instruction requires ongoing assessments of each student's abilities, skills, knowledge, motivation, social characteristics, and prior experiences in order to arrange needed supports (Graham & Harris, 1996). Educators must determine how to deliver instruction, how to assess student performance in the classroom, and how to use assessment information in developing individualized instruction. Writing is one of many subjects educators must decide not only the instructional needs of each student but also how to approach helping each student learn. However, writing instruction has typically received less attention and less empirical support for assessment and intervention strategies as compared to other subjects such as reading.

Writing Process

Teaching writing. Many students face difficulties learning how to write, and do not experience writing as an enjoyable activity. As Graham and Harris (1997) explain, writing is not an inherited talent. Instead writing must be taught. Zimmerman and Kitsantas (1999) found that when students rely on their own methods to discover writing, they were less satisfied with their performance and attributed their deficiencies to uncontrollable sources. Providing direction guides students in using resources already known to them and helps them discover ways of improving their writing (Graves, 1994). Writers also need consistency in their learning environment such as writing in the same place, during the same time of the day, and knowing what is expected during writing lessons from one day to the next (Atwell, 1987; Graves, 1994).

Writing is a complex task. When teaching students to write, an effective approach is exposing students to small tasks. Arranging instruction so that writing occurs through small tasks makes the writing process more manageable (Spandel & Stiggens, 1997). Calkins (1994) provides a guide for a writing cycle: rehearsal, drafting, revising, and editing. The task of rehearsal provides students with an opportunity to organize their thoughts and ideas. Calkins calls this a state of readiness. Drafting involves getting ideas generated during rehearsal down on paper. Revising is a means for a student to assess what has already been written, to think about new ideas, and then to expand the drafts. Calkins defines the editing phase as a time for the student to receive instruction and feedback about their writing. Segmenting writing into discrete steps provides students with an opportunity to experience the entire process of writing in a paced manner.

Skilled writers. Skilled writers, for the purposes here, means writers demonstrating average to above average writing skills. Brand and Powell (1986) found that skilled writers report feeling less ashamed, bored, and confused during writing. Moreover, skilled writers reported positive feelings such as inspiration, satisfaction, and relief during the writing process. Skillful writers report positive emotional ties to writing suggesting that skilled writers may be more engaged during the entire writing process.

Not only do skilled writers feel good about themselves and the process when they write, but also employ effective strategies guiding the writing process. Skilled writers use self-regulation strategies such as planning, revising, organizing, seeking information, self-monitoring, and evaluation (Graham & Harris, 1996; Graham & Harris, 1997; Graham, Harris, MacArthur, & Schwartz, 1998). Achieving self-regulation can be difficult (Zimmerman & Kitsantas, 1999); however, skilled writers often develop routines, rewards, or goals to motivate them during the writing process to overcome obstacles such as devising effective strategies to obtain information needed for a composition (Graham et al., 1998). Writing involves generating ideas, making changes, and making continuous judgments as to one's performance. Skilled writers may not always have plentiful ideas and information about a topic. Nonetheless, being a skilled writer means possessing strategies such as seeking information when one is unfamiliar with a topic.

Beyond seeking out information, skilled writers demonstrate other skills such as flexibility that enable the writing process. During the writing process, skilled writers generate more ideas about a writing topic. However, they also eliminate ideas deemed

less essential during the composition process (Graham et al., 1998; Sowers, 1985). Thus, skilled writers are willing to change or narrow their focus during composition.

Skilled writers also demonstrate capable mechanical and cognitive skills. These writers are more proficient in handwriting, spelling, and making decisions about their word choices (Graham et al., 1998). A study by McCutchen, Covill, Hoyne, and Mildes (1994) revealed that skilled writers generate longer sentences as compared to less skilled writers. Further, they found that skilled writers rapidly generated more accurate individual words than unskilled writers in a lexical decision task. Writers are at an advantage to produce more when composition becomes more automatic and less taxing to the overall writing process.

Struggling writers. Like skilled writers, struggling writers have emotional ties to their writing. Contrary to skilled writers, however, unskilled writers develop and maintain more negative emotions about writing which likely stem from engaging in a task they feel inadequate to perform (Brand & Powell, 1986). To begin with, struggling writers must be motivated to write by developing an intrinsic value for the process. When students do not value the writing process or what they write about, then they are less likely to engage in effective, productive strategy use (Berninger & Hooper, 1993; Graham & Harris, 1997; Zimmerman & Kitsantas, 1999). One such strategy includes encouraging students to writing about topics important to them. Student choice in topic selection promotes honest writing: writing about something important not made up to satisfy class requirements (Graves, 1994).

In a review of the literature of written expression, Graham et al. (1998) find that once less skilled writers generate an idea, they are unlikely to discard it. Instead, they tell what they know. Each idea stimulates the next. Lack of effective planning has been shown to result in generating quick responses and ceasing the writing process shortly thereafter (Graham et al., 1998). Less skilled writers are less adept at thinking beyond what they know to reflect on their knowledge and explore new ideas, which stifles being able to bring more elaborative information to the writing process. Writers need guidance while learning in order to prepare engagement in effective self-directed practice (Graves, 1994).

Struggling writers not only fall short in the planning process, but also their writing does not convey messages to outside readers. Poplin, Gray, Larsen, Banikowski, and Mehring (1980) found that students with learning disabilities were discrepant from average performing peers with regard to writing abilities in thematic maturity: the ability to illustrate meaning to the reader. Unskilled writers pay little attention to the needs of the audience (Graham & Harris, 1997; Graham et al., 1998), which results in less productive writing (Graves, 1994). Struggling writers thus may benefit from instruction focusing on the meaningfulness to the audience.

Students struggling with writing also face difficulties learning domain specific writing skills. These writers have poor text production skills; these students struggle with spelling, capitalization, punctuation, and handwriting (Graham & Harris, 1997; Graham et al., 1998; Gregg & Mather, 2002). Writers, who struggle with spelling and forming sentences, will not experience writing as an automatic process. Gregg and Mather state

that if the writing process stops in order to think about how to spell a word, then ideas previously generated may be lost. Writers distracted by spelling will not produce material comparable to more skilled writers.

In addition to spelling, Gregg and Mather (2002) report unskilled writers lack complete knowledge about the alphabetic system. They spell by sound instead of attending to the image of the word. Time spent on sounding out words takes away from time spent composing. There should be little surprise that if spelling is emphasized over text production, for instance, and one struggles with spelling, then performance deficits will likely be revealed. Similarly, students who struggle with spelling find it difficult to compose complex sentences. Poplin et al. (1980) found that struggling writers produce fewer words per sentence and fewer words overall as compared to more skilled writers. Writers who have difficulty spelling will undoubtedly experience trouble composing complex descriptive sentences.

Differentiated instruction. Even when approaching writing instruction in a systematic manner, not all students learn how to write well. When a student struggles, performance deficits may mean there are things a student does not know, not necessarily that they have trouble learning (Howell & Nolet, 2000). Thus, instruction should be tailored such that individual student needs are met through differentiated, individualized instruction. Differentiated instruction will afford students opportunities to meet curricular expectations because instructional strategies will be adapted to address an individual student's specific learning needs.

Educators may realize that not all students master the curriculum without adapting instruction, but differentiating instruction may not always occur. Graham, Harris, Fink-Chorzempa, and MacArthur (2003) surveyed first through third grade teachers nationwide to examine instructional adaptations that teachers make for struggling writers. Responses to a likert scale revealed that teachers more often focus on teaching handwriting, spelling, punctuation, and capitalization skills to weaker writers over average writers. Graham et al. (2003) also found that teachers employed adaptations such as teaching mini-lessons, re-teaching writings skills and strategies, and conferencing with weak writers.

Teachers were also asked to respond to open ended questions about writing adaptations beyond those previously mentioned. Graham et al. (2003) found the most frequently used adaptation was one to one instruction with a teacher, volunteer, or with a peer and typically involved the writing process such as planning, drafting, or revising. Graham et al. also found that educators provide instructional adaptations (most to least often provided) such as modifying assignments, conferencing, sharing with an audience, modeling, grouping for type of assignments and heterogeneous groupings, providing reinforcement for performance, providing additional instructional time, using computers, adapting lessons to address the needs of the weaker writers and offering reminders. Other adaptations included dictating, using a keyboard to transcribe text, focusing on spelling problems, and focusing on different types of writing assignments.

Over half of the teachers in the Graham et al. (2003) survey reportedly used at least one writing adaptation for struggling writers. However, of the 268 adaptations

reported, 75% of them were reported by only 32% of the teachers. The average number of adaptations per teacher was 4.25 and ranged from 0-20. Unfortunately, eighteen percent of the teachers surveyed did not make any instructional adaptations, and 11% and 13%, respectively made only one or two. Surprisingly, one in six adaptations limited weak writers participation in the writing process as evidenced by weaker writers not being encouraged to select their own topics, to share writing with peers, to write at their own pace, or to use computers as often as the average writer.

Students needing extra help with writing will benefit from sufficient occasions to practice writing. Students with special instructional needs typically receive less than sufficient time to practice writing, and his or her writing will not progress unless given ample opportunity to apply and develop writing skills (Berninger & Hooper, 1993; Graham & Harris, 1997). When students experience difficulties with the writing process and performing mechanical skills, additional instructional attention will be necessary and instructional interventions targeting specific skills (e.g., spelling, capitalization, and organization) may circumvent later writing problems and possibly placement in special education (Berninger, 1998). Educators are faced with assessing student performance so that areas of need can be identified and individualized instruction can be prepared. What writing assessments are available to educators?

Assessing Writing Outcomes

National norm reference tests. National standardized tests allow educators to assess individual student performance against national norms. However, critics reveal problems with regard to curriculum-test overlap and ability to utilize nationally normed

tests for progress monitoring and instructional intervention. First, national tests may hold a curriculum bias. When students are subjected to a test with poor curriculum-test overlap, performance outcomes may be interpreted as failing to demonstrate skills taught to the student (Shapiro, 2004). However, the test items may not mirror class instruction creating discrepancies between what students are taught and tested over (Marks, 1990). National tests also do not reveal how individual students perform against the tested material (Kohn, 2000). Instead, norm-referenced tests compare a student's performance to the performance of others who have taken the same test (Howell & Nolet, 2000; Shapiro, 2004).

Norm-referenced tests have limited utility for progress monitoring. Shapiro (2004) explains these assessments were not developed for frequent monitoring of student skills, so progress monitoring is not possible. Shapiro further explains that norm referenced tests were developed to only sample student skills, thus only contain a limited number of questions for each skill. A familiarity bias occurs when a school system repeatedly uses the same tests to assess student skills, because student's become more familiar with the test material in turn affecting test scores (Marks, 1990).

A third problem with norm-referenced tests centers on their inability to lead toward instructional decisions. Advocates for educational system change emphasize the need for assessment data to lead toward instructional interventions (Ysseldyke & Christenson, 1988). Shapiro (2004) explains that norm-referenced tests were not designed for this purpose, but are often used in school settings in this manner.

National tests specific to written expression can be problematic. Kohn (2000) criticizes national writing exams utilizing scoring procedures that follow a prescribed model instead of evaluating communication or thinking skills; some may be influenced to prepare students to produce high scoring essays, not high quality writing. However, writing skills are difficult to evaluate because even a standard involves a range of spelling, punctuation, grammar, syntax, and effective communication skills (Forbes, 1982). Further, Kohn states that essay tests may require students to think and make an argument for topics they find uninteresting. When students do not value what they write about, then they are less likely to engage in effective, productive writing strategies (Berninger & Hooper, 1993; Graham & Harris, 1997; Zimmerman & Kitsantas, 1999). Writing tests are difficult to standardize, but when used, they should take into account the range of individual writing skills as well as allow students to write about intrinsically motivating topics.

Local norm reference tests. Not only can student performance comparisons be made to national norms, but also to local norms. Whereas national norms allow for comparisons between a student and students across the nation, local assessments allow educators to assess student performance against the curricular expectations of a district. Carr and Harris (2001) define curriculum standards as being public, shared across schools within a district and reflecting local expectations for student learning. Local evaluations are criterion-referenced tests as they are created to measure a student's skills as compared to the behavioral standards outlined in the curriculum (Howell & Nolet, 2000). While they may be useful for screening decisions, criterion referenced tests are problematic for

ongoing progress monitoring (Shapiro, 2004), as they are often given at prescribed times during a students academic career. Local curricular norms establish what students within a school district should know and provide a basis for evaluating within student performance.

As an example, a midwestern suburban school district not only assesses student performance against national norms, but also has developed a system to assess student performance against district expectations. Between first and eleventh grade, students are administered a battery of assessments developed to ensure that students have sufficiently progressed through the district curriculum in order to transition from one level to the next as well as for school and district accountability (Midwestern school district, 2002).

Local assessments provide a means of identifying students who have mastered the curriculum and those students who would benefit from individualized instruction in order to increase the likelihood of successfully mastering curricular expectations. While national and local assessment data provide educators with data revealing how a student performs against other students across the country and against district standards, respectively, these assessments do not necessarily provide instructionally relevant details relating to the student's writing performance. Educators also have available classroom based assessments.

Classroom Based Assessments in Written Expression

Six-traits of writing. In linking writing instruction to classroom-based assessments, Spandel and Stiggins (1997) delineate what teachers report as quality writing. Six traits have been identified and defined as having value in good writing: ideas,

organization, voice, word choice, sentence fluency, and conventions. Ideas represent how clearly the details have been formed and include original thinking from the author. Organization centers on the structure and sequence of the piece. Voice is the passion and energy a writer brings. Word choice is demonstrated by the accuracy and phrasing of the words chosen. Sentence fluency represents how easily a reader can move through the writing as well as the variety of sentence formations chosen. Finally, conventions refer to the correctness of the words and close attention given during the editorial process.

