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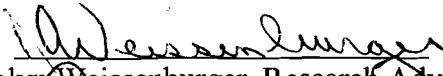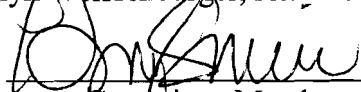
Written Expression at the

High School Level

by

Barbara Ann Diercks-Gransee

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Jacalyn Weissenburger, Research Advisor

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Committee Member

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Committee Member

The Graduate School

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University of Wisconsin-Stout
Menomonie, WI

Author: **Diercks-Gransee, Barbara Ann**

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ABSTRACT

The use of curriculum-based measurement (CBM) in written expression is becoming

more common in today's schools; however, more information pertaining to the technical

adequacy of these measures is needed at the secondary level. Therefore, the purpose of this study

was to determine whether technically adequate curriculum-based measures of writing exist for

high school students. The participants in this study included 10th grade students from two public

school districts in Wisconsin. Students ($n = 82$) completed two narrative writing samples in

response to two story starters.

To examine the alternate-form reliability of potential curriculum-based measures (i.e.,

incorrect word sequences, correct punctuation marks, adjectives, and adverbs) at the high school

level, correlation coefficients were calculated between the CBM scores from each of the two

writing samples. In addition, to determine the criterion-related validity of these measures,

correlation coefficients were calculated between these curriculum-based measurement scores and

two criterion measures: a) teacher-applied holistic scores and b) WKCE Language Arts NCE scores.

The current study revealed moderately strong alternate-form reliability coefficients (r = .76 & .75, p < .001) and variable criterion-related validity coefficients (r = .28 to .71) for correct punctuation marks and incorrect word sequences. Incorrect word sequences yielded the most promising results, as the number of incorrect word sequences produced moderate and strongly moderate (r = .51 & .71, p < .001) criterion-related validity coefficients.

Correct punctuation marks also produced significant results; however, CPMs only yielded moderate (r = .62, p < .001) criterion related validity coefficients with one criterion measure. Thus, although replication is necessary, results indicate both incorrect word sequences and correct punctuation marks show promise as curriculum-based measures of writing proficiency at the high school level. Evidence also clearly indicates the number of adjectives and adverbs do not have sufficient alternate-form reliability or criterion-related validity for students at the high school level.

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CHAPTER ONE

Introduction

Writing is an important skill that provides individuals with a way to communicate.

Writing also provides an outlet for expression, a method of reflection, and the means with which

to record our history. Writing proficiency does not develop instantaneously; it is a continuous

process that adapts and changes with one's experiences and education. According to Scierka,

Weissenburger, and Espin (2003) the importance of writing in today's society can be seen by its

inclusion on graduation tests, college entrance exams, and in the Nation's Report Card.

Unfortunately, National Assessment for Educational Progress results indicate as many as 14% to

26% of our nation's students are not able to write at the most basic level (National Center for

Educational Statistics, 2002). Given these results, it should come as no surprise that finding ways

to assess and monitor writing proficiency is of great interest to many educators. One way to

assess writing proficiency and to monitor the developing writing skills of students is through

curriculum-based measurement (CBM).

Curriculum-based measures (CBMs) are a standardized set of measures used by special

and general education teachers to evaluate academic performance in the basic skills of reading,

mathematics, spelling, and written expression (Deno, 1985). Deno and his colleagues first

developed CBM in the early 1970s as a way for special education teachers to accurately assess

and evaluate the effects of instruction (Deno, 1992). Since then, CBM have been applied to an

array of situations and populations (Shinn, 1998). However, the primary purpose of CBM is still

to provide teachers with a tool to help improve student performance (Deno, 1992).

Many characteristics of CBM make it ideal for evaluating student performance. Unlike

traditional norm-referenced standardized tests of assessment, CBMs are simple, short-duration

forms of assessment related to the curriculum of interest (Deno, 1985, 1992). CBMs are available in multiple forms. Multiple forms decrease the likelihood of practice effects, thus making frequent administration possible. CBM, therefore, allows teachers to continually assess and monitor the educational growth of their students (Deno, 1986). In addition, CBMs have been found to positively influence teacher judgment, teaching methods, and student achievement.

Research reveals that teachers who use CBM are more likely to modify curricular programs, respond to student progress, and formulate realistic goals (Fuchs, Deno, & Mirkin, 1984; Fuchs, Fuchs, & Stecker, 1989). Consequently, the use of CBMs generally leads to higher achievement scores in reading, spelling, and mathematics (Fuchs & Fuchs, 1986). Accordingly, Espin, Scierka, Skare, and Halverson (1999) found that improvements on specific CBMs could be generalized to broader educational areas. For instance, the number of words read correctly in one minute has been proven to be a good indicator of a child's overall reading ability (Deno, Mirkin, & Marston, 1980). Thus, it can be inferred that as children increase the number of words they read correctly, they also are improving their reading fluency, their ability to comprehend reading passages, and, ultimately, their broad reading skills. Moreover, research suggests that CBM can be used to identify students with difficulties and influence instructional decisions throughout a child's educational career (Shinn, 1998).

Isaacson (1995) found that early grade writing skills are a good predictor of educational success, and writing skill deficits are frequently the first sign of academic difficulty. It has also been suggested that early problems with writing often follow children throughout their formal education (Isaacson, 1995). Thus, children who have difficulty with writing in elementary school are likely to have problems with writing in secondary school. Consequently, it is imperative that

reliable and valid curriculum-based writing measures be identified at both the primary and secondary levels.

Previous research at the elementary level suggests that the number of words written, the number of words spelled correctly, the number of correct word sequences, (Deno, Marston, & Mirkin, 1982; Deno, Mirkin, & Marston, 1980; Shinn, 1998) and the number of correct punctuation marks used in response to three minute story starters are valid indicators of writing proficiency (Gansle, Noell, VanDerHeyden, Naquin, & Slider, 2002). However, many of these same indicators do not appear to be the most appropriate measures of writing proficiency at the secondary level (Parker, Tindal, & Hasbrouck, 1991; Tindal & Parker, 1989; Watkinson & Lee, 1992).

Research at the middle school and high school level indicates that the number of correct word sequences (CWS) and the number of correct word sequences minus incorrect word sequences (CWS-ICWS) are better indicators of writing proficiency for older students (Espin & Tindal, 1998; Espin, et al., 1999; Espin, Shinn, Deno, Skare, Robinson, & Benner, 2000; Watkinson & Lee, 1992; Weissenburger & Espin, 2005). Nevertheless, these measures do not correlate as well with criterion measures at the high school level (Espin, et al, 1999; Weissenburger & Espin, 2005). These more recent results signify a need for identifying technically adequate curriculum-based measures for high school students. Unfortunately, very little research has examined the most appropriate indicators of writing proficiency at this level.

Purpose of the Study

The basis of this study is to determine whether technically adequate curriculum-based measures of writing can be identified for high school students. Three research questions were addressed in this study:

1. Are the number of incorrect word sequences, punctuation marks, adjectives, and adverbs reliable indicators of writing proficiency for students in the 10th grade?

2. Do the number of incorrect word sequences, punctuation marks, adjectives, and adverbs correlate with holistic scores of writing proficiency for students in the 10th grade?

3. Do the number of incorrect word sequences, punctuation marks, adjectives, and adverbs correlate with the Wisconsin Knowledge and Concepts Examination (WKCE) results for students in the 10th grade?

Significance of the Study

This study will contribute to research in the development of curriculum-based measures of writing proficiency at the secondary level. It will provide information about the technical adequacy of curriculum-based measures of written expression at the secondary level. Most importantly, this research will examine possible indicators of writing proficiency for high school students.