Six-trait assessment follows an analytical scoring methodology which breaks down writing into its parts or traits. An analytical scale provides a vehicle for determining levels of proficiency from a beginning writer (i.e., score =1) to an advanced writer (i.e., score =6) for each trait in each piece of student writing. Six-trait writing follows process-based writing, incorporates what good writing stands for, has clear definitions, and can be easily understood and used by teachers (Spandel, 2004).

Curriculum-based measurement. Curriculum-based measurement's (CBM) have been established as a valid performance indicator when used to screen and make eligibility decisions for students at risk of academic difficulty and when used for ongoing progress monitoring (Fewster & Macmillan, 2002; Fuchs, 1989; Shinn, 1989). CBM is a measurement technique for the purpose of providing a numerical description of skill performance (Deno, 1989) leading toward subsequent evaluations of skill performance regarding the effectiveness of instructional interventions (Shinn & Bamonto, 1998).

As outlined by Shinn (1989), writing CBM consists of one three-minute timed writing exercise. Students are provided a story starter to guide their composition. Writing

products are then scored according to total words written (TWW), words spelled correctly (WSC), and correct word sequences (CWS). In a review of spelling validation studies, Marston (1989) concluded that words spelled correctly are valid measures of spelling skills. However, WSC are not complete measures of overall writing competence (Fewster & Macmillan, 2002). In a study by Videen, Deno, and Marston (1982) CWS, which includes TWW and WSC, were determined to be a valid and reliable measure of written expression for elementary students grades 3 through 6.

CBM provides a means for assessing student performance against local, curricular expectations allowing educators to gauge individual student performance in relation to other students from within the context of the classroom (Marsten, 1989; Shinn & Bamonto, 1998). CBM fits within a problem-solving model of problem identification, problem definition, considering possible reasons for the problem, and deciding when the problem has been remediated (Deno, 1989). Deno states that CBM activities include observing and recording skill performance, describing differences in actual and expected performances, estimating probable improvements and costs in relation to various interventions, and progress monitoring. The task then becomes linking the CBM methodology and assessment data with instructional interventions addressing specific performance deficits.

Curriculum-based evaluation. Evaluation procedures should extend past national and local standardized assessments into the classroom to guide differentiated instruction. According to Howell and Nolet (2000), evaluation involves thinking about student issues according to where they currently perform and where they need to perform, making

quality decisions about what students need to learn, and deciding how to go about helping them. Curriculum-based evaluation (CBE) reflects a decision making process which appraises specific skills, guides instructional development and determines individual student achievement against the local curriculum. Howell and Nolet also explain that decisions are made about the skills a student needs as a result of assessment; performance data, not students, are evaluated and guide individualized instructional development.

CBE follows a problem-solving format. Howell and Nolet (2000) describe the CBE process as a series of seven stages: define the purpose of evaluation, define the behavior to be measured, devise a way to observe the behavior, conduct assessment, use the CBE process of inquiry, summarize the data, and make decisions about what you have found (see Table 1). They emphasize the seven stages may not occur sequentially, but instead simultaneously.

Howell and Nolet (2000) map the CBE process for written expression (see Figure 1). First, define the purpose of evaluation. Howell and Nolet suggest that students assume two different roles during the writing process: author and secretary. Writers are authors, for they must communicate ideas to the audience and demonstrate knowledge about the writing process (i.e., planning, reviewing, editing, revising and transcribing). The author role also involves creating a writing product with fluent ideas, syntactic maturity, vocabulary maturity, organized ideas, and knowledge of conventions or the mechanical aspects of writing. The second role is the writer as secretary. Writers must be able to put their ideas down on paper using skills in handwriting, spelling, punctuation and

capitalization. The second step, define the behavior, then is to determine which of these roles, author or secretary, to measure.

The third CBE step involves making the behavior observable. Howell & Nolet (2000) explain that behavior can be made observable by administering locally established Curriculum Based Measurement (CBM) protocols for written expression; CBM yields writing samples based upon local curricular expectations from within the context of the classroom (Marsten, 1989). Thus, CBM outcomes reflect a student's current level of performance in relation to local curricular norms.

Writing sample assessment, CBE step four, occurs utilizing the CBM writing samples. CBM has been established as a valid performance indicator when used to screen and make eligibility decisions for students at risk of academic difficulty and when used for ongoing progress monitoring (Fewster & Macmillan, 2002). Following Shinn (1989), writing samples are scored according to total words written (TWW), words spelled correctly (WSC), and/or correct word sequences (CWS). Fewster & Macmillan report that WSC is a valid indicator of student performance, but not a complete measure of overall writing competence. CBM scoring methods reveal information about a few specific performance areas (i.e., TWW, WSC, and CWS). The task then becomes evaluating student performance beyond CBM in order to develop instructional interventions addressing specific performance deficits.

The CBE process of inquiry is the fifth stage (see Figure 2). According to Howell and Nolet (2000), the CBE process of inquiry involves asking questions. First, discover and document facts related to the student's present level of performance. Second,

formulate ideas regarding the cause of the performance problem. Next, make summative decisions and select goals and objectives based upon the student's present level of performance and curricular expectations. Finally, make formative decisions by evaluating the effectiveness of the teaching interventions and progress monitoring techniques.

The final stages involve summarizing the results and making decisions about what you have found, stage six and seven, respectively. According to Howell and Nolet (2000), conclusions are drawn regarding a student's writing performance including the expression of ideas (i.e., writing process, fluency, and sentence complexity) as well as writing mechanics (i.e., handwriting, letter formation, spelling, capitalization, punctuation, and mechanical fluency. They state that the CBE process does not cease until interventions have been found to be successful. CBE is considered complete when a student's writing performance has been observed, measured, evaluated, and successfully mediated.

In sum, national and local assessments can evaluate student performance against other students across the nation and against the local criteria, respectively. However, evaluation procedures should also be classroom based and instructional adjustments must be ongoing (Carr & Harris, 2001) allowing educators to change instruction throughout the school year. Until systematic, ongoing evaluations of student performance are completed, individualized educational needs and intervention strategies may remain undiscovered. Every student could potentially benefit from more individualized instruction, not just those who struggle with the curriculum. In order for students to receive the most comprehensive instruction and for school districts to meet or exceed

educational standards, educators should employ evaluations leading to differentiation. By incorporating CBE into the local evaluation process, school districts may further analyze student performance outcomes and educators may potentially strengthen and broaden their repertoire of instructional strategies.

Current Study

The purpose of this study was to illustrate a decision making process called Curriculum Based Evaluation in remediating a student's performance deficits in written expression. A search of the electronic database, PsychInfo, yielded no published research studies using the CBE process in any subject area. This research sought to support CBE's decision making methodology as a viable approach to classroom based assessment in evaluating student performance, and developing instructional interventions, which lead to successful outcomes in written expression This study was exploratory addressing four research questions surrounding implementation issues: (a) Was CBE implemented with integrity during the problem identification, intervention development and implementation, and progress monitoring phases? (b) Are the writing strategies used for instructional intervention supported by the literature as evidence based strategies used to teach writing? (c) Was the intervention effective in improving the participant's performance outcomes in written expression? (d) How do the data revealed during the CBE process compare to the participant's local assessment data in terms of relative contributions toward the development of individualized instructional strategies in written expression?

Method

Participant

The participant was a fifth grade student at a midwestern suburban elementary school during the 2002-2003 academic year. The student participated in the general education curriculum and was referred to the school intervention team by his teacher due to concerns about written expression. Written parental permission was obtained for the participant to receive individualized instruction and for the data to be used in this study. The participant's school district research committee and IRB granted written approval for the analysis of participant data.

Intervention Consultant

The experimenter was a second year school psychology graduate student participating as a member of the school intervention team during a graduate practicum experience. The experimenter designed and implemented the instructional intervention, rated the participant's ten CBM writing samples used for progress monitoring, and rated the four short stories written pre-, during, and post intervention. The experimenter received formal graduate training in the using of CBM for progress monitoring, was self-taught in the use of CBE for skills assessment and intervention development, and received formal training in the Six-traits of writing from the local education agency in order to assess the short stories.

Reliability Checks

Independent scorers rated the experimenter's CBE implementation integrity, the CBM writing samples for progress monitoring, and the four short stories used pre-,

during, and post-intervention. The independent scorer for CBE implementation integrity was a fourth year school psychology student completing an internship in school psychology. This scorer received formal graduate training in CBE at the same time as the experimenter. This rater was given verbal directions as well as formalized written directions and documents to examine in order to rate CBE treatment integrity.

The independent scorer of the CBM writing samples used for progress monitoring was a fourth year school psychology student completing an internship in school psychology. This rater received formal graduate training in the use of CBM methodologies at the same time as the experimenter. Verbal and written directions and scoring samples were provided to the rater.

The independent scorer of the four short stories according to the 6-traits of writing was a teacher with a master's degree in reading. This rater taught the 4th grade for four years and received formal training in 6-trait scoring from a midwestern school district, and had two years of experience using 6-traits. The scorer was provided with scoring rubrics for each of the six traits (i.e., ideas, organization, voice, word choice, sentence fluency, and conventions). Each rubric followed a 6-point analytical scale.

Materials

CBE materials were utilized during problem solving, problem identification, and intervention development: The CBE decision-making process (see Table 1), the CBE map for written expression (see Figure 1), and the process of inquiry (see Figure 2) were used.

During baseline and progress monitoring phases of CBE data collection, CBM story starters (e.g., "The voice behind me yelled, "Freeze!") were used to guide story development. The story starters were developed from the district's curriculum and followed district standardized practice in CBM administration. CBM writing materials were derived from the school district's writing curriculum. CBM administrations required a story starter, paper, a writing utensil, and a stopwatch to time the writing exercise.

The intervention instructing writing process required the 4-square planning strategy (described later: see Appendix A), paper, and writing utensils. Selected intervention sessions focused solely on teaching conventions by using CBM writing samples. The CBM sample was generated for progress monitoring and then used as an instructional tool to teach correct use of spelling, capitalization, and punctuation.

CBE Procedure

This study utilized CBE as a decision-making procedure to assess a student's writing performance and skills and to develop a writing intervention. CBE does not follow a linear process. Instead the process is often circular in order to revisit the problem identification, assessment methods, for example in order to address a student changing instructional needs. See Table 1 for an outline of the seven CBE stages.

Stage 1: Define your purpose. The purpose of instructional intervention was defined as helping the student demonstrate effective writing skills by continuing to generate story ideas as well as clearly conveying a message to an audience. Following stage 3 and 4, the student's writing was found to be void of proper word choice, spelling, and capitalization skills. Thus, the purpose was extended to teaching the correct use of

conventions (i.e., spelling, punctuation, and capitalization) by teaching the writing process (i.e., outlining, drafting, editing, and revising).

Stage 2: Define the behavior to be measured. The writing behavior was initially defined utilizing referral information provided to the school intervention team. The referring teacher defined the behavior of concern, as "Written language is a major concern-grammar, editing, making sense, and spelling, all of it." When the purpose was redefined following stage 3 and 4, the behavior to be measured was also extended to match the purpose. The behavior of concern was that that student had writing problems meaning difficulty demonstrating the use of correct conventions as well as using the writing process.

Stage 3: Make the behavior to be measured observable. CBM for written expression was utilized to generate writing samples for baseline data, intervention development, and progress monitoring. CBM writing samples collected for baseline data revealed the student's current level of writing performance in turn guiding intervention development. Subsequent CBM administrations were implemented during the intervention phase for progress monitoring. Progress monitoring occurred once weekly, but was extended to a two-week interval toward the end of the intervention phase due to participant needs in the classroom and an absence. Baseline CBM were administered by the classroom teacher, whereas, the experimenter administered CBM for progress monitoring. All CBM administrations followed existing district procedures, which are in line with procedures outlined by Shinn (1989). The student chose a story starter from

school resources to guide each writing exercise, planned for one minute, and wrote for three minutes.

Stage 4: Conduct assessment. CBM writing samples collected during baseline and weekly progress monitoring during the intervention were analyzed objectively using three indices. Examples of scoring criterion are provided in Appendix B and follow operationalized definitions offered by Tindal and Parker (1989) unless indicated otherwise. *Total words written* (TWW) are the sum of all words generated regardless of correct spelling, use of capitalization, punctuation, and grammar. Symbols and numbers were not counted as words. *Words spelled correctly* (WSC) are the sum of all words spelled correctly not considering the context of the word, only if the spelling of that particular word is correct. *Correct word sequences* (CWS) are determined by the criteria you want to measure (Howell and Nolet, 2000). Following this guideline CWS were defined according to the performance needs of the participant as well as standardized measures of this criteria. CWS are the number of sequentially correct words considering correct use of spelling, grammar (word choice), capitalization, and punctuation. Correct grammar involves verb tense, appropriate word in the context of the sentence, and subject-verb agreement. Two words meeting these criteria were linked with a caret (i.e., ^). A correct caret is placed at the beginning and end of a sentence to indicate a correct starting word and correct end punctuation, respectively (Howell & Nolet 2000; Tindal & Parker, 1989; Vindeen et al., 1982). The number of carets in each sample was summed.

Stage 5: Process of inquiry. The process of inquiry involved asking questions, hypotheses development, intervention development, goal setting, and ongoing

evaluations to determine intervention effectiveness. Baseline CBM assessment outcomes were used to navigate the CBE map for written expression (see Figure 1). Instructional needs were revealed in writing process and conventions as demonstrated by the lack of story organization and inconsistent use of correct punctuation, capitalization, and spelling. Through conversations with the student's parents, referring teacher, and supervising school psychologist, the writing process (i.e., planning, writing, editing, and revising) was determined to be the area targeted for intervention. Writing conventions would be taught during the editing phase. The hypotheses driving the intervention were that the participant was new to the school district, unfamiliar with some teaching strategies, and reportedly struggled with writing in the past. The participant and experimenter conjointly set the intervention goal of reducing errors to 4 (i.e., a difference between TWW and CWS = 4) following consultation recommendations made by the supervising school psychologist. A discrepancy of four represents the 75th percentile for TWW minus CWS for spring norms. District norms were established during the 1993-1994 academic school year (L. Newville, norm development coordinator, personal communication, November 27, 2002). Intervention effectiveness was determined during the intervention by interpreting weekly progress monitoring data.

Stage 6: Summarize the data. CBM data collected during baseline, intervention, and post-intervention were summarized by graphing and visually analyzing the participant's performance.

Stage 7: Make decisions about what you have found. Performance data was summarized and interpreted across the intervention phases to generate hypotheses

regarding the participant's performance, to establish intervention goals, and to determine the effectiveness of the intervention once implemented. During baseline, graphing the data served to establish the student's current level of performance as well as serving to guide intervention development and goal setting. During the intervention phase, graphing provided a visual representation of the performance trend. Performance outcomes during the intervention allow for deciding whether or not the intervention is effective and what changes, if any should be made. Post intervention data, when graphed reveals the participant's retention of skills learned during the intervention.

Instructional Intervention Procedure

The participant received individualized instruction twice weekly in half hour sessions for nine weeks. The intervention timeline is outlined in Figure 3. The intervention strategy involved individualized instruction centered on teaching the writing process while reinforcing conventions. The writing process was taught while affording the student extra practice with the 4-Square planning strategy (Gould & Gould, 1999: see Appendix A). The participant first chose a topic to write about and then used the 4-Square to organize story details. The topic sentence was written in the center of the page. The three open squares each hold one main idea and supporting ideas written in an outline format. The fourth square is for conclusion development. Once the 4-Square was completed, the student transcribed those ideas into paragraph form on a separate piece of paper. After the story was put into paragraph form, the participant and experimenter discussed errors and edited the story for correct word choice, spelling, punctuation, and

capitalization. The participant then rewrote the story making corrections as needed. Subsequent stories were created following this same process.

In addition to instruction on the writing process, some intervention sessions centered on conventions. Here, instruction utilized CBM writing samples administered for progress monitoring. After individually scoring the writing sample, the participant and experimenter discussed the assessment findings (i.e., TWW, WSC, and CWS), graphed the data, and discussed possible reasons for scoring errors and patterns in scoring.

Data Evaluation Procedures

The assessment and intervention process was evaluated using measures of integrity for the experimenter's use of the CBE process, intervention development and implementation, and intervention outcomes. Further, a comparison was drawn between CBE and a local assessment's contribution toward developing individualized instructional strategies in written expression.

CBE implementation integrity. An independent, objective rater familiar with the CBE process for written expression compared the CBE decision-making methodology (see Table 1) with the experimenter's documentation compiled during the problem identification, intervention development and implementation, and progress monitoring phases of the experiment. Documentation included the intervention daily log, problem clarification worksheet, intervention planning worksheet, performance graphs, CBE flow chart for written expression, and CBM writing samples. The independent rater indicated whether or not each CBE step had been met by circling "Yes" or "No" on the CBE

Procedural Checklist (see Appendix C). Specific dates were recorded when discriminable.

Intervention integrity. Integrity of the writing intervention was assessed by (a) comparing the intervention strategies utilized in the experiment with instructional strategies suggested in the literature for improving student performance in written expression (b) rating the performance quality of the progress monitoring methodology. This analysis completed the final stage of CBE, formative decision making (Howell & Nolet, 2000). An independent rater familiar with CBM scored ten progress monitoring writing samples according to TWW, CWS, and WSC as defined in the CBE evaluation procedure section. Interrater reliability was determined by computing percent agreement for each scoring dimension for each writing sample.

Intervention outcomes. Intervention effectiveness was determined by examining the participant's performance progress and improvements in writing quality across the intervention course. First, performance progress was assessed by analyzing the CBM performance trend revealing the participant's response to intervention. The experimenter and an independent rater familiar with CBM scored ten progress monitoring writing samples according to TWW and CWS as defined in the CBE evaluation procedure section. A mean difference score or discrepancy (i.e., mean CWS subtracted from mean TWW) was calculated to represent the participant's progress at each CBM administration.

Secondly, a determination of intervention outcomes related to writing quality was made by the experimenter and an independent rater independently scoring four short

stories: one, pre-intervention; two, during the intervention; one, post-intervention. Each story was scored according to the six traits of writing (i.e., voice, ideas and content, conventions, word choice, organization, and sentence fluency) following a 6-point analytical scale. The analytical scale represents various levels of proficiency in each trait (Spandel & Stiggens, 1997: see Appendix D-I). The scale ranges from 1= beginning level of proficiency to a score of 6= advanced level of proficiency (Spandel, 2004). See Appendix D for the Conventions 6-Traits Scale. Following Spandel and Stiggens, each story was scored according to the Total Points Method (Points awarded per story/Total possible points per story). Each story was worth 36 total points. Measurement across the intervention stages (i.e., pre-intervention, intervention, and post-intervention) reveals the impact of the individualized instruction on the student's writing performance. Six-trait scores for each writing dimension were compared between raters to establish interrater reliability.

Comparison of assessment methods. CBE and intervention outcomes were compared and contrasted with the student's district assessment data to determine the contributions of each assessment method toward the development of individualized instructional strategies in written expression. The participant's school district provided the local writing assessment data. Assessment data is reported across three student-writing samples according to the six traits of writing (i.e., ideas, organization, voice, word choice, sentence fluency, and conventions). Each sample is rated against a 5=point scale (i.e., 1="the readers felt your writing was still in a "beginning" stage, that you were still looking for a topic or way to handle this trait" to 5="the readers felt your writing

showed many strengths on this trait and then, as a writer, you were in control of your writing"). The three stories are rated along the six traits, and a total score is reported for each story. The sum of the three stories represents the student total score, which is then compared to a cut score. The district determines the cut score and represents the level of acceptable performance on the local assessment. Students falling below the cut score will be targeted for additional evaluation and assistance.

Results and Discussion

CBE Implementation Integrity

The first question addressed the extent to which the experimenter administered the seven-stage CBE process as outlined by Howell and Nolet (2000). The independent rater compared the seven-stage CBE process to the intervention documents (i.e., intervention daily log, problem clarification worksheet, intervention planning worksheet, performance graphs, CBE flow chart for written expression) provided. The independent rater indicated by circling response "Yes", that all seven stages of the CBE process were recorded within the intervention documents, thus all CBE stages were executed. The procedure section outlines the actions taken during each CBE stage. Since the experimenter implemented all CBE steps outlined by Howell and Nolet (2000), we can be confident that student performance outcomes are related to the integrity of the decision making process, and cannot be questioned due to inadequate implementation of the decision making process. These results suggest it is important not only to choose an assessment strategy that can be used within the context of the classroom, but also to implement the assessment methodology as intended.

Intervention Integrity

Intervention strategies. The second question addressed intervention integrity. Integrity was determined by comparing the instructional interventions utilized in this study as compared to evidence-based strategies reported in the literature. During intervention design, the experimenter consulted with the participant's stakeholders. Consultations with the parent, teacher, and student were vital not only in confirming the students performance deficits, but also in designing an intervention that fit within the participant's school schedule and that was tailored to his preferences. The participant's mother reported him as being a visual learner and responding favorably to working individually with another person. As a result, individualized instruction was arranged twice weekly in half hour sessions which was an hour of writing instruction in addition to regular class instruction in writing. Instruction was arranged during silent reading time, as the student was an average performer in reading, a relative strength, and would have silent reading the other three days of the week to practice this skill. A consistent writing time and team knowledge of the intervention allowed not only the student but also other involved persons know when and how the intervention would be implemented. Consistency clarifies writing expectations (Atwell, 1987; Graves, 1994).

In a typical session, the participant and experimenter met in a small office for a private writing session to reduce distractions. The intervention centered on teaching the writing process which included planning, drafting, editing, and revising short stories (Calkins, 1994). Each step was taught sequentially, but not during the same session. Breaking writing into steps in order makes writing more manageable for a struggling

writer (Spandel & Stiggens, 1997). To motivate the participant's interest in writing, the participant chose, without restriction, the topic for each short story and instruction then followed the student's pace. When writers are encouraged to writing about topics of personal interest, they will be more motivated to write and will begin learning self-management strategies (Berninger & Hooper, 1993; Graham & Harris, 1997; Zimmerman & Kitsantas, 1999).

During the planning phase, the participant used the 4-Square planning tool to outline the story details. Story two, the first intervention story, was "How to Build a Snowman" (see Appendix A). The 4-Square guided the student in organizing the story topic, three main ideas which became paragraphs, and the conclusion. The participant had expressed and demonstrated that when writing he felt that all of his ideas about that topic had to be included. The 4-Square helped him not only organize his ideas, but also limit them. As Graham et al. (1998) found, less skilled writers have difficulty abandoning ideas once generated and lack of planning story ideas results in stopping writing. As such, instruction emphasized limiting the ideas not only to make it easier for others to understand, but also to stimulate creativity while setting limits.

After filling out the 4-Square, the participant began writing the rough draft. The experimenter provided guidance in transferring information from the planning tool, turning the three main ideas and details into sentence and paragraph form. After the rough draft was complete, the editing phase began. Together, the experimenter and participant reviewed the story. The participant read the story aloud, stopping when noticing an error or when the experimenter pointed out an error. Errors were discussed

and marked on the rough draft. During editing, teaching emphasized using conventions, specifically capitalization, punctuation, and spelling skills correctly because less skilled writers have been found to make more convention errors than skilled writers (e.g., Graham & Harris, 1997; Graham et al., 1998; Gregg & Mather, 2002). Appendix J contains the rough draft of "How to Build a Snowman".

The last phase was creating the final draft. The participant used the edited copy as a guide in correcting errors and writing the final draft. The final draft of the snowman can be found in Appendix K.

The participant expressed liking to write the stories and being able to choose what he wrote about. However, as the intervention progressed, the student became less interested in completing the entire writing process, especially the final draft. Both short stories written during the intervention phase took three sessions to complete. However, the last story was spread out over six weeks due to absences and instruction sessions teaching conventions rather than process. See Figure 3 for the intervention timeline. Instruction was adapted to fit the students regular classroom needs as well. During three sessions, the experimenter assisted the participant with in-class writing assignments or activities such as editing an in-class writing assignment, planning story ideas, and playing class bingo with writing terms. Loss of motivation may have been due to the extended time frame for the last story. Despite the frustration, the student did complete the process with verbal encouragement.

In addition to writing stories, written expression CBM's were administered during one weekly session to update the participant's progress. To guide CBM writing, the

participant chose story starters from a district list. While free choice of topics was constrained by using curriculum-based topics, the student was not assigned a CBM topic. The participant was able to choose from the list of story starters promoting motivation and interest in writing (Graves, 1994). Following each intervention session, the experimenter scored, analyzed, and graphed each CBM. Results were then shared with the participant on subsequent intervention sessions.

As the intervention progressed, the participant became interested in his writing progress. Week three, the participant expressed interest in learning how to score his writing following the presentation of graphed data. The experimenter used graphs to explain the performance progress trends of TWW and WSC. The participant's interest in his performance became most salient week five when he expressed frustration at the downward trend of TWW following the seventh CBM administration. To promote this interest as a viable teaching opportunity, the participant was taught how to score CBM's and graph data.

Due to the participant's frustration with writing fewer words, graphing changed from reporting TWW during each CBM session to the discrepancy between TWW and CWS. When a writer spends more time thinking about how to spell a word, less time is spent on composing (Gregg & Mather, 2002). Reframing the graph presentations not only helped the participant see progress in making fewer writing errors, but also was a better reflection of the participant's progress throughout the intervention. The focus now was reducing the number of errors not how much the participant wrote.

Instruction on conventions was extended from being taught solely during the editing phase to being taught apart from writing process. Following CBM administrations five through eight, instruction utilized CBM writing samples originally administered for progress monitoring. After individually scoring the writing sample, the participant and experimenter discussed the assessment findings (i.e., TWW, WSC, and CWS) and compared the writing samples for errors discussing how errors in capitalization, punctuation, and spelling could be remediated. Together, the data were graphed and the experimenter and participant discussed possible reasons for scoring differences between scorers and error patterns. For example, during the discussion related to the decrease in total words written, the participant was told that the downward trend implies his writing was actually improving because now more attention was spent toward using correct spelling, punctuation, and capitalization skills instead of how much he can write. Performance feedback provided guidance for the participant to develop his own self-directed writing practice (e.g., Graves, 1994).