Definition of Terms

Adjectives (ADJ)- The number of adjectives were determined by counting "recognizable adjectives" as described in Howell & Memering's (1986) writing book on page 6. Predicate adjectives (successful, bright, hers) and proper adjectives (Irish, Japanese, Shakespearian) were counted, but articles (a, an, the), demonstrative adjectives (this, that, these, those), and possessive adjectives (her, his) were not.

Adverbs (ADV)- The number of adverbs included those words that modify (e.g., well, very, really) and often end in ly (e.g., quickly, nearly, slowly) and tell how (e.g.,

surely), where (e.g., everywhere), how much (e.g., very), when (e.g., Saturday), and to what extent (e.g., too, often, frequent).

Correct Minus Incorrect Word Sequences (CWS-ICWS)- The number of incorrect word sequences minus the number of correct word sequences in each portion of a writing sample (Scierka, Weissenburger, & Espin, 2003).

Correct Punctuation Marks (CPM)- Punctuation marks that are in the correct location in the sentence (e.g., a period or question mark appearing at the end of a sentence) and are appropriate for the sentence (Gansle, Noell, VanDerHeyden, Naquin, & Slider, 2002). When correctly applied, commas, periods, and exclamation points within quotation marks were also included in correct punctuation marks.

Correct Word Sequence (CWS)- Two adjacent, correctly spelled words that are syntactically and semantically correct and acceptable to a native speaker of the English language (Videen, Deno, & Marston, 1982).

Curriculum-Based Measurement (CBM)- Measures that function as critical indicators of academic performance in the basic skill areas of reading, writing, spelling, and mathematical computation (Deno, 1986).

Curriculum-Based Measures (CBMs)- Countable indices (e.g., number of words read, incorrect words sequences, total words written, and number of correct digits) used to measure an individual's academic performance in the areas of reading, writing, spelling, and mathematics.

Functional Essay Elements- components of an essay (e.g., premises, reasons, elaborations, and conclusions) that directly support the development of the writer's paper (Espin, De La Paz, Scierka, & Roelofs, 2005).

Holistic Rating- A score derived from the general impression of an examiner after

quickly and subjectively reading through an entire writing passage (Tindal &

Parker, 1989).

Incorrect Word Sequences (ICWS)- When one or both words in an adjacent two-word

sequence are misspelled or syntactically/grammatically unacceptable to a native

speaker of the English language (Videen et al., 1982).

Product-dependent measures- Measures that assess an individual's writing fluency.

Product-dependent measures include indices such as the number of words

written, the number of words written legibly, the number of words spelled

correctly, and the number of correct word sequences (Tindal & Parker, 1989).

Product-independent measures- Measures that assess the grammar and syntax of writing.

These measures include the percent of legible words, the percent of words spelled

correctly, the percent of correct word sequences, and the mean length of correct

word sequences (Tindal & Parker, 1989).

Story Starter- A short phrase or sentence used to prompt a student's writing sample. For

example, "It was a dark and stormy night" (Shinn, 1998).

Text Coherence- A measure derived from counting the number of events in a causal chain

(Scierka, Weissenburger, & Espin, 2003).

Total Punctuation Marks- The sum of punctuation marks (i.e., correct location, incorrect

location, appropriate use, and inappropriate use) used in a sentence (Gansle,

Noell, VanDerHeyden, Slider, Hoffpauir, & Whitmarsh, 2004).

Total Words Written (TW)- The sum of words written in a specified amount of time. A

"word" is defined as any numeral or letter sequence that is clearly separated from

an adjacent numeral or sequence (Scierka et al., 2003).

Words in complete sentences- Sentences that contain a subject, a verb, and are

punctuated (Gansle, Noell, VanDerHeyden, Slider, Hoffpauir, Whitmarsh, &

Naquin, 2004).

CHAPTER TWO

Review of Literature

In this chapter, the literature related to curriculum-based measurement in writing is reviewed. Indices used to measure writing proficiency at the elementary and middle school level are examined. Further, the countable indices used with secondary students thus far are addressed. Therefore, the primary focus of this literature review will be to review the existing literature pertaining to CBM in written expression.

What is curriculum-based measurement in written expression?

Curriculum-based measurement in written expression is an assessment system used to monitor students' progress in writing to evaluate the effectiveness of current writing instruction (Deno, 1985; Shinn, 1989). CBMs in written expression are simple, short duration, fluency measures directly tied to the students writing instruction. These indicators of performance are used to measure students' growth in writing. To be effective, the indicators must be reliable and valid measures of a student's general writing skills (Espin, et al., 2000). For example, Deno et al. (1980) found that the number of words an elementary child writes correctly in a 3-minute period is a good indicator of a child's broad writing skills. Thus, from writing samples, it can be inferred that as the number of words an elementary-aged child writes correctly increases, so do his or her skills in other areas (e.g., punctuation, grammar, sentence structure and story structure) (Espin, et al., 1999).

CBMs in written expression are derived from short probes or story starters such as "It was a dark and stormy night," or "I stepped into a time machine." Students are typically asked to respond to these parallel probes for 3- to 5- minutes on a weekly, biweekly, or monthly basis depending on the intended purpose of the assessment.

Through the consistent administration of parallel writing probes over time, teachers are provided with information that can be graphed to show writing progress, or the lack there of (Espin et al., 2000). Teachers can then use this information to determine if an instructional change is needed or which children are at risk of falling behind. For instance, while examining Tommy's graphed data, his teacher notices that his scores on the CBM writing probes have leveled off compared to the rest of the class. His teacher may then decide that the current instructional program is not the right fit for Tommy's learning style or that Tommy simply does not understand what is currently being taught. This information indicates the need for instructional change.

What measures should be used in curriculum-based measurement?

When developing a curriculum-based measure, one of the most important decisions to be made is to determine what measures should be used (Espin et al., 1999; Fuchs & Fuchs, 1987). First, the measures must be reliable and valid indicators of a students' overall academic performance in the target area. Second, the measures must be consistent and stable to provide educators with continuous information about the effectiveness of their current instruction. Lastly, to ensure their use, they must be easy to administer, easy to score, and easy to understand (Deno, 1985).

Since the inception of CBM in writing, a wealth of research has indicated that by counting a number of indices at various grade levels, educators can gain a sense of a student's general writing proficiency (Espin et al., 1999; Espin et al., 2000; Parker, Tindal, & Hasbrock, 1991; Tindal & Parker, 1989; Watkinson, 1992). The number of words written, the number of words spelled correctly, the number of words written legibly, the number of correct word sequences, and the mean length of word sequences are a few of the indices used to measure a

student's general writing proficiency thus far (Weissenburger & Espin, 2005). Research, however, indicates that the indices used to measure writing proficiency at one grade level may not be the most appropriate measures of writing proficiency at other grade levels (Parker et al, 1991; Watkinson & Lee, 1992; Weissenburger & Espin, 2005).

Countable Indices of Written Expression at the Elementary Level

Many different CBM scoring indices in writing have been examined at the elementary level. The most commonly used indices of written expression at the elementary level have been the total number of words written, the number of words spelled correctly, and the number of correct word sequences (Espin et al., 2000). Previous research has indicated that these measures are both valid and reliable indicators of writing proficiency at the elementary level (Deno et al., 1982; Deno et al., 1980; Videen et al., 1982; Weissenburger & Espin, 2005).

Total words written and spelled correctly at the elementary level.

In an effort to ascertain a valid measure of writing proficiency, Deno et al. (1980) examined the relations between various indicators of performance and students performance on other previously established systems of measurement. These criterion measures included the Test of Written Language (Hammil & Larsen, 1978), the Word Usage subtest of the Stanford Achievement Tests (Madden, Garden, Rudman Karlsen, & Merwin, 1978), and the Developmental Sentence Scoring System (Lee & Canter, 1971). When compared, the 1980 Deno et al. study results suggest that indicators such as the number of words written, the number of words spelled correctly, the number of mature words written, and the number of large words written in a 3-minute period were strongly correlated (ranging from .67 to .84) with other measures of written expression. In a replication study, Deno, Marston, and Mirkin (1982), again found moderate to high correlations (ranging from .58 to .68) between these same measures and

the criterion measures. Furthermore, the number of words written, the number of words spelled correctly, the number of mature words written, and the number of large words written were successful at discriminating between students in general education and special education, as well as indifferentiating student writing performance between grade levels (Deno et al., 1982; Deno et al., 1980).

In a longitudinal study, Marston, Lowry, Deno, and Mirkin (1981) investigated the use of the number of words written and the number of words spelled correctly as indicators of performance across grades 1 to 6. Results revealed that the number of words written and the number of words spelled correctly increased with each succeeding year of school. Moreover, the results indicated that the within grade level performance of students significantly increased from fall to winter to spring. Thus, the Marston et al. study generated support for the use of these measures as valid indicators of student writing performance across grade levels, within grade levels, and over time for children at the elementary school level.

Correct word sequences at the elementary level.

In addition to total words written and total words spelled correctly, Videen et al. (1982) examined the use of correct word sequences as an indicator of student writing proficiency at the elementary level. Their results demonstrated a high correlation between the number of correct word sequences and the number of words written ($r = .92$), as well as with the number of words spelled correctly ($r = .92$). Akin to the number of words written and the number of words spelled correctly, results indicated an increase in the number of correct word sequences as grade levels increased. Tindal and Parker (1991) found similar results across grades 2 to 5 for correct word sequences, suggesting that the number of correct word sequences is a useful indicator of writing performance across the early grades.

Other countable indices at the elementary level.

Gansle, Noell, VanDerHeyden, Naquin, and Slider (2002) examined the relations between various indicators of performance and scores on the language usage/expression and total writing subscales of the Iowa Tests of Basic Skills (ITBS) for third grade students. Results revealed that the number of correct punctuation marks and the number of correct word sequences written in a 3-minute period were most strongly correlated (i.e., r = .36 to .44) with the writing subscale scores on the ITBS. Further, correct word sequences and correct punctuation marks were positively correlated with teacher holistic scores. These findings suggest, along with correct word sequences, that correct punctuation marks may be another useful indicator of writing proficiency at the elementary level.

A more recent study by Gansle, Noell, VanDerHeyden, Slider, Hoffpauir, and Whitmarsh (2004) investigated the predictor-criterion validity between the Writing Samples from the Woodcock Johnson-Revised (WJ-R) and the six measurement indicators of written expression identified as adequate measures of writing proficiency by Gansle et al., in 2002. The six CBM indicators were the total words written, total punctuation marks, correct punctuation marks, words in complete sentences, correct word sequence, and simple sentences. Participants in the study included 45 students in grades 3 and 4. Using regression analyses, results revealed that simple sentences (β = -.55), words in complete sentences (β = .39), and total punctuation marks (β = .62) were the best predictors of Writing Sample subtest scores on the WJ-R. Thus, the 2004 Gansle et al. results suggest that simple sentences, words in complete sentences, and the number of punctuation marks used, whether used correctly or not, may adequately measure writing proficiency at the elementary level.

Countable Indices for Written Expression at the Secondary Level

At the secondary level, studies suggest that the same indices used to measure writing proficiency at the elementary level may not be appropriate (Espin & Tindal, 1998; Weissenburger & Espin, 2005). As indicated, the number of words written, the number of words spelled correctly, and the number of correct word sequences are valid indicators of writing performance at the elementary level. However, when applied to the secondary level, the same indices may not be valid (Parker et al., 1991; Watkinson & Lee, 1992).

Elementary indicators applied to secondary students.

Tindal and Parker (1989) examined the appropriateness of elementary indicators such as the number of words written, the number of words spelled correctly, and the number correct word sequences as indicators of writing performance at the secondary level. One hundred and seventy-two compensatory and special education students in grades 6 to 8 participated in the study. Results revealed that the number of words written, the number of words spelled correctly, and the number of correct word sequences were not the most appropriate indicators of writing proficiency for older students. These indictors did not sufficiently correlate (r = .10 to .45) with the holistic ratings of the writing samples, nor did they differentiate between the compensatory and special education students.

Percentage of words spelled correctly and percentage of correct word sequences.

It has been suggested that product-independent measures are the most valid indicators of a students writing proficiency at the middle school level (Tindal & Parker, 1989). Tindal and Parker (1989) found that product-independent measures such as the percentage of words spelled correctly and the percentage of correct word sequences correlated more highly with holistic ratings (r = .73 and .75, respectively) than did product-dependent measures (the number of words

written, the number of words written legibly, the number of words spelled correctly, and the number of correct word sequences) at the middle school level. Results also revealed that these two percentage measures were able to differentiate between the compensatory and special education students.

In a later study, Parker et al. (1991) investigated the effectiveness of product-independent measures ability to make special education screening decisions. Participants in the study included 243 students in grades 6, 8, and 11. Results revealed that the percentage of correctly spelled words and the percentage of correct word sequences were the most appropriate indicators for making screening and eligibility decisions. Thus, this study added to the support of product-independent measures as valid indicators of writing proficiency for older students.

Watkinson and Lee (1992) examined the relations between CBM writing measures for compensatory and special education middle school students. Concurring with earlier findings on product-independent measures (Tindal & Parker, 1989), Watkinson and Lee (1992) found that the percentage of words spelled correctly and the percentage of correct word sequences were able to differentiate compensatory from special education students at the 6th and 8th grade level. Nevertheless, while the percentage of words spelled correctly and the percentage of correct word sequences appear to be valid indicators of writing proficiency at the middle school level, they are inappropriate for assessing over time (Parker et al., 1991; Shinn, 1998; Tindal & Parker, 1989). In addition, when examining the ability of product-dependent measures to differentiate between compensatory and special education students, Watkinson and Lee (1992) found that the number of correct and incorrect word sequences were the only product-dependent measures capable of differentiating these two groups.

Correct word sequences at the secondary level.

The Parker, Tindal and Hasbrock (1991) study not only bore support for the use of product-independent measures as indicators of writing proficiency, but also substantiated the use of correct word sequences for secondary students. Results from their early 1990s study revealed that the number of correct word sequences was a good predictor of writing proficiency for grades 6, 8 and 11, with correlations ranging from .48 to .52. In addition, results indicated moderately strong correlations between the number of correct word sequences and holistic ratings (r = .48 to .56). However, unlike product-independent measures, Parker et al. concluded that the number of correct word sequences was not a suitable tool for making eligibility and screening decisions. The number of correct word sequences only differentiated student performance between grade levels when applied to students who performed above the 10th percentile. Conversely, the percentage of correct word sequences appeared to be a better measure for differentiating students below the 10th percentile.

Combination measures at the secondary level.

Espin, Scierka, Skare, and Halverson (1999) investigated the use of combination measures for assessing written expression at the secondary level. Participants in the study were 147 randomly-chosen 10th grade students from basic, regular, and enriched English classes. They also included a group of students with learning disablities in their sample. Criterion measures such as the Language Arts subtest from the California Achievement Test (CAT), English class grades, and holistic ratings of writing samples were used in this study. The number of words written, the number of words spelled correctly, the number of characters per word, and the number of sentences written in response to 3-minute writing probe were examined via computer

scoring. In addition, the number of correct word sequences and the mean length of correct word sequences were included as measures and scored by hand.