Reliability of CBM progress monitoring data. Establishing interrater reliability for each CBM writing sample further assessed intervention integrity. Agreement between raters was calculated as a frequency ratio for TWW, CWS, and WSC (see Table 2) and graphed (see Figure 4). Average agreement for TWW was 99.13% and ranged from 96.55% to 100%. Average agreement for CWS was 93.27% and ranged from 84.09% to 100%. Average agreement of WSC was 97.78% and ranged from 95.16% to 100%.

Percent occurrence agreement was calculated for punctuation and capitalization errors (i.e., both scorers agree on occurrence/ (both scorers agree on error occurrence +

experimenter only observed error occurrence + independent rater observed error occurrence: see Table 3). Average occurrence agreement for punctuation errors was 73.4% with a range of 33.33% to 100%. Sample six's punctuation error occurrence agreement was 0% and was excluded from the previous analysis because it does not accurately represent the agreement of punctuation errors. The experimenter reported no errors and the independent rater rated one error. Raters could not agree on the occurrence errors in their absentia. Average occurrence for capitalization errors was 79.33% with a range of 50% to 100%.

Overall, interrater reliability was moderate to high, but some score variance occurred. Prior to data evaluation, both raters had received formal training in scoring written expression CBM's and scoring operationalized definitions and scoring examples were provided to guide the evaluation of the CBM writing samples. Nevertheless, interrater scoring discrepancies arose when context was incorrectly considered for correct spelling use, total number of words were miscounted, and scoring two words as one (e.g., mistaking two words for one compound word). Some errors in scoring TWW may be attributed to handwriting legibility. Scoring writing samples is a difficult task, but the present results remind us that training and scoring guidelines are necessary in order to achieve high interscorer agreement. Further, these results suggest that either rater if the decision maker in this intervention would have made the same scoring decisions.

Intervention Outcomes

The six and seventh CBE stages described in Howell and Nolet (2000), involve summarizing the results and making decisions about what was found. Previous accounts

of the final CBE stages were primarily methodologically driven. The following results conclude the CBE decision-making process and address the third research question. Was the intervention's effective in improving the participant's writing performance?

Performance progress. Intervention effectiveness was determined by evaluating the participant's progress on CBM assessments throughout the course of the intervention. Progress was determined by calculating the mean difference between TWW and CWS for each CBM as reported by independent raters. Errors are reflected in CWS data; therefore, the fewer the errors, the smaller the discrepancy between what is written and number of word sequences. At baseline, the median discrepancy was 26. The intervention goal was a discrepancy of 4. During the first half of the intervention phase (i.e., CBM sessions four to six), the median difference score was 23.5. During the 2nd half of the intervention (i.e., CBM sessions seven to nine), the median difference score was 4.5. Across the intervention (i.e., CBM sessions four to nine), the mean difference score ranged from 24 to 3.5. Post-intervention, the participant's classroom teacher administered CBM ten and the mean difference score was 2.5.

Figure 5 illustrates raters' mean difference scores and progress trend. A trend line indicates change over time: the steeper the slope, the faster the improvement and the more successful the intervention. Over nine weeks of intervention, the participant's performance trend reveals a considerable decrease in the discrepancy between TWW and CWS. Specifically, the participant was producing fewer errors as a result of intervention. Post-intervention, the participant's writing discrepancy continued to decrease. The participant produced fewer errors across the intervention course, and continued making

writing gains once the intervention stopped, suggesting the intervention generalized across settings from intervention into the regular classroom. Thus, the participant retained skills taught during the intervention and utilized them in an outside context, in the regular classroom. Evidence based interventions when implemented and assessed with integrity, can lead to student gains not only in the presence of differentiated instruction, but also a student can continue making performance gains when returning to regular classroom instruction alone.

Writing quality. Intervention effectiveness was further assessed by evaluating the participant's writing quality progress across four short stories. Comparisons were drawn between raters' total scores assigned to each story along the six writing traits (i.e., voice, ideas and content, conventions, word choice, organization, and sentence fluency). Across the four stories, total scores were 13, 20, 20, and 25; 12, 21, 20, and 24 as reported by the experimenter and independent rater, respectively (see Table 4). Total scores were then calculated following Spandel and Stiggens (1997) Total Points Method (points earned/total points possible). Percentages reported by the experimenter were 36.1, 55.6, 55.6, and 69.4. The independent rater percentages were 33.3, 58.3, 55.6, and 66.7 (see Table 4). The mean six-trait total scores were 12.5, 20.5, 20, and 24.5 revealing improvements in the participants writing quality resulting from intervention (see Figure 6). As previously seen in progress monitoring results, the participant continued to make gains after the intervention. The continued gains are important in showing the generalization of writing skills. Establishing generalization data is important in

documenting the participant retained skills taught during the intervention by continuing to use and strengthen these skills once the intervention stopped.

Interrater reliability was established across each of the 6-write traits as a means to determine the raters' consistency in scoring each writing dimension. Interrater reliability was reported as percentage agreement; calculated by dividing the number of agreements by disagreements for each trait. Percent agreement between raters was 75% for Ideas, Voice, Word Choice, Sentence Fluency, and Conventions. Percent agreement was 100% for Organization (see Table 5). Furthermore, both raters were consistent in scoring each of the six traits. Traits were never assigned a point value with a discrepancy of more than one. For example, the experimenter awarded "3" points to short story one for Ideas and the independent rater scored this trait a "2" (see Table 4). Figure 7 illustrates the accuracy of the raters' scoring across all four short stories. Reliability results show only slight variance in the six-trait total scores of each story across raters. This suggests that two independent raters, with training and following a standard assessment protocol, can produce nearly identical assessment results. The high interrater reliability validates the participant's reported gains in writing quality as a result of intervention.

Visual inspection of samples stories reveals the participant became a more skilled writer as a result of intervention. The participant produced short story one during regular class instruction before intervention implementation (see Appendix L). As other researchers have found (e.g., Graham & Harris, 1997; Graham et al., 1998; Gregg & Mather, 2002), less skilled writers generate short stories. Similarly, story one is brief containing fewer than five sentences and there are numerous spelling, capitalization, and

punctuation errors. The strengths of this story are in quality of details shared with the audience and word choice. Short story two and three were produced during the intervention phase (see Appendix K and M). The participant generated more sentences and demonstrated correct use of correct punctuation and capitalization skills. Further, the stories are more organized with an introduction, body, and conclusion. More ideas and the author's expression toward the audience can be found in more skilled writing (e.g., Graham & Harris, 1997; Graham et al., 1998).

By the fourth story, the participant demonstrated average to above average writing skills. The fourth short story was a character story produced as a regular classroom writing assignment (see Appendix N). During intervention session eight, the experimenter prompted the participant to write down ideas for the character story. The participant came to the session with the character in mind. The experimenter's involvement was minimal and served only to facilitate the participant in writing down some of the details. The remaining writing processes (i.e., planning with the 4-square, drafting, editing, and creating the final draft) were all completed outside of the intervention sessions. The final story reveals the participant continued to strengthen his skills in organizing the sequence of the story and the details are more extensive. Word choice is more sophisticated and creative as demonstrated by using words such as *humorous, bandages, overtime, and quadruple platinum.* The participant further developed skills in conveying a message to the audience, creating more complex sentence, and sharing details about the character's life quest.

The participant's response to writing changed through the course of the intervention. Between story one and story three, the participant did not view writing as a favorable activity. The participant reported not liking writing when not all the details could be put into one story; the participant worked quickly, rushing the writing process. For example, the final draft of story two and three are difficult to read due to sometimes poor penmanship and self-corrections scratched out and written over. During intervention session eight, the experimenter encouraged the participant to start writing down story ideas. The participant reported liking to create a character of his own. He got to name character and create a life story for him. The participant's reaction to writing changed, but change took time. Similar to Brand and Powell (1996) findings, struggling writers find writing as more effortful and less enjoyable. However, through intervention and being able to create meaningful writing, the participant shared more positive feelings about writing.

Comparison of Assessment Methods

The final research question asked how the CBE data compares to the participant's local assessment data in contributing toward individualized instructional strategies in written expression. The local writing assessment utilized the 6-traits of writing following a 5-point analytical scale for evaluation criteria. Scores from three stories written in narrative, expository, and persuasive formats are reported in Table 6. Across story formats, the participant's writing was either rated a "3" or "4". A score of three was described as showing a balance of strengths and weakness and that, as a writer, you were developing control of your writing on this trait. A score of 4 indicates that your

writing showed more real strengths than weaknesses on this trait and needed only a bit more work. The lowest score of "2" was given once for "voice" which means that writing was in an emerging stage but did not yet show real strengths on this trait. The district reported a cumulative cut score of 49 or better was needed in order to meet proficiency on the local writing assessment. The participant scored a 62, exceeding the cut score.

Results from the local writing assessment allow one to draw inferences about the participant's writing performance. From the data reported, we understand that the student has achieved proficiency at this administration of the assessment. However, the local assessment will not be administered again during the current academic year. Therefore, a static representation of this student's performance is given. Permanent products may not be made available to teachers following the local assessment. For example, the participant's local school district sends the three short stories to an outside testing service for independent evaluation. The writing products are returned to the school district, but remain confidential, as they contain personal thoughts (S. Millsap, personal communication, February 11, 2003, Midwestern School District). Thus, the local assessment's contribution toward instructional strategies in written expression indicates that the participant's greatest instructional need is in demonstrating "Voice", but does not indicate what this means. Otherwise, writing appears to be an average writing demonstrating strengths and weaknesses. The local assessment results suggest no intervention was needed, but this was not the conclusion reached following the CBE decision-making methodology.

CBE does what local assessments cannot achieve: assess what a student knows in relation to what is being taught in the classroom throughout the school year. Although local assessments may be useful for evaluating student performance with district curricular expectations, limitations exist. Local assessments are time specific and are not individualized. Teachers cannot administer them at any time during the school year and assessments follow a standardized format potentially stifling a student choice in writing topics. Furthermore, when teachers cannot individualize assessments by given them when needed, teachers may not have immediate access to the assessment data. Teachers must wait for assessment results to see if a student meets a cut off score. Even when data is available, little information is provided in the way of instructional suggestions for remediating student performance deficits. Recalling the participant's local assessment data, only scores in each of the six traits was reported. Teachers were not provided any information about writing strategies used by the student, error patterns, or suggestions for instructional interventions, for example. Contrary to the local assessment's contribution toward instructional strategies in written expression, CBE provides educators with a tool that not only provides a basis for assessment, but links individualized assessment, intervention, decision-making, and remediation: a far richer opportunity than local assessments alone.

Implications for Educators

CBE holds promise for a rich data set for educators. Documentation of a decision making process may be useful not only for a student's current teachers, but also for teachers in the years to come. Instructional interventions when documented through a

decision making process like CBE or through formal problem solving processes (e.g., Student Intervention Teams) a set of data will remain in the student's academic record for future teachers to review. Teachers will know past academic problems, steps taken to resolve the problem, interventions that worked, and interventions that may not have worked. If problems continue or resurface in the future, teachers can review the data, compare past and present performance, and determine if similar or different interventions are warranted. Data collection is important not only to know if the strategies you teach are implemented with integrity, but also to know how a student is responding to that instruction. CBE guides educators in gathering student data not only for current use, but also for future instructional decisions.

CBE may seem complex. Time is required to become familiar with the CBE process, to administer and evaluate assessments, and to learn about instructional strategies. Although the time spent using the CBE methodology or time spent evaluating each CBM writing sample was not evaluated in this study, others report CWS took approximately 57 seconds per probe (Gansle, Noell, VanDerHeyden, Naquin, and Slider, 2002). With practice, implementing the CBE process will become more automatic, and the instructional strategies found can be added to a teacher's repertoire of strategies for future use. The benefits related to spending time learning and using the CBE process to remediate student concerns, far out ways the personal and societal costs of failing to meet students' educational needs.

CBE can seem an exhaustive task for one teacher to complete alone and in addition to regular classroom instruction. However, many of the CBE steps could be

integrated into classroom activities involving the entire classroom. Students can be taught how to score CBM's by counting the total number of words written and looking for misspelled words. Students could also exchange papers having peers grade each other's writing. Similarly, while teaching the writing process, each student can plan his or her story and share ideas with a peer. After writing the first draft, papers could be exchanged again to provide feedback about spelling, use of conventions, clarity of the story etc. Again, students can be taught how to grade stories by providing scoring guidelines or rubrics. Individualized assessment and progress monitoring can be incorporated into class instruction serving not only for teachers to determine how students are performing, but also to serve as a tool for students in learning how to write, seeing their own progress, and providing feedback to other students.

Another implication for educators is the need for ongoing training. Training opportunities need to be available for not only in CBE use but also in CBM administration and scoring. Scoring CBM's following operationalized definitions is a difficult task in written expression. There seems to be a subjective component to writing interpretation despite following scoring guidelines. For example, two scorers could have varied interpretations of how sentences should be formed and combined. Any inconsistent perceptions in scoring can lead to variable scoring outcomes. Training is necessary for consistency

Limitations

This study is one of the first known studies utilizing a CBE methodology in attempt to help a struggling writer improve his performance in written expression. While

teachers and school psychologists in schools may use CBE, there are no published research studies documenting the fidelity of CBE use and CBE outcomes. As such, this study is not bound by previous CBE findings and may prompt future research in CBE.

While the present results are encouraging, the single-case design procedure in this study is problematic when generalizing the present results to other students struggling with writing. Each student has his or her own unique academic strengths and needs, so decision-making occurs on a case-by-case basis. However, this study's results illustrate how CBE may be useful in making decisions for other students with academic problems.