Researchers (Espin et al., 1999) found significant correlations, although moderate to low (r = .30 to .45), when comparing the number of correct word sequences, the mean length of correct word sequences, the characters per word and the sentences written with criterion measures. Accordingly, regression analyses revealed a moderately high correlation (r = .62) between a combination of the measures (the number of character per word, the number of sentences written, and the mean length of correct word sequences) and the Language Arts subtest of the CAT. These same combination measures also successfully differentiated between students with learning disabilities students and students in basic, regular, and enriched English classes. In conclusion, while these results imply that combination measures, rather than one measure, may be better predictors of secondary students' writing proficiency; Espin et al. (1999) suggest that graphically displaying numerous measures may be difficult.

Correct word sequence minus incorrect word sequences at the secondary level.

In an attempt to expand the research on CBM in written expression and identify the best indicators of writing proficiency at the middle school level, Espin et al. (2000) examined the writing samples of 112 students in grades 7 and 8. Students writing performance was examined at 3 and 5 minutes. Teacher ratings of the writing samples and a district writing test scores were the criterion measures used in this study. A number of measurement indicators such as the number of words written, the number of words, the number of words spelled correctly, the number of words spelled incorrectly, the number of characters per word, the number of words per sentence, the number of correct words sequences, the number of incorrect word sequences, and the mean length of correct word sequences were examined. Results indicated correct word

sequences minus incorrect word sequences (CWS-ICWS), when compared to both teacher's ratings and district writing test scores, was the most reliable, technically adequate predictor of student writing proficiency at the middle school level (i.e., correlations ranging from .65 to .75). No differences were found when examining the duration of the writing samples. Therefore, Espin and colleagues suggested that CWS-ICWS is a useful indicator of written expression for older students.

Scierka, Weissenburger, and Espin (2003) did a combined study examining CBMs in written expression at the middle school level. Criterion measures such as students' scores on the Language Arts subtest of a statewide assessment and a measure of text coherence (i.e., the number of events on the causal chain of events; Trabasso & van den Broek, 1985) were used in this study. The total number of words, the number of correct word sequences, and the number of CWS-ICWS were used. Results revealed that the number of correct word sequences and the number of CWS-ICWS correlated moderately ($r = .47$ to .63) with the standard scores on the Language Arts subtest of a statewide assessment. Thus, the correlations with the Language Arts scores suggested that the number of correct word sequences and CWS-ICWS were good predictors of a student writing proficiency at the middle school level.

The Scierka et al. study (2003) also found that the total number of words, the number of correct word sequences, and CWS-ICWS were highly correlated with the number of events on a casual chain. Moreover, the total number of words written was the highest predictor of the number of events in a casual chain with correlations of .70 to .79, respectively. Therefore, the results for number of words written varied with the criterion measures used in this culmination study. Nevertheless, the Scierka and colleagues study provided consistent support for the use of

the number of correct word sequences and CWS-ICWS as valid measures of writing proficiency for middle school students.

Espin, De La Paz, Scierka, and Roelofs (2005) investigated the relationship between CBMs in written expression and quality and completeness of students' expository writing. Participants included 22 students in grades 7 and 8 who were identified as either LD, low, average, or high-achieving writers. Thirty-five minute writing samples were gathered prior to and after receiving instruction on composition strategies. The number of functional elements in a student's essay as well as the quality ratings (i.e. a holistic rating system) of the essays were used as criterion measures. Results revealed that the number of CWS and CWS-ICWS were strongly correlated with the number of functional elements and quality ratings of student essays (i.e., correlations ranging from .66 to .83). The number of CWS and CWS-ICWS written in the first 50 words of the essay were also found to be sensitive to change in student performance over time. It is noteworthy to mention that fairly short samples of writing revealed growth over time for students who were at the lowest end of the writing spectrum (i.e., LD). However, a longer sample was necessary for students at the higher end of the continuum. Therefore, results suggest that CWS and CWS-ICWS are valid indicators of writing performance, however, when examining growth over time, a longer sample may be necessary to evaluate the writing growth of above average writers.

Countable Indices of Written Expression Across Grade Levels

While many studies have been conducted to examine the technical adequacy of indices used to measure writing at the elementary and secondary level, very few studies have been conducted across grade levels. Therefore, the following discussion will examine the limited number of studies investigating indicators of writing across diverse grade levels.

Combination measures across grade levels.

Malecki and Jewell (2003) investigated the development, gender, and practical considerations of product-dependent, product-independent, and accurate production indices used to measure written expression across grade levels. Participants in the study were 946 students in grades 1 through 8. The sample consisted of 48% male and 51% female students. Students were administered writing samples in the fall and spring of the year. Product-dependent indices (the number of words written, the number of words spelled correctly, the number word sequences), accurate-production indices (correct minus incorrect word sequences), production-independent indices (percentage of words spelled correctly and the percentage of correct writing sequences) written in response to a 3-minute writing probe were examined. In addition, the gender of the respondents, the age of the respondents, and the time required to score the three writing indices were considered.

Results revealed the upper grade level elementary students scored better than early elementary students on all scoring measures (the number of words written, the number of words spelled correctly, the number word sequences, correct minus incorrect word sequences, percentage of words spelled correctly and the percentage of correct writing sequences). However, the middle school students only scored better than the elementary school students on the product-dependent and accurate-production indices. It is noteworthy to mention that at the middle school level product-independent measures were not significantly related to the total number of words written. This result suggests that the amount students wrote was not associated with the accuracy of his or her writing for middle school students. This study lends support to previous research which identified product-independent indices (Tindal & Parker, 1989) and

accurate-production indices (Espin et al., 2000) as valid and reliable measures of writing proficiency for middle school students.

Weissenburger and Espin (2005) examined the technical adequacy of curriculum-based measures in written expression across grade levels. Participants in the study included 484 students in grades 4, 8, and 10. The number of words written (TW), the correct word sequences (CWS), and the number of correct minus incorrect word sequences (CWS-ICWS) for 3-, 5-, and 10-minutes segments of the writing samples were measured. The Normal Cure Equivalent scores on the Wisconsin Knowledge and Concepts Examination (WKCE), a statewide achievement language arts test, were used as criterion measures. In addition, the holistic scores from the WKCE Writing Assessment were used as criterion measures for Grades 4 and 8 (the 10th-grade students did not take this assessment). Results indicated that CWS and CWS-ICWS correlated moderately to strongly (r = .47 to .68) with the WKCE Language Arts subtests scores and WKCE Writing assessment scores for grades 4 and 8. Therefore, the correlations with the WKCE suggest that the CWS and CWS-ICWS are good predictors of writing proficiency at these grade levels. However, the technical adequacy of TW, CWS, and CWS-ICWS was not supported for high school students.

CHAPTER THREE

Method

This study involves a reanalysis of data collected as part of an earlier study designed to analyze the technical adequacy of CBMs in written expression across grade levels (see Weissenburger & Espin, 2005). The purpose of this current study was to determine whether technically adequate curriculum-based measure of writing exist for high school students. To examine this topic, district administrators from two public school district in west central Wisconsin were contacted in the fall of 2000-2001 school year. The administrators from both school districts agreed to participate in the study after learning the purpose and nature of the study.

Participants and Settings

The first participating school district (District #1) was a small, rural school district that consisted of students who resided in and around an unincorporated township. District #1 had a total student enrollment of 256 and was comprised of 52% male students and 48% female students. Districts #1's students were reported to be 1% Black, 1% Hispanic, and 98% White. Of the total district population, 39.1% of the students were eligible for free and reduced lunch. The average ACT score was 20.7 (National Mean=21.0, *SD* = 4.7), and no students were exempt from taking the Wisconsin Knowledge and Concepts Examination during the 2000-2001 school year. The attendance rate was 92.36%, graduation rate 100%, and per pupil expenditure was $8,537 for District #1 that year.

The second school district (District #2) was a rural public school district, serving residents of an incorporated farming community and surrounding rural area. District #2 had a total enrollment of 1,114, with of 51% male and 49% female. The ethnic breakdown of students

was .3% American Indian, 1% Asian, .4% black, 1.3% Hispanic, and 97% White. District #2 reportedly had 30.4% students who were eligible for free and reduced lunch. The average ACT score was 21.7 (National Mean=21.0, SD = 4.7), and less than 1% of the students were exempt from taking the Wisconsin Knowledge and Concepts Examination during the 2000-2001 school year. The attendance rate was 94.29%, graduation rate 96.15%, and per pupil expenditure was $7,693 for District #2 that year.

A total of 108 tenth grade students participated in the study. Out of these students, 82 (75.9%) produced complete, readable data sets. The participant sample consisted of general education and special education students. Participant demographic data are presented in Table 1.

Table 1

Sample Characteristics and Participant Population

Demographic	*n*	Percentages
Gender		
Male	43	52.4
Female	39	47.6
School		
District #1	10	12.2
District #2	72	87.8
Ethnicity		
Asian American	0	0
Black/African American	0	0
Hispanic/Latino	0	0
Native American	0	0
Pacific Islander	0	0
White/Caucasian	82	100
Educational Status		
Learning Disabled	8	9.8
Cognitively Disabled	0	0
Speech/Language Disabled	2	2.4
Emotional Behavioral Disabled	0	0
Special Education (other)	0	0
General Education	72	87.8
Economic Status		
Free/Reduced Lunch	14	17.1
No Free/Reduced Lunch	68	82.9
English Language Status		
English Language	82	100
English-as-a-Second Language	0	0

Procedure

    Data Collection

    The two school districts were contacted in the fall of 2000, and permission was granted to administer curriculum based writing assessments to the entire population of 10th grade students. Two data collection sessions were scheduled for each language arts class within a 7-day period in the months of January and February of 2001. Special education students were included in the data collection sessions.

    The initial investigator collected two samples of narrative writing, with only one sample collected per day. The narrative writing samples were composed from two story starters (i.e., Form A: "I stepped into a time machine," and Form B: "It was a dark and stormy night") that were counter-balanced to control for order effect. After receiving a story starter, students were given 30 seconds to think and 10 minutes to write. Also, students were instructed to make a slash mark after the last word they wrote at the end of 3- and 5-minute intervals. (Refer to Appendix A for directions).

    At the end of each data collection session, the classroom teachers collected the writing samples and gave them to their district secretaries. Copies of the writing samples where then made by the secretaries so the originals could be returned to the teachers for instructional purposes. To ensure anonymity, the school secretaries removed the student names and assigned codes to the writing samples. The writing samples were then returned to the initial investigator for scoring. The school secretaries also removed student names and assigned codes to academic record information (i.e. gender, ethnicity, language status, eligibility for free/reduced lunch, special education status) to protect the identity of the students.

In June of 2001, the WKCE statewide assessment results, published and scored by CTB/McGraw Hill, were supplied to the initial investigator. The results contained Normal Curve Equivalent (NCE) scores for all subject areas (i.e., Reading, Language Arts, Science, Social Studies, and Math). Once again, the district secretaries assigned codes and removed all names and identifiers from the WKCE data.

Instrumentation

Curriculum-based measures

The number of incorrect word sequences, the number of correct punctuation marks, the number of adjectives, and the number of adverbs were scored for each 10-minute sample. Curriculum-based measures (CBMs) were the students responses to the two story starters presented to them. The number of incorrect word sequences and the number punctuation marks were scored in 3-, 5-, and 10-minute segments of each story.

Two adjacent words were scored as incorrect when one or both words in an adjacent two-word sequence were misspelled or syntactically/grammatically unacceptable to a native speaker of the English language (Videen et al., 1982).

The number of correct punctuation marks was derived by counting the number of punctuation marks (i.e., correct location and appropriate use) used in a sentence (Gansle, Noell, VanDerHeyden, Naquin, and Slider, 2002).

The number of adjectives was calculated by counting the number of words or phrases naming an attribute, modifying a noun or describing a noun. The number of adverbs was computed by counting number of words that modify a verb, adjective, or another adverb.

Criterion measures

One criterion measure for this study was the Normal Curve Equivalent (NCE) scores on Wisconsin's statewide assessment Language Arts subtest. The NCE scores ranged from 1 though 99 and coincided with student national percentile scores at the 1st, 50th, and 99th percentile.

A researcher-designed holistic rating was another criterion measure used in this study. The holistic rating scale was used by an experienced high school English teacher to score the 10-minute writing samples. The holistic rating scale was derived from the CTB/McGraw-Hills Writing Assessment Guide. The holistic scores ranged from one (unacceptable) through six (very good).

Curriculum-Based Measurement Scoring

The primary investigator and six graduate students in the school psychology and school counseling programs in the University of Wisconsin-Stout scored the CBM writing samples for incorrect words sequences in 2001. The scorers were trained and hired if they achieved 90% or above agreement ratios with the primary investigator on exemplar samples. (Refer to Appendix B for an example of procedures for scoring correct and incorrect word sequences).

Another experienced high school English teacher scored the writing samples for punctuation marks, adverbs, and adjectives. A scoring rubric and examples were provided to the scorer to aide in scoring.

Data Analyses

The first research question addressed the reliability of incorrect word sequences, correct punctuation marks, adjectives, and adverbs as indicators of writing proficiency for students in the 10th grade. To examine the reliability of these measures, alternate-form bivariate Pearson product-moment correlation coefficients were calculated between the CBM scores derived from

each of the two story-starter samples. Due to the large sample size and number of comparisons, a conservative *p* value of .001 was used to determine if the correlations were statistically significant.

The second research question addressed the relations between the mean CBM scores from the two writing samples and the holistic scores. Bivariate Pearson product-moment correlation coefficients were computed between the mean CBM scores and the holistic scores. A conservative *p* value of .001 was adopted to determine statistical significance for the criterion-related validity coefficients.

The third research question addressed the relations between the mean CBM scores from the two writing samples and the WKCE scores. Bivariate Pearson product-moment correlation coefficients were calculated between the mean CBM scores and the Language Arts NCE scores. As in question two, a conservative *p* value of .001 was implemented to determine statistical significance for the criterion-related validity coefficients.

CHAPTER FOUR

Results

The purpose of this study was to determine whether technically adequate curriculum-based measures of writing exist for high school students. As such, the reliability of incorrect word sequences, correct punctuation marks, adjectives, and adverbs as indicators of writing proficiency for students in the 10th grade were investigated. To obtain criterion-related validity, these CBM indices were also correlated with teacher-applied holistic scores and the WKCE Language Arts NCE scores. Thus, the results of the analyses addressing each research question follow.

Research Question One: Alternate-Form Reliability

The first research question addressed the alternate-form reliability of incorrect word sequences, correct punctuation marks, adjectives, and adverbs as indicators of writing proficiency for students in the 10th grade. Means and standard deviations for each indice are presented in Table 2. To examine the alternate-form reliability, bivariate Pearson product-moment correlation coefficients were calculated between the CBM scores from each of the two story starters. Results are reported in Table 3. Coefficients ranged from .16 to .76, with correct punctuation marks and incorrect word sequences producing significant correlations at the $p < .001$ level. The number of correct punctuation marks generated the largest correlation coefficient of $(r = .76)$. This correlation coefficient was followed closely by incorrect word sequences $(r = .75)$. The correlations for adjectives and adverbs were not statistically or meaningfully significant $(r = .14$ & .17$)$.