While interrater reliability was found to moderate to high for progress monitoring and in determining writing quality, interrater variance was problematic. Each rater received formal training and scoring guidelines to follow. However, additional training may have been useful in strengthening scoring consistency. For example, the experimenter and independent rater could have had practice scoring sessions together to clarify questions and procedures related to scoring and operationalized definitions. Scoring writing samples is a difficult task. For example, despite having operationalized definitions for scoring TWW, WSC, and CWS independent raters likely have different interpretations of how sentences should be structured and how writing should be organized. For example, when scoring punctuation, where one scorer my use a period, another may use a comma. The punctuation chosen affects how the remaining sentence is structured and if the subsequent word now needs a capital letter to begin the new sentence.

Future Research

CBE is a potential resource for all educators yet remains an uncharted research territory. Additional research needed utilizing the CBE decision-making process not only in written expression, but also in the areas of reading comprehension, decoding, language, math, and social skills. Research documenting single case studies will reveal the effectiveness of CBE in assessing student performance and guiding intervention development. More support is needed documenting CBE leading to successful student outcomes.

Research should also address teacher perceptions of the CBE process and implementation integrity. Assessment practices not only need to be viewed as helpful, but also need to be implemented as designed. Research on teachers' use of CBE and their perceptions will help clarify the role and needs of classroom based assessments.

Conclusion

Educators make educational decisions for students daily from deciding how to teach a lesson plan to deciding instructional programming for students. Educators as well as students will benefit from having tools to guide decision-making. Educators must find and practice using available resources to enhance their abilities and strategies for educating all children. When assessment occurs from within the context of the classroom, teachers are given power to assess student performance when warranted and can design individualized instructional interventions to meet an individual student's needs.

The present study contributes to the literature by providing the first documented study using the CBE methodology in written expression. Support was found for the use

of CBE in assessing student performance from within the classroom, individualizing instruction in written expression, making educational decisions regarding the student response to intervention, and leading to successful student outcomes that are retained once the intervention is no longer needed. Successful student outcomes can be achieved using CBE.

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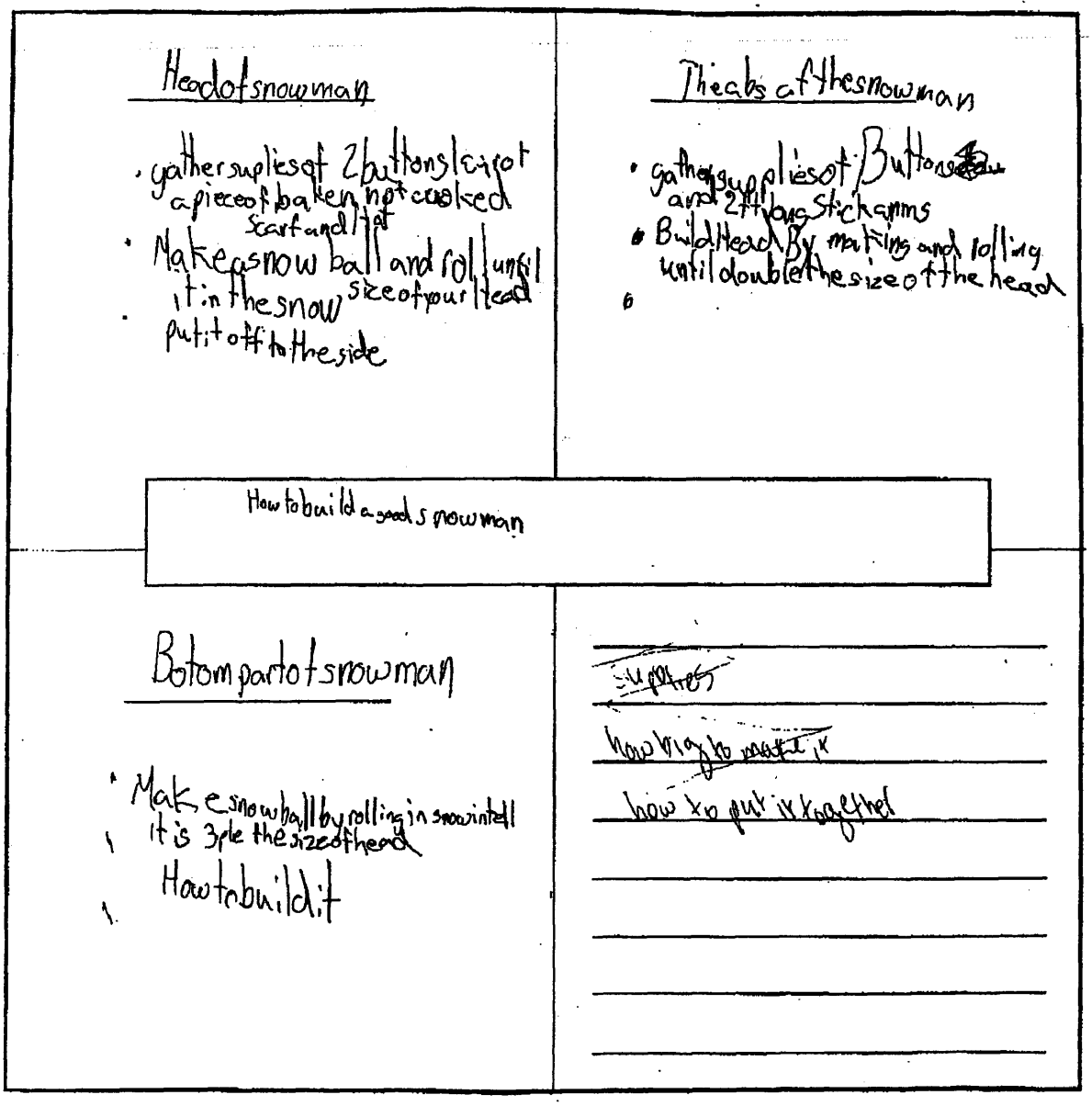
Appendix A

4-Square Planning Worksheet

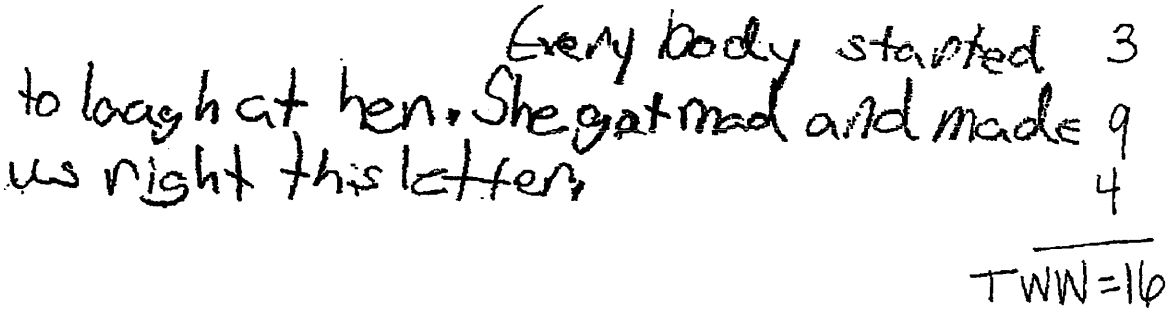


Adapted from Gould & Gould (1999)

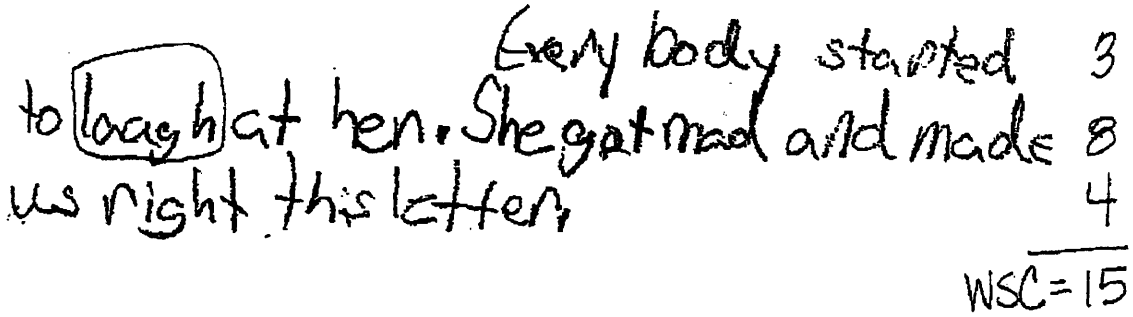
Appendix B

CBM Scoring Criterion

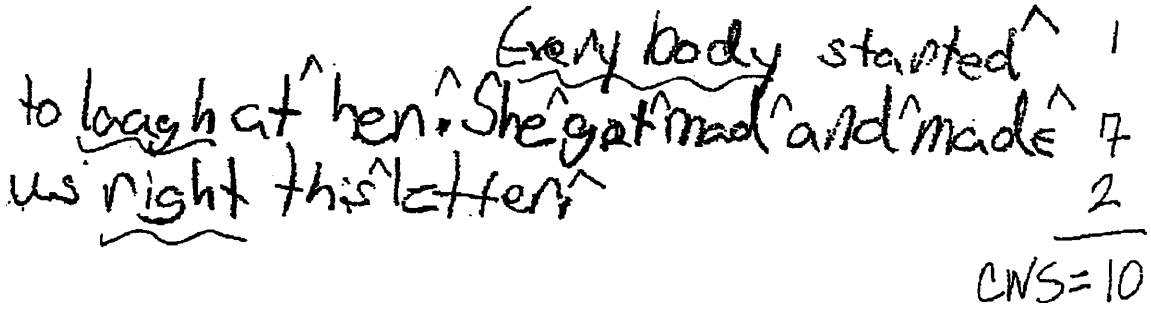
Total Words Written (TWW)



Words Spelled Correctly (WSC):



Correct Word Sequences (CWS):



Appendix C

Curriculum-Based Evaluation (CBE) Procedural Checklist

PROCEDURAL STEPS	COMPLETED		DATE(S)
Step 1: Defined The Purpose of Evaluation	YES	NO	_____
Comments:			
Step 2: Defined the Behavior to Be Measure	YES	NO	_____
Comments:			
Step 3: Made Writing Observable	YES	NO	_____
Comments:			
Step 4: Conducted Assessment	YES	NO	_____
Comments:			
Step 5: Process of Inquiry: Asking Questions			
Fact Finding	YES	NO	_____
Formulated Hypotheses about the Problem	YES	NO	_____
Defined Goals	YES	NO	_____
Was the Intervention Effective?	YES	NO	_____
Comments:			
Step 6: Summarized the Data	YES	NO	_____
Comments:			
Step 7: Made Decisions About What Was Found	YES	NO	_____
Comments:			

Appendix D

Write Traits 6-Point Scale

IDEAS

6

- ☑ Clear, focused, and compelling—holds reader's attention.
- ☑ Marked by insight, in-depth understanding of topic.
- ☑ Takes reader on a journey of understanding.
- ☑ Satisfyingly rich with significant, intriguing details.

5

- ☑ Clear and focused throughout.
- ☑ Strong main idea, thesis, or story line.
- ☑ Authentic, convincing, based on research, experience.
- ☑ Main idea expanded, well supported by detail, evidence.

4

- ☑ Clear and focused more often than not.
- ☑ Identifiable main topic, thesis, story line.
- ☑ Quality detail outweighs generalities and filler.

3

- ☑ Clear, focused moments outweighed by fuzzy, underdeveloped, rambling text.
- ☑ Main concept, thesis, story line can be inferred.
- ☑ Generalities and filler outweigh quality detail.

2

- ☑ Predominantly fuzzy, confusing, loosely focused.
- ☑ A hint of a thesis or story line to come (just a *glimmer*).
- ☑ Factlets wandering in search of a main idea.

1

- ☑ Notes and random thoughts.
- ☑ The reader must guess what this is about.
- ☑ Reader must fill in virtually ALL blanks.
- ☑ Main idea as yet unknown, even to the writer.

Appendix E

Write Traits 6-Point Scale

ORGANIZATION

6

- ☑ Thoughtful structure guides reader through text.
- ☑ Design smoothly embedded in text—never too obvious.
- ☑ Structure enhances reader's understanding, enjoyment of the topic.
- ☑ Unforgettable opening—enlightening, provocative conclusion.
- ☑ Satisfying, well-crafted transitions.

5

- ☑ Order works well with topic, purpose.
- ☑ Structure evident, but not overpowering.
- ☑ Main ideas, turning points stand out.
- ☑ Strong lead, appropriate sense of closure that "feels right."
- ☑ Strong, thoughtful transitions.

4

- ☑ Order functional—reader never feels lost.
- ☑ Structure supportive—occasionally too predictable.
- ☑ Functional lead and conclusion.
- ☑ Transitions present—usually helpful.

3

- ☑ Out-of-place or unneeded information—needs re-ordering.
- ☑ Re-reading sometimes required to follow thought or story line.
- ☑ Lead and conclusion attempted—one or both need work.
- ☑ Transitions unclear or too formulaic, predictable.

2

- ☑ Hard to follow—even with effort.
- ☑ Connections unclear.
- ☑ Lead and/or conclusion missing, misleading, or confusing.
- ☑ Transitions bewildering or missing.

1

- ☑ Disjointed list/collection of details, events.
- ☑ No "big picture"—nothing goes with anything else.
- ☑ No real lead or conclusion—it just starts, it just stops.
- ☑ Transitions not attempted.