Table 2

Means and Standard Deviations

Measure	M	SD
Adjectives (ADJ)	7.84	3.24
Adverbs (ADV)	.62	.71
Correct Punctuation Marks (CPM)	17.38	8.92
Incorrect Word Sequences (ICWS)	21.93	17.59

Note. $N = 82$

Table 3

CBM Alternate-Form Correlations

Measure	r
Adjectives (ADJ)	.14
Adverbs (ADV)	.17
Correct Punctuation Marks (CPM)	.76***
Incorrect Word Sequences (ICWS)	.75***

Note. $N = 82$,

***$p < .001$.

Research Question Two: Criterion-Related Validity of CBMs - Correlations with Holistic Scores

The second research question addressed the relations between the mean CBM scores from the two writing samples and the holistic scores. Criterion-related validity coefficients were calculated using bivariate Pearson product-moment correlation coefficients. Correlations between the curriculum-based measurement scores and the holistic scores are presented in Table 4.

As indicated in Table 4, correct punctuation marks and incorrect word sequences were moderately to strongly correlated with the holistic scores (r = .62 & -.71). Nevertheless, when correlated with the holistic scores, adjectives and adverbs produced very weak correlations (r = .18 & .21).

Table 4

Criterion-Related Validity of CBMs – Correlations with Holistic Scores

Measure	r
Adjectives	.18
Adverbs	.21
Correct Punctuation Marks	.62***
Incorrect Word Sequences	-.71***

Note. N = 82,

*** p < .001.

Research Question Three: Criterion-Related Validity, WKCE Language Arts NCE Scores

The third research question addressed the relations between the mean CBM scores from the two writing samples and the WKCE Language Arts NCE scores. To further examine the criterion-related validity of the CBM measures, bivariate Pearson product-moment correlation coefficients were calculated. Correlations between the curriculum-based measurement scores and the WKCE Language Arts subtest NCE scores are presented in Table 5.

Results revealed that the number of incorrect word sequences was moderately ($r = .51$) correlated with the standard scores from the WKCE Language Arts subtest. Correct punctuation marks were weakly correlated with the WKCE Language Arts subtest scores ($r = .28$). Once again, adjectives and adverbs produced very weak and insignificant correlations when they were correlated with the WKCE Language Arts subtest scores ($r = .19$ & .01).

Table 5

Criterion-Related Validity of CBMs – Correlations with WKCE Language Arts NCE Scores

Measure	r
Adjectives	.19
Adverbs	.01
Correct Punctuation Marks	.28*
Incorrect Word Sequences	-.51***

Note. N = 82.

***$p < .001$, *$p < .05$.

CHAPTER FIVE

Discussion and Implications

The primary intent of this study was to identify technically adequate curriculum-based measures of written expression for high school students. Previous studies at the middle and high school levels suggested the number of correct word sequences (CWS) and the number of correct word sequences minus incorrect word sequences (CWS-ICWS) are better indicators of writing proficiency for older students (Espin & Tindal, 1998; Espin, et al., 1999; Espin, Shinn, Deno, Skare, Robinson, & Benner, 2000; Watkinson & Lee, 1992; Weissenburger & Espin, 2005). However, these measures have not correlated well with criterion measures at the high school level (Espin, et al, 1999; Weissenburger & Espin, 2005). Thus, a need existed for additional research that examined the criterion-related validity of alternative curriculum-based measures of writing at the high school level.

This current study investigated the criterion-related validity of adjectives, adverbs, and incorrect word sequences as alternative curriculum-based measures of writing for high school students. In addition, correct punctuation marks, which has shown promise as an indicator of writing skills for elementary students (Gansle, Noell, VanDerHeyden, Naquin, & Slider, 2002), was also investigated.

Results of this investigation reveal statistically significant correlation coefficients substantiating the alternate-form reliability and criterion-related validity of correct punctuation marks and incorrect word sequences. Consistent support was established for the technical adequacy of incorrect word sequences as a measure of writing proficiency at the high school level. Correct punctuation marks also yielded promising results; however, this curriculum-based measure only produced statistically significant and meaningful correlations with one of the two

criterion measures. Adjectives and adverbs did not yield meaningful or statically significant correlations. This study's current findings and their related implications are addressed in the following sections according to their respective research question.

Research Question One: Alternate-Form Reliability

The first research question addressed the alternate-form reliability of incorrect word sequences, correct punctuation marks, adjectives, and adverbs as indicators of writing proficiency for 10th grade students. Alternate-form bivariate Pearson product-moment correlation coefficients were unacceptably low for two curriculum-based measurement scoring indices: adjectives and adverbs. The strongest and most consistently reliable coefficients were found for incorrect word sequences and correct punctuation marks. The alternate-form reliability coefficients for these measures are within the range Marston (1989) found for CBM measures at the elementary level ($r = .42$ to $r = .96$).

In accordance with an earlier study examining the alternate-form reliability of adjectives and correct punctuation marks at the elementary school level (Gansle, Noell, VanDerHeyden, Naquin, & Slider, 2002), the current study did not substantiate acceptable alternate-form reliability coefficients for adjectives and study did produce acceptable alternate-form reliability coefficients for correct punctuation marks.

The disappointingly low reliability for adjectives and adverbs are likely due to the small number of adjectives and adverbs used by the 10th grade students. Nonetheless, the limited use of adjectives and adverbs was somewhat disappointing, as one would expect 10th grade students to demonstrate more writing complexity as they age and become better writers. For instance, Isaacson (as cited in Espin et al., 2000) noted students use longer, more complex words and

compose longer sentences containing more grammatically correct phrases as they become more skilled.

Research Question Two: Criterion-Related Validity of CBMs - Correlations with Holistic Scores

The criterion-related validity of the curriculum-based measures was examined by comparing the scores from the curriculum-based measures and the holistic scores. Correlations between holistic rating of students writing and potential indicators ranged from extremely low to moderately strong. Incorrect word sequences were negative and moderately strong ($r = -.71$), suggesting the number of incorrect word sequences was lower for more skilled writers. This should come as no surprise, as the number of incorrect word sequences encompasses errors in spelling, sentence structure, capitalization, punctuation, syntax, and grammar (see Appendix C for further details on scoring procedures). These errors can hinder the overall perception of writing quality; and, in turn, these errors can affect holistic scores. It is noteworthy to mention that no published studies to date have examined the use of incorrect word sequences alone as potential indicator of writing proficiency at the secondary level (i.e., without first subtracting them from the number of correct word sequences).

The relation between correct punctuation marks and the holistic scores were also moderately strong ($r = .62$). Similar findings, however, not as strong, were found by Gansle et al. (2002) in which the use of correct punctuation marks as an indicator of writing proficiency was examined at the elementary level. This study may have produced stronger correlations because students at the high school level are likely to have a better understanding of punctuation than elementary students and may be judged more harshly when they do not demonstrate this knowledge. Thus, the more correct punctuation marks produced, the higher the holistic score earned for high school students. Another explanation could be the total number of punctuation

used at each grade level. Elementary students are less likely to include numerous punctuation marks, whereas high school students are more likely to use multiple punctuation marks as their sentences are written with more complexity. Lastly, no meaningful or significant correlations were found for adjectives (i.e., .18, p <.001) and adverbs (i.e., .21, p <.001) with the holistic scores.