Appendix F

Write Traits 6-Point Scale

VOICE

6

- ☑ As individual as fingerprints.
- ☑ *Begs* to be read aloud—you cannot wait to share it.
- ☑ Passionate, compelling—but never overdone.
- ☑ Uses tone, flavor as a tool to enhance meaning.
- ☑ Tough to put down—holds readers enrapt.

5

- ☑ Enthusiastic, engaging, lively, expressive.
- ☑ Tone and flavor well suited to topic, audience, purpose.
- ☑ Consistently reaches out to audience.

4

- ☑ Shows some sparks, moments of spontaneity.
- ☑ Tone and flavor acceptable for topic, audience, purpose.
- ☑ Voice comes and goes—like a TV picture with weak reception.

3

- ☑ Functional, often sincere—though sometimes distant.
- ☑ Occasionally questionable tone for topic, purpose, audience.
- ☑ Rarely "speaks" right to audience in engaging manner.

2

- ☑ Distant, encyclopedic, overly formal—OR *too informal, chatty, sarcastic.*
- ☑ Tone, flavor inappropriate for audience, purpose, topic.
- ☑ A "moment" of voice? Or are we reading too much into it?
- ☑ Little concern for audience—minimal involvement in topic.

1

- ☑ Voice difficult to identify, find, or describe.
- ☑ No sense of person behind the words—is anyone *home*?
- ☑ No noticeable concern for audience—no involvement in topic.
- ☑ Once you put it down, you just can't pick it up again.

Appendix G

Write Traits 6-Point Scale

WORD CHOICE

6

- ☑ You want to read it more than once—just to savor it.
- ☑ Uses everyday language in original ways—*every word* carries its own weight.
- ☑ You wish *you'd* written it.
- ☑ Powerful, stunning verbs.
- ☑ Precise, delightful, thoroughly original—*quotable* in spots.

5

- ☑ Precise, vivid, natural language.
- ☑ Word choice enhances meaning.
- ☑ Lively, appealing verbs and striking, fresh phrases.

4

- ☑ Functional, clear language used correctly.
- ☑ Some clichés, jargon, or over-written phrases.
- ☑ Some strong verbs—we'd like more!
- ☑ Generalities and mechanical phrasing intermixed with originality.

3

- ☑ Moments of imprecise, stilted, or incorrectly used language create confusion, detract from message.
- ☑ You may spot a "gem" amidst numerous agates.
- ☑ Verbs lack power—nouns lack precision.
- ☑ Vague or flat language outweighs clarity, sparkle.

2

- ☑ Flat, dull, dry language or thesaurus overload.
- ☑ Deciphering this message takes *work*.
- ☑ Words used incorrectly or with annoying repetition.
- ☑ Adjective avalanche—verb deficit.
- ☑ Over-written—OR under-written (weak, general words like *nice, fun*).

1

- ☑ Reader feels continually befuddled.
- ☑ The message? It's anybody's guess . . . .
- ☑ Words chosen at random—create no clear meaning.
- ☑ Main idea as yet unknown, even to the writer.

Appendix H

Write Traits 6-Point Scale

SENTENCE FLUENCY

6

- ☑ Easy to read with inflection to bring out *every ounce* of meaning.
- ☑ Virtually every sentence begins differently.
- ☑ Informational writing crisp and to the point.
- ☑ Creative, personal writing lyrical, poetic, musical.
- ☑ Skims, sings, dances along like a lively script.
- ☑ You *have* to hear it to appreciate it fully.

5

- ☑ Easy going flow, rhythm, cadence.
- ☑ Highly readable—a joy to share aloud.
- ☑ Varied sentence structure, length.
- ☑ Purposeful sentence beginnings.

4

- ☑ Grammatical, natural, pleasant phrasing.
- ☑ Few *awkward* moments.
- ☑ *Some* variety in length, structure.
- ☑ *Some* repetition in sentence beginnings.

3

- ☑ Mechanical, but readable.
- ☑ *Awkward* moments outweigh smooth, natural phrasing.
- ☑ Gangly, tangly run-ons or chop-chop-choppy sentences.
- ☑ Repetitive beginnings.

2

- ☑ *Awkward* enough to make you stumble, re-read often.
- ☑ You can get through it, but it takes patience.
- ☑ You'll need to rehearse it to read this one aloud.

1

- ☑ Very hard to read—you slow down, re-read, but *still. . .*
- ☑ Does not always make sense—is *this* a sentence?
- ☑ Can only be read aloud with extensive oral editing (e.g. filling in many missing words or rephrasing awkward patterns).

Appendix I

Write Traits 6-Point Scale
CONVENTIONS

6

- ☑ Only the pickiest editors will spot errors.
- ☑ Conventions cleverly applied to bring out meaning.
- ☑ Complexity of text lets writer showcase a wide range of conventions—semicolons, ellipses, dashes, italics, etc.
- ☑ Enticing layout.
- ☑ Virtually ready to publish.

5

- ☑ Minor errors that are easily overlooked.
- ☑ Text appears edited, proofed.
- ☑ Sufficient complexity to show off a variety of conventions.
- ☑ Pleasing layout.
- ☑ Ready to publish with minor touch-ups.

4

- ☑ Noticeable, but minor errors that do *not* obscure meaning.
- ☑ Readable—but lacks *close* attention to conventions.
- ☑ Basics (e.g., periods, cap's, simple spelling) are OK.
- ☑ Acceptable layout.
- ☑ A good once-over needed before publication.

3

- ☑ Noticeable, distracting errors that *may* affect meaning.
- ☑ Errors even on basics: periods, simple spelling, cap's, etc.
- ☑ More attention to layout needed.
- ☑ Thorough editing required for publication.

2

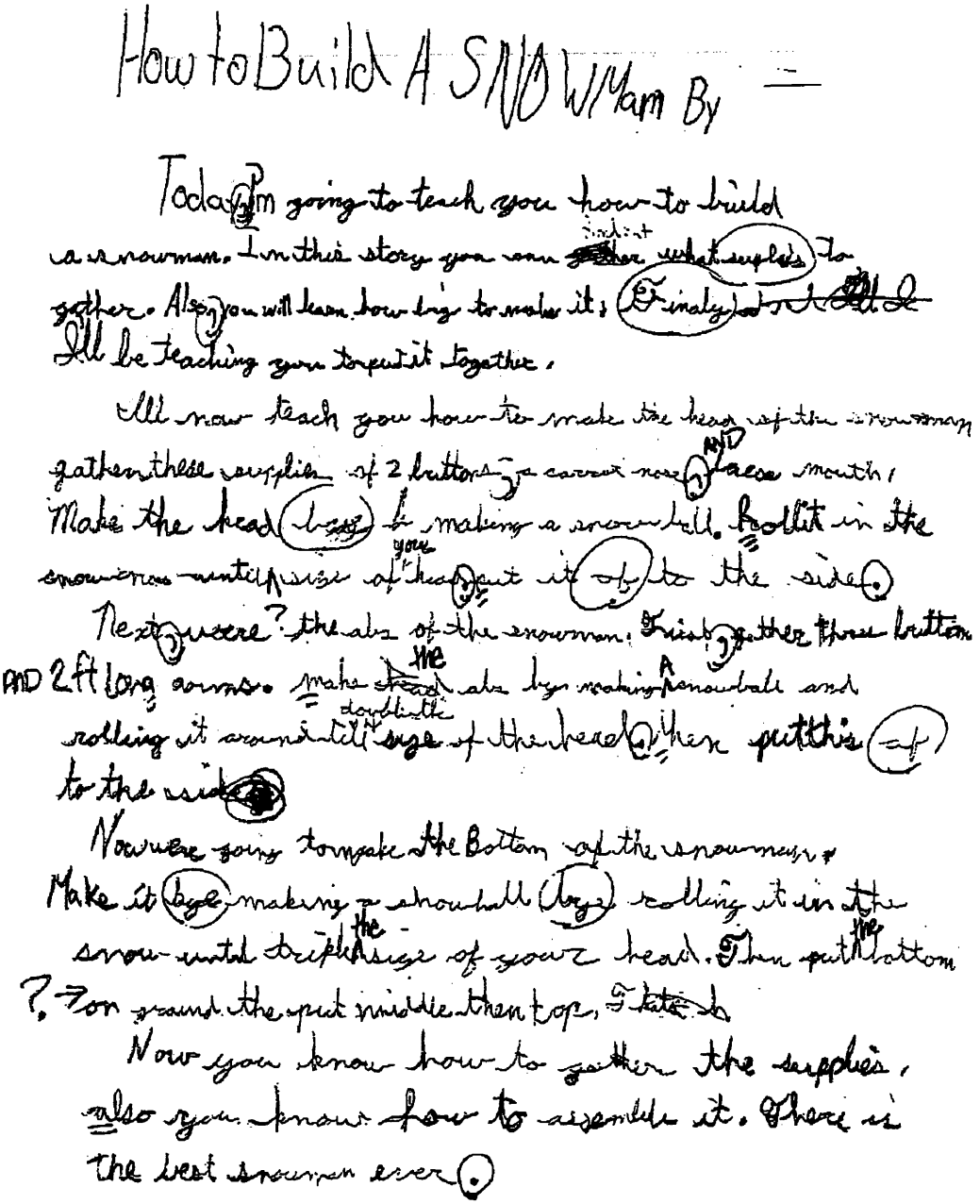
- ☑ Noticeable, frequent, distracting errors,
- ☑ Numerous errors even on basics.
- ☑ Limited attention to layout.
- ☑ Line-by-line editing required for publication.

1

- ☑ Serious, frequent errors make reading all but impossible.
- ☑ Even patient, attentive readers struggle.
- ☑ Errors so numerous that meaning is ambiguous, unclear.
- ☑ Extensive, word-by-word editing required.

Appendix J

Rough Draft Short Story 2



How to Build A SNOWman By =

Today I'm going to teach you how to build a snowman. In this story you can find out what supplies to gather. Also you will learn how big to make it; Finally I'll be teaching you to put it together.

All now teach you how to make the head of the snowman gather these supplies of 2 buttons a carrot nose 2 eyes and mouth. Make the head big by making a snowball. Roll it in the snow now until your size of head. Put it off to the side.

Next were? the abs of the snowman. Gather three buttons and 2 ft long arms. Make the head abs by making a snowball and rolling it around until double the size of the head. Then put this off to the side.

Now we're going to make the Bottom of the snowman. Make it bye making a snowball (big) rolling it in the snow until triple the size of your head. Then put the bottom ? on ground the put middle then top. Stack

Now you know how to gather the supplies, also you know how to assemble it. There is the best snowman ever.

Appendix K

Final Draft Short Story 2

How to Build a Snowman By

Todays, Im going to teach how to build a snowman. In this story you can find out what supplies to gather. Also, you will learn how big to make it. Finaly Ill be teaching you to put it together.

Ill now be teaching you how to make the head. Gather these supplies two buttons, a carrot nose, bacon mouth Make the big 1 making a snow ball. Roll it in the snow until it the size of your head.

Next, two body of the snowman. First, gather 3, buttons and two feet long arms. Make the body by a snowball and roll it on snow until double size of the head. Put it off to the side.

Now were going to make the bottom of the snowman. Make it by making a snowball by rolling it the snow double the size of the middle. then put the bottom of to the side.

Now you know how to gather the supplies. Also you how to assemble it. There is the best snowman

Appendix L

Final Draft Short Story 1

The cosie state of nebraska

The cosie state of nebraska were are a smaller state and hand very nice people and very good fairs. If you want to move we got a excellent education and we have excelent housing. or if you just want to git out of the big citie come visit are capital mahoney state park or the western haritage museum. Or come watch the huskers play football.

Appendix M

Final Draft Short Story 3

The Aliens in Spain

A robot comes to earth laffaay disstroie a scientist named Bob found the robot floating down. He takes robot back to lab and remakes him with time machine parts. He also downloads new software. The robot becomes loyal to his new owner. When Bob pressed a button it took him to Spain in the year three thousand years in the future with little green aliens with lasers. He was to be there new evil leader.

Appendix N

Final Draft Short Story 4

The golden rapper By.

Yo my name is bling. I want to tell you how I got so rich. Let's go back to 1994. I worked at a ford printing mill. I was only making four dollars an hour. My best friend's name is andrew later that day me and andrew made some lyrics for a new beat that we came up with. The next day andrew got his hand crushed in the mill. He was rushed to hospital. When I got there his hand was covered in bandages. I asked them if he was alright. He said he'll live in a humorous voice. A week later he was able to go to work. When we got there he found out his uncle is a record producer. He said we could make a demo for 50 dollars each. I said Where we gan get dat cash dog. He asked our boss if we could work overtime and he said yes. After we were done. We got our fifty dollars and went to the studio. When We got there we spun the hotest demo and sent them to Big Boy records. They called back and said they liked and to come down. When we got there He told us to do a little freestyle yoyo Then they said sing something they were working on, and it goes like this. All you guys have guns it makes me want to run. I feel like I'm the hot dog and all you other guys are the buns. He said he would produce our records. We started our album called I like Hot dogs. We realeased it in january 1, 1996. Our album went Quadruple platinum. At the beginning of 1997 we were

Table 1

Curriculum Based Evaluation Process

1. Define your purpose.
2. Define the behavior to be measured.
3. Devise a way to make the behavior to be measured observable.
4. Conduct assessment.
5. Use the process of inquiry.
   - –Find out facts.
   - –Formulate hypotheses about the problem.
   - –Define goals
   - –Was the intervention effective?
6. Summarize the data.
7. Make Decisions about what you found.