Research Question Three: Criterion-Related Validity, WKCE Language Arts NCE Scores

The criterion-related validity of the curriculum based-measures was further investigated by comparing the scores from the curriculum-based measures and the WKCE scores. The strength of relations between the curriculum-based measures and WKCE scores indicate that one CBM measure, incorrect word sequence, was negative and moderately correlated (i.e., -.51, p <.001) with the multiple-choice Language Arts statewide assessment. The number of correct punctuation marks and the statewide assessment scores yielded a lower correlation (i.e., .28, p <.05), and no meaningful or significant correlations were found for adjectives (i.e., .19, p <.001) or adverbs (i.e., .01, p <.001).

One possible explanation for the lower correlation coefficient between both the number incorrect word sequences and the number of correct punctuation marks with the WKCE scores is the use of the WKCE Language Arts subtest as a criterion measure. Many previous criterion-related studies (Deno, et. al., 1980; Espin et. al., 2000; Parker et al., 1991; Tindal & Parker, 1989) used direct or constructed-response criterion measures (e.g., Test of Written Language and holistic ratings). Conversely, the WKCE Language Arts subtest was not a direct measure of writing skills. The WKCE consisted of selected-response or multiple-choice items. Therefore, while the number of correct punctuation and the number of incorrect word sequence CBMs and the WKCE Language Arts subtest were all developed to assess a student's general writing

proficiency, the two curriculum-based measures and the WKCE Language Arts subtest may measure different facets of written expression. This inference is supported by the higher correlations between the number of incorrect word sequences and the holistic scores, as well as the higher correlations between the number of correct punctuation marks and the holistic scores.

Limitations

Since this research was conducted in west central Wisconsin, one limitation is the lack of generalizability to other settings, regions, or school districts. All participants in the study were categorized as White or Caucasian and from rural settings. As a result, the current finding may not be pertinent to urban or more culturally-diverse populations. In addition all writing probes were administered in January and February. This timeframe may limit the generalizability of these findings to results collected at other times in the school year.

Another limitation of the study may be the criterion measures. Critics may argue the WKCE Language Arts scores are not indicative of students' general writing proficiency as the WKCE Language Arts test contained only selected-responses or multiple-choice items.

Lastly, it is important to note that the findings of this study only apply to 10th grade students. As such, these results should not be generalized to students at different grades at the high school level. Further research needs to be conducted to provide evidence of the technical adequacy of written expression curriculum-based measures for high school students at all grade levels.

Implications for Practice

There are several important implications that can be derived from this study. First, the number of incorrect word sequences appears to be a technically adequate indicator of writing proficiency at the secondary level. Second, the number of correct punctuation marks also yielded

promising results; however, this curriculum-based measure only produced statistically significant results with one of the two criterion measures. Third, adjectives and adverbs are not technically adequate indicators of writing proficiency for 10th grade students.

Implications for Research

Despite these promising results, further research is needed to investigate the use of incorrect word sequences and correct punctuation marks as indicators of writing proficiency at the secondary level. Further study is needed to determine whether incorrect word sequences and correct punctuation marks can be used to monitor a student's growth in writing proficiency over time.

Clearly, adjectives and adverbs do not have sufficient alternate-form reliability or criterion-related validity as a measure of writing proficiency for high school students. Nonetheless, negative information serves a purpose. Results from this study will provide guidelines for future research and prevent researchers from wasting time through investigating the technical adequacy of these indices in the future. Further technical adequacy studies need to be conducted with different populations to determine whether the current findings can be generalized across various disability groups, different cultures, and proficiency levels.

Summary

The use of curriculum-based measurement (CBM) in written expression is becoming more common in today's schools; however, more information pertaining to the technical adequacy of these measures is needed at the secondary level. Therefore, the purpose of this study was to determine whether technically adequate curriculum-based measures of writing exist for high school students. The participants in this study included 10th grade students from two public

school districts in Wisconsin. Students (n = 82) completed two narrative writing samples in response to two story starters.

To examine the alternate-form reliability of potential curriculum-based measures (i.e., incorrect word sequences, correct punctuation marks, adjectives, and adverbs) at the high school level, correlation coefficients were calculated between the CBM scores from each of the two writing samples. In addition, to determine the criterion-related validity of these measures, correlation coefficients were calculated between these curriculum-based measurement scores and two criterion measures: a) teacher-applied holistic scores and b) WKCE Language Arts NCE scores.

The current study revealed moderately strong alternate-form reliability coefficients (r = .76 & .75, p < .001) and variable criterion-related validity coefficients (r = .28 to .71) for correct punctuation marks and incorrect word sequences. Incorrect word sequences yielded the most promising results, as the number of incorrect word sequences produced moderate and strongly moderate (r = .51 & .71, p < .001) criterion-related validity coefficients.

Correct punctuation marks also produced significant results; however, CPMs only yielded moderate (r = .62, p < .001) criterion related validity coefficients with one criterion measure. Thus, although replication is necessary, results indicate both incorrect word sequences and correct punctuation marks show promise as curriculum-based measures of writing proficiency at the high school level. Evidence also clearly indicates the number of adjectives and adverbs do not have sufficient alternate-form reliability or criterion-related validity for students at the high school level.

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Appendix A

CBM Writing Sample Instructions to Students

WRITTEN EXPRESSION (Form A)

Say to the students: **I want you to write a story. I am going to read part of a sentence to you first – and then you can write a short story about what will happen.**

Before you write, I want you to think about the story. First your will think, then you will write. You will have 30 seconds to think, then you will write for 10 minutes. At certain times, I will ask you to stop and make a mark on your paper like this (/). Do your best work. If you do not know how to spell a word, you should guess.

Keep your pencils down until I tell you to start. Listen, the story begins:

I stepped into a time machine…

After 30 seconds say: **Listen: I stepped into a time machine… You have 10 minutes to write. Keep writing until I tell you to stop. You may begin.**

Start the stopwatch immediately.

After 1 minute, give the following prompt: **Remember to keep writing until I tell you to stop.**

After 3 minutes, say: **Put a mark after the last word you wrote and keep writing.**

After 5 minutes, say: **Put a mark after the last word you wrote and keep writing.**

After 10 minutes, say: **Stop. Thank you. Put your pencils down.**

WRITTEN EXPRESSION (Form B)

Say to the students: **I want you to write a story. I am going to read part of a sentence to you first – and then you can write a short story about what will happen.**

Before you write, I want you to think about the story. First your will think, then you will write. You will have 30 seconds to think, then you will write for 10 minutes. At certain times, I will ask you to stop and make a mark on your paper like this (/). Do your best work. If you do not know how to spell a word, you should guess.

Keep your pencils down until I tell you to start. Listen, the story begins:

It was a dark and stormy night...

After 30 seconds say: **Listen: It was a dark and story night... You have 10 minutes to write. Keep writing until I tell you to stop. You may begin.**

Start the stopwatch immediately.

After 1 minute, give the following prompt: **Remember to keep writing until I tell you to stop.**

After 3 minutes, say: **Put a mark after the last word you wrote and keep writing.**

After 5 minutes, say: **Put a mark after the last word you wrote and keep writing.**

After 10 minutes, say: **Stop. Thank you. Put your pencils down.**

Appendix C

CBM Writing Scoring Guidelines: Correct Word Sequences

PROCEDURES FOR SCORING
CORRECT AND INCORRECT WORD SEQUENCES

1. Read the entire sample before beginning to score.
2. Underline or highlight incorrect words (words that are spelled incorrectly or that are grammatically incorrect).
3. Place a vertical line at the place where a sentence should end. At the end of the passage, give credit for a sentence if there is at least one sentence unit in the last phase, e.g., ^She^went^to^the^store^and" would be a sentence because "She went to the store" is a sentence unit.
4. Score the passage for correct and incorrect word sequences using the following definition developed by Videen, Deno, and Marston (1982):
   a. A correct word sequence is any two adjacent, correctly spelled words that are acceptable, within the context of the sample, to a native speaker of the English language.
   b. The term "acceptable" means that a native speaker would judge the word sequence as syntactically and semantically correct.
5. Use the carat method for scoring. Place a carat above two words if it represents a correct word sequence, and below the words if it represents an incorrect sequence.
6. Score a correct word sequence at the beginning of the sentence if the first word is capitalized and the word is spelled correctly. Score a correct word sequence at the ending of a sentence if the last word is spelled correctly and the student uses correct end punctuation.