Table 2

Reliability as Frequency Ratios for CBM Progress Monitoring Samples

	Measurement		
CBM Writing Sample	Total Words Written	Correct Word Sequence	Words Spelled Correctly
Baseline			
1	98.36	94.44	96.36
2	100.00	95.12	95.16
3	100.00	90.00	98.33
Intervention			
4	100.00	84.09	98.39
5	96.55	95.45	98.15
6	98.31	86.49	98.11
7	100.00	100.00	95.35
8	100.00	93.75	97.92
9	100.00	93.33	100.00
Post-Intervention			
10	98.15	100.00	100.00

Table 3

Raters' Percent Error Occurrence Agreement

	Measurement: Performance Errors	
CBM Writing Sample	Punctuation	Capitalization
Baseline		
1	80.00	66.67
2	66.67	66.67
3	55.56	60.00
Intervention		
4	100.00	100.00
5	75.00	75.00
6	0.00*	75.00
7	100.00	100.00
8	100.00	100.00
9	50.00	100.00
Post-Intervention		
10	33.33	50.00

Note: Percent occurrence agreement (i.e., agreement in error occurrence) was calculated by (both scorers agree on occurrence/ (both scorers agree on error occurrence + experimenter only observed error occurrence + independent rater observed error occurrence). * 0% calculated as experimenter rated occurrence of no errors and independent rater scored 1 error occurrence.

Table 4

Participant Short Stories Rated According to 6-Traits of Writing

	Intervention Short Stories			
Writing Traits	Pre-1	Mid-2	Mid-3	Post-4
	Experimenter			
Ideas	3	4	3	5
Organization	1	3	3	4
Voice	2	4	3	5
Word Choice	3	3	4	4
Sentence Fluency	2	3	4	4
Conventions	2	3	3	3
Total Score	13	20	20	25
Percentage	36.1	55.6	55.6	69.4
	Independent Rater			
Ideas	2	4	3	5
Organization	1	3	3	4
Voice	2	4	3	4
Word Choice	3	3	3	4
Sentence Fluency	2	4	4	4
Conventions	2	3	4	3
Total Score	12	21	20	24
Percentag	33.3	58.3	55.6	66.7

Note: Each of the six writing traits for each passage were scored against a 6-point analytical rating scale (1=low to 6=high). The score was determined by the Total Points Method (Spandel & Stiggens, 1997; Points earned/Total points possible). Each story was worth a total 36 points.

Table 5

Interrater Reliability of 6-Trait Scores Across Writing Samples

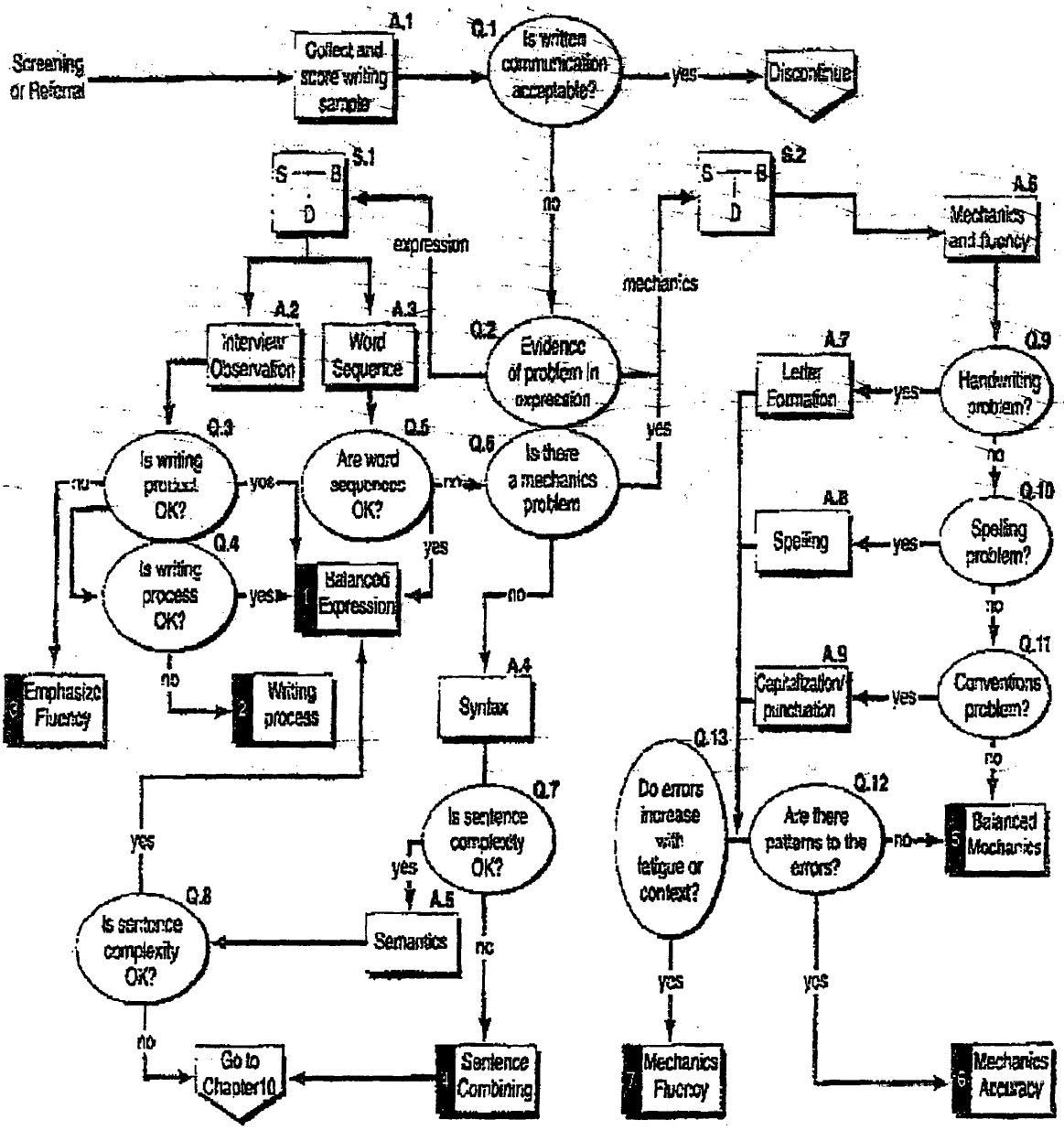
Writing Traits	Percent Agreement
Ideas	75%
Organization	100%
Voice	75%
Word Choice	75%
Sentence Fluency	75%
Conventions	75%

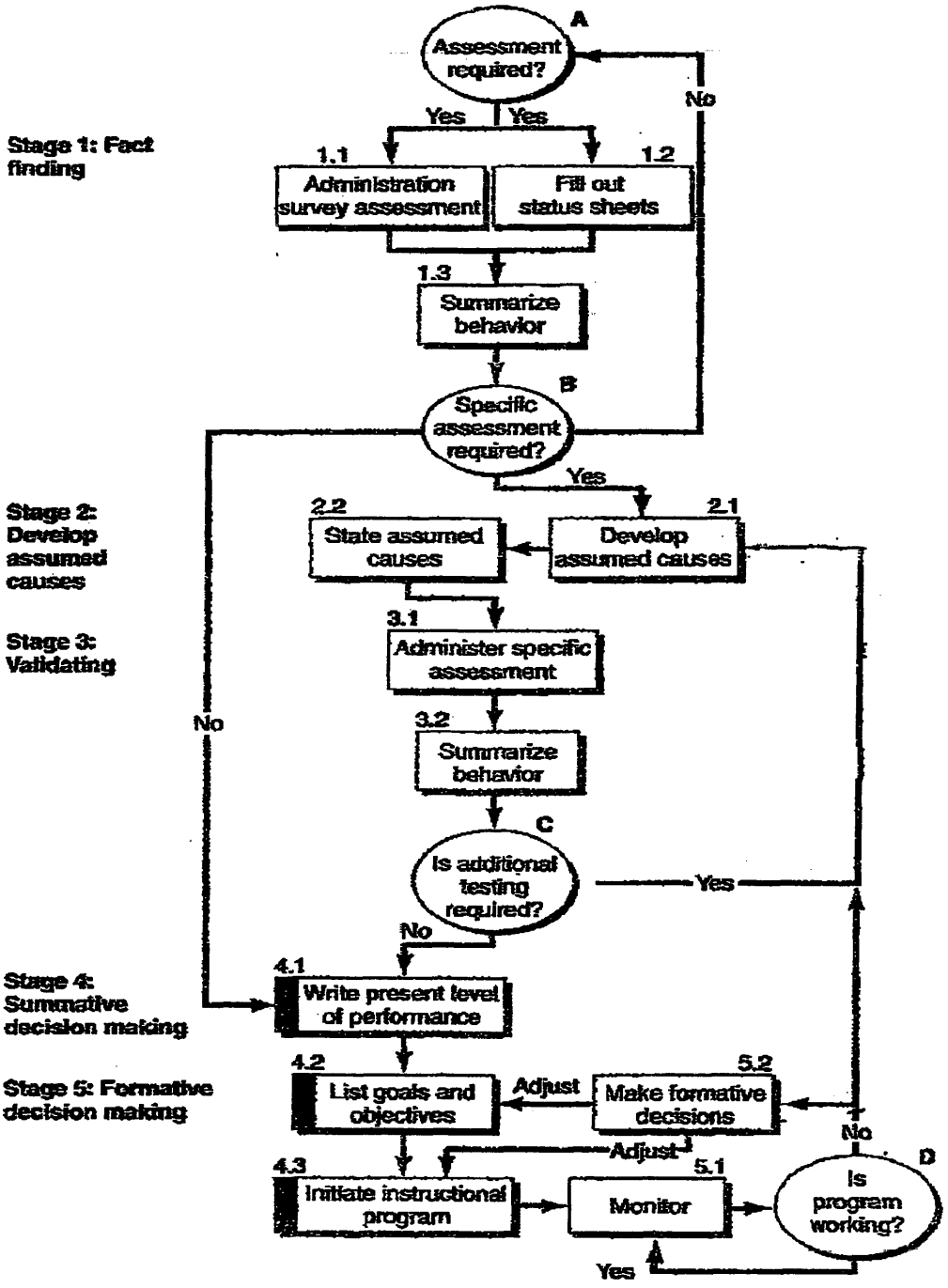
Table 6

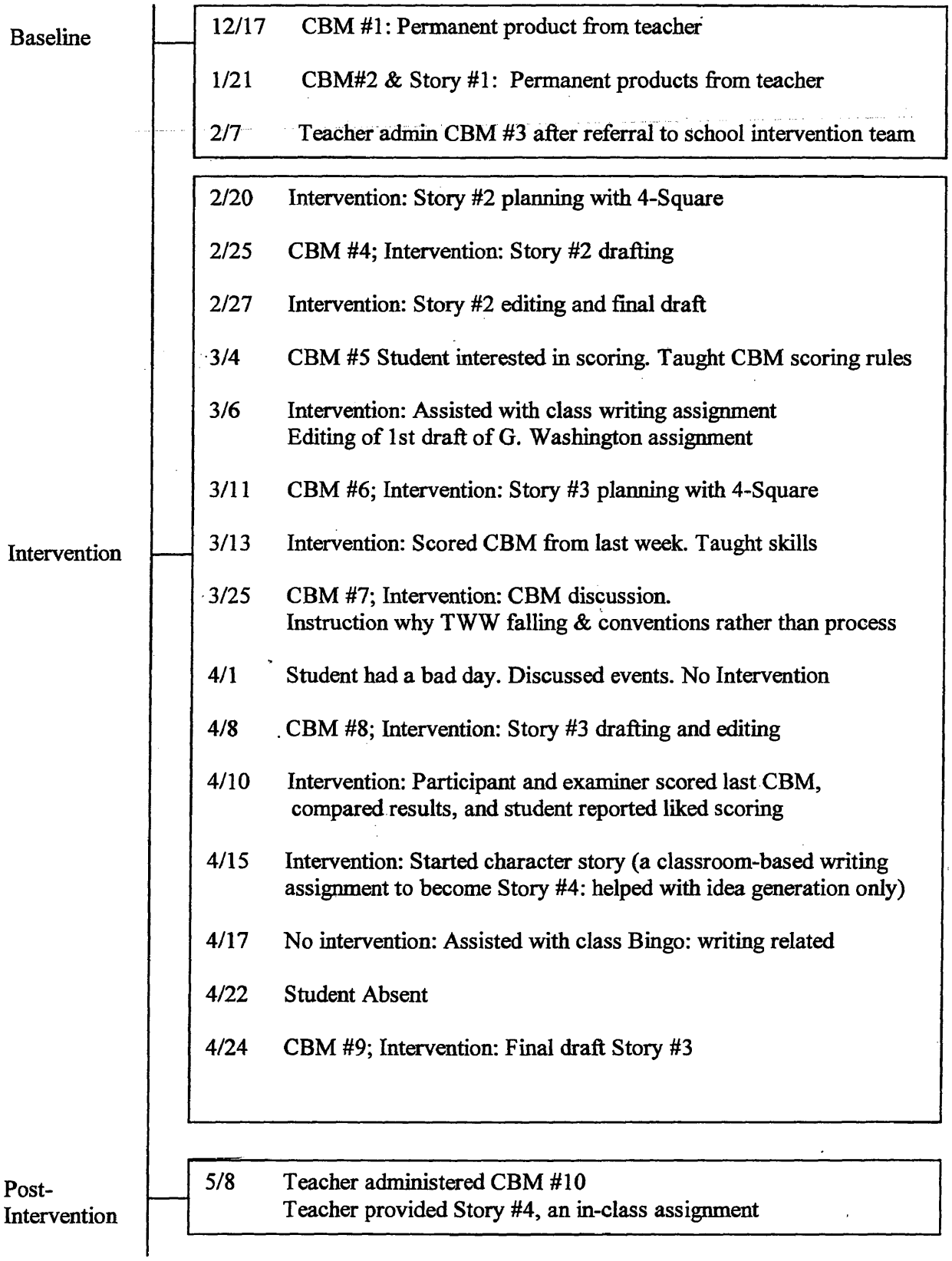
Local Writing Assessment Results

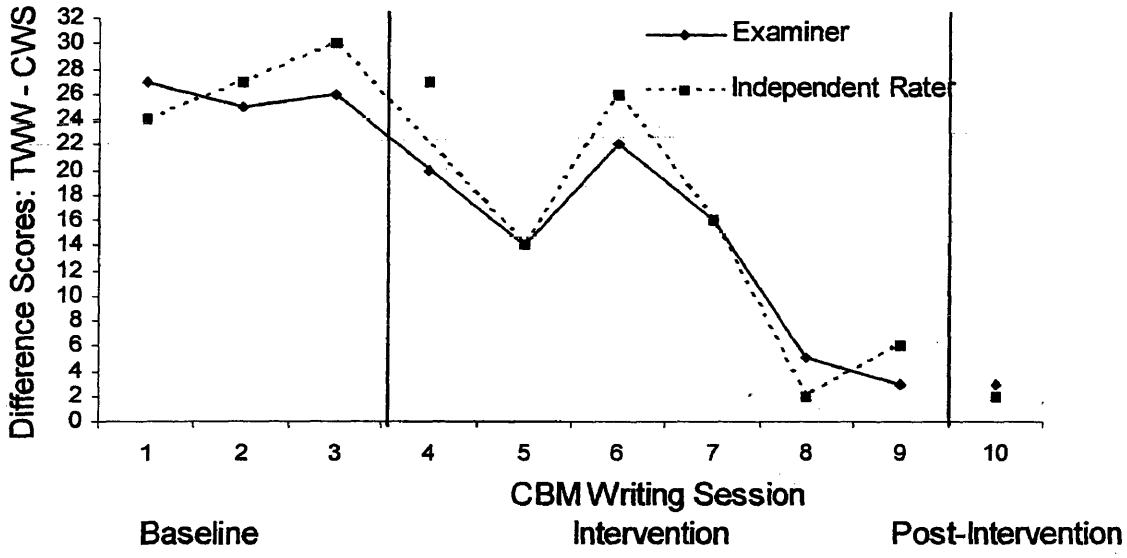
	Mode			
Writing Traits	Narrative	Expository	Persuasive	Total
Ideas	4	4	3	11
Organization	4	4	3	11
Voice	2	4	3	9
Word Choice	4	4	3	11
Sentence Fluency	3	4	3	10
Conventions	3	3	4	10
Writing Sample Score	20	23	19	62

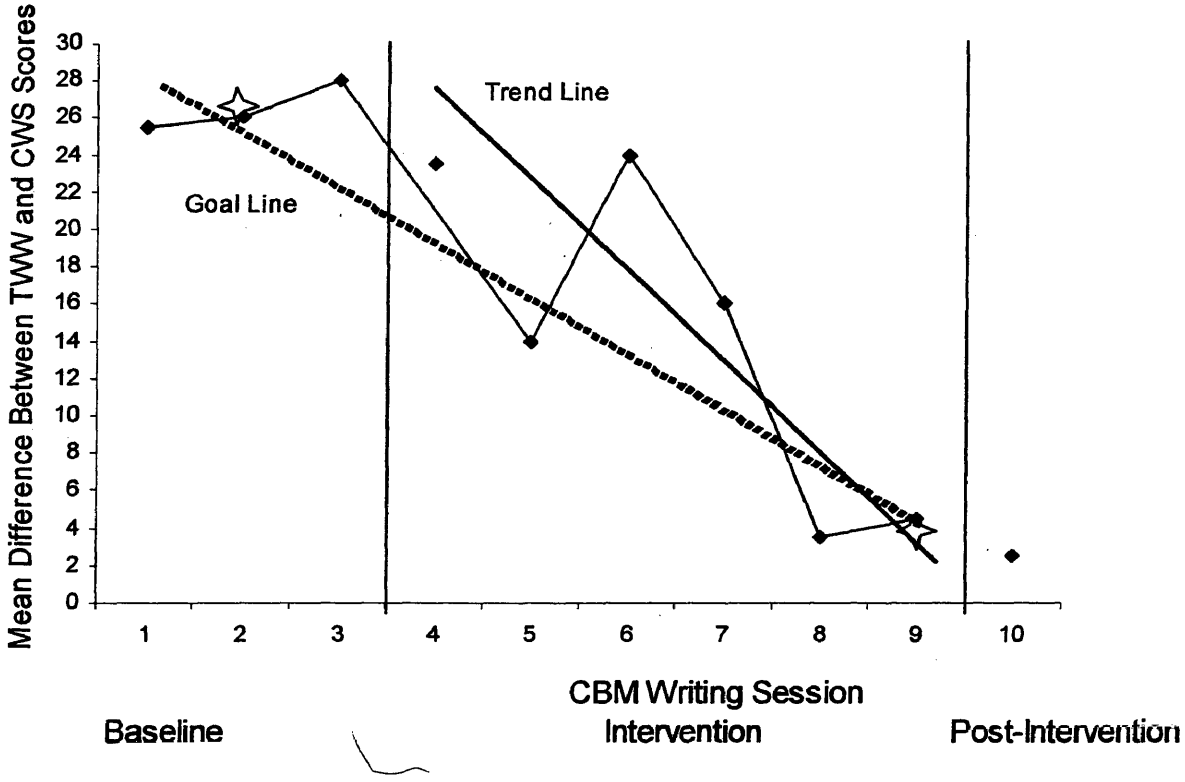
Note: The six writing traits for each passage were scored against a 5-point analytical rating scale (1=low to 5=high).

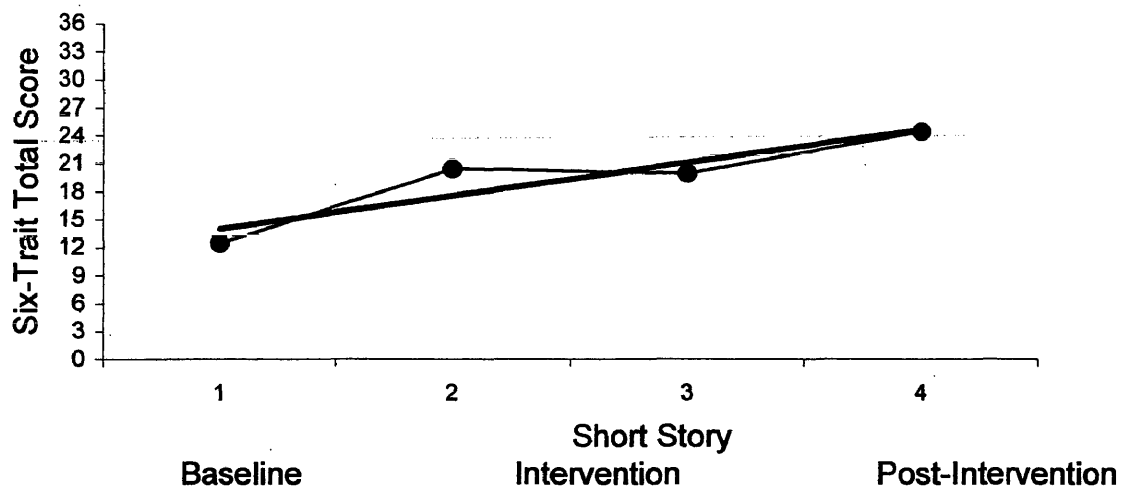

Screening or Referral
A.1
Collect and score writing sample
Q.1
Is written communication acceptable?
yes
Discontinue
no
S.1
S — B
D
expression
A.2
Interview Observation
A.3
Word Sequence
Q.2
Evidence of problem in expression
Q.3
Is writing product OK?
Q.4
Is writing process OK?
Q.5
Are word sequences OK?
Q.6
Is there a mechanics problem
Balanced Expression
Emphasize Fluency
Writing process
A.4
Syntax
Q.7
Is sentence complexity OK?
A.5
Semantics
Q.8
Is sentence complexity OK?
Go to Chapter10
Sentence Combining
S.2
S — B
D
mechanics
A.6
Mechanics and Fluency
A.7
Letter Formation
Q.9
Handwriting problem?
A.8
Spelling
Q.10
Spelling problem?
A.9
Capitalization/ punctuation
Q.11
Conventions problem?
Q.13
Do errors increase with fatigue or context?
Q.12
Are there patterns to the errors?
Balanced Mechanics
Mechanics Fluency
Mechanics Accuracy

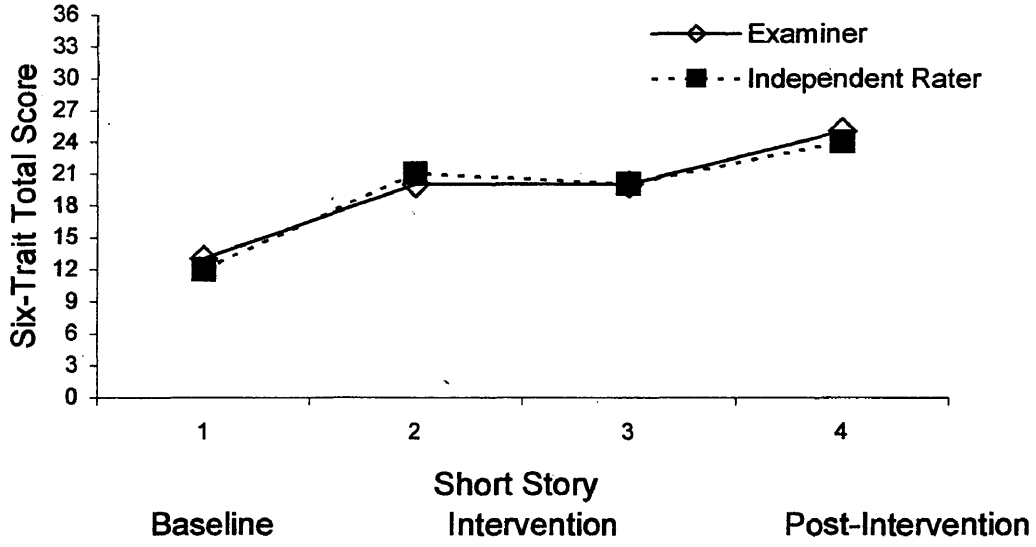

Stage 1: Fact finding
Stage 2: Develop assumed causes
Stage 3: Validating
Stage 4: Summative decision making
Stage 5: Formative decision making
A
Assessment required?
No
Yes
Yes
1.1
Administration survey assessment
1.2
Fill out status sheets
1.3
Summarize behavior
B
Specific assessment required?
Yes
No
2.2
State assumed causes
2.1
Develop assumed causes
3.1
Administer specific assessment
3.2
Summarize behavior
C
Is additional testing required?
Yes
No
4.1
Write present level of performance
4.2
List goals and objectives
Adjust
5.2
Make formative decisions
Adjust
No
4.3
Initiate instructional program
5.1
Monitor
D
Is program working?
Yes


Baseline
12/17 CBM #1: Permanent product from teacher
1/21 CBM#2 & Story #1: Permanent products from teacher
2/7 Teacher admin CBM #3 after referral to school intervention team
Intervention
2/20 Intervention: Story #2 planning with 4-Square
2/25 CBM #4; Intervention: Story #2 drafting
2/27 Intervention: Story #2 editing and final draft
3/4 CBM #5 Student interested in scoring. Taught CBM scoring rules
3/6 Intervention: Assisted with class writing assignment
Editing of 1st draft of G. Washington assignment
3/11 CBM #6; Intervention: Story #3 planning with 4-Square
3/13 Intervention: Scored CBM from last week. Taught skills
3/25 CBM #7; Intervention: CBM discussion.
Instruction why TWW falling & conventions rather than process
4/1 Student had a bad day. Discussed events. No Intervention
4/8 CBM #8; Intervention: Story #3 drafting and editing
4/10 Intervention: Participant and examiner scored last CBM,
compared results, and student reported liked scoring
4/15 Intervention: Started character story (a classroom-based writing
assignment to become Story #4: helped with idea generation only)
4/17 No intervention: Assisted with class Bingo: writing related
4/22 Student Absent
4/24 CBM #9; Intervention: Final draft Story #3
Post-Intervention
5/8 Teacher administered CBM #10
Teacher provided Story #4, an in-class assignment


Difference Scores: TWW - CWS
Examiner
Independent Rater
CBM Writing Session
Baseline
Intervention
Post-Intervention


Mean Difference Between TWW and CWS Scores
Trend Line
Goal Line
CBM Writing Session
Baseline
Intervention
Post-Intervention


Six-Trait Total Score
36
33
30
27
24
21
18
15
12
9
6
3
0
1
2
3
4
Short Story
Baseline
Intervention
Post-Intervention


Examiner
Independent Rater
Six-Trait Total Score
36
33
30
27
24
21
18
15
12
9
6
3
0
1
2
3
4
Short Story
Baseline
Intervention
Post-Intervention