SPECIFIC RULES FOR
SCORING CORRECT AND INCORRECT WORD SEQUENCES

1. <u>Capitalization and Punctuation</u>
   a. Pay attention only to capitalization at the beginning of the sentence and capitalization of proper names, place, etc. If a word is not capitalized at the beginning of the sentence, there is one wrong sequence. If the word is not capitalized <u>and</u> not spelled correctly, it is two wrong sequences.

Examples: she^went^to^the^store.^   shee went^to^the^store.^
        V   V   V

   b. Assign a correct sequence for a sensible beginning of a sentence; that is, a blank followed by a sensible sentence beginning. This first word of the sentence must be capitalized.
   c. Do not accept "and" or "but" or "then" or "so" as correct words at the beginning of a sentence.

Example: And I^didn't^clean^my^room^either.^
          V   V

The only exception to this rule is the first sentence in the story, since the students have been given a story starter. They may be just finishing the sentence.

Example: The story starter was, "It was a dark and stormy night." The student writes the first sentence in the story:
^and ^I^had^just^gone^to^bed.^

      d.   Ignore capitalization of words within a sentence, i.e., if a student writes in all capitals or if a student writes some letters as capitals.

Example: ^She^ went^ To^ the^ stoRe.^

      e.   The word "I" must be capitalized.

      f.   Assign a correct sequence for a sensible ending to the sentence and correct punctuation. Count only end punctuation. Ignore all other punctuation in the middle of the sentence, e.g., commas, quotes, etc. The only exception to this rule is an apostrophe, because a missing apostrophe would make the word an incorrectly spelled word, e.g., "dont."

2. Misspelled Words
      a.   Sequence before and after misspelled word as incorrect.
      b.   Compound words that are written as two words are counted as three incorrect sequences.

Example: ^I^didn't^do^my home work because^I^was^tired.^
                             V   V   V

3. Sentence Structure
      a.   Run-on Sentences
           • If the sentence is a run-on sentence, the scorer must decide where the sensible ending to the sentence is. Place a vertical line at this point.
           • If a run-on sentence is connected by conjunctions, the scorer must determine where to break the sentence apart. As a general rule, allow only one or two conjunctions per sentence. Cross out extra conjunctions, and mark the end of the sentence. (Note that this rule does not refer to a list of things connected by "ands," e.g., I want a book and a pencil and a piece of paper).
           • In a run-on sentence, do not give the student credit for end punctuation or for capitalizing the beginning of the next sentence.

Example: ^She^went^to^the^store^and^asked^for^some bread /
         and looked^at^some^books^and^then^went^home.^
        V   V

      b.   Word Order Reversed
           • If the student reverses the order of two words, there are three incorrect word sequences. They often do this when embedding a question in a sentence.

Example: ^I^was^thinking^about^what would my^friend say.^
                           V   V   V

      c.   Omitted Words
           • One wrong word sequence for an omitted word or words.

Example: ^I^checked^every^room if^any^light^was^on.^
                      V

        ("to see" has been omitted).

d. Added Words
- Sometimes the student uses words incorrectly and it is difficult to tell what part of the sentence to score wrong. In many cases, one word can be deleted to make a coherent sentence. This "word" should be marked wrong, just as a misspelled word is.

Example: ^I^thought since I^wanted^to^be^home^as^soon^as
         V   V

possible^because^it^was^storming.

(If the word "since" is removed, the sentence makes sense).

e. Sentence Fragments
- There are two types of sentence fragments. In one, the student places end punctuation in the middle of two phrases that should be connected together. In such cases, the end of the first sentence and the beginning of the next sentence are marked wrong.

Example: ^When^I came^home. The^door^to^the^house^was^open.^
               VV

- In the second type of sentence fragment error, there is just one fragment by itself. In such as a case, either the beginning of the sentence or the end punctuation is marked wrong.

Example: ^The^kids^in^my^school^wear^all^types^of^clothes. ^

Baggy bit,cotton^clothes^like^Levi^jeans.^
V   V

^My^friends^wear^tight^fitting^clothes.^

f. Repeated Phases
- The repeated part is incorrect.

Example: ^When^I^saw^the^old^buildings^and the old buildings and
                             V V V   V V

the^saloon,^I^ran.^

4. Grammar
a. Wrong tense, e.g., ^First^we ^went^home^and^then^we go
                                           V

to^the^store.^
V

b. Number, e.g., ^We^had^three car.
                    V V

c. Case, e.g., Me and Joe went^to^the^store.^
              V V V V

d. Possessive, e.g., ^My mothers house^is^on^that^avenue.^
                      V   V

    e. Word choice, e.g., ^I^am^the^only^one who is^here.^
                              v   v

5. Miscellaneous
    a. Give credit for very common slang words when used in dialogue, such as "gonna," "yeah," and "kinda." If not used in dialogue, count as a misspelled word.
    b. Count numbers, dates, and amounts as one correct word.
    c. Count the ampersand sign (&) as one correct word.
    d. Count hyphenated words as one word.
    e. "All of a sudden," all of the sudden," and "all the sudden" are all ok.
    f. "A lot" is two words, not one.
    g. "Lunchroom" is one word, not two.
    h. "Gray" and "grey" are both okay.
    i. "T-shirts," "teeshirts," and "t shirts" are all okay and are counted as one word.
    j. "Like" in the middle of the sentence is wrong:

e.g., He^wore like a^t-shirt.^
               v   v

    k. Abbreviations are okay, e.g., min., hr., and lb.

ADDENDUM TO PROCEDURES FOR SCORING CORRECT WORD SEQUENCES

1. Score hyphenated words as if they are correct, even if the student did not follow proper hyphen rules (but not if the word is incorrectly spelled).
2. Do not accept "so" as a correct word the beginning of a sentence, such as "and," "but," or "then."
Example: So I^didn't^clean^my^room^either.^
           v v
3. If the student used the story starter as part of the sentence, and the student writes "and I had just gone to bed," give a correct word sequence before and after "and."
Example: ^and^I^had^just^gone^to^bed.^

4. Compound words are difficult. Remember, the following words should be one word:
    homework
    sleepover
    flashlight
    step dad or stepdad are OK
    caveman
    headphones
    Gameboy

- If they are not written as one word, it should be counted as three incorrect word sequences.

5. At the end of the three- and five-minute slash lines, place your correct or incorrect word sequence carrots on the **right** of the slash line unless it is between a sentence:

   <u>Examples</u>: ^I^went^to^the^store.^ / ^I^saw^my^friend,^Tommy.^
               ^I^went^to^the^store^and / ^I^saw^my^friend,^Tommy.^

6. Proper names should be capitalized (e.g., Barney, Nintendo, Gameboy, etc.). If a word is not capitalized and not spelled correctly, it is two wrong word sequences.
7. If a student leaves out a word or several words, count it as one incorrect word sequence.
8. Allow only one conjunction per sentence. Otherwise, it is a run-on sentence.