

Read&Write GOLD Software: How Does Its Use Effect Middle School Student Writing

Susan Kenney
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Previous Research

- Writing is very **complex** (Beck, 2003)
- **Difficulties** with writing are often experienced by students with **learning disabilities** (Newcomer & Barenbaum, 1991).

Previous Research

- While struggling with **handwriting**, erroneous **spelling**, and baffling **mechanics**, thinking processes are inhibited (McCutchen, 1995).

Previous Research

- **Reducing** the **pressure** of handwriting and spelling, students are free to develop **higher level thinking skills**.
- Giving students access to technology will **not automatically** create better writers (MacArthur, 1996),
- Could a **combination** of technology and effective writing instruction help?

Purpose

- **District** Purchased new software
- **Research** will help
 - Verify it's effectiveness
 - Validate the expenditure

Questions

- **Difference** in the decrease of **error rates**?
 - Treatment and
 - Comparison groups?
- **Difference** in the Criterion holistic **gain score**?
 - Read&Write GOLD with Criterion
 - Criterion only?

Questions

- Will the
 - **pretest** scores,
 - **use** of features, and the
 - **number of hours** per week used;**predict an increase in writing scores?**

Method

- **HSRB**
- **Setting**
 - Small historic city
 - Large metropolitan area.
- **Participants**
 - 4- Special Education Teachers
 - 59- Students with special needs
 - 1- Language Arts Literacy Coach

Student Population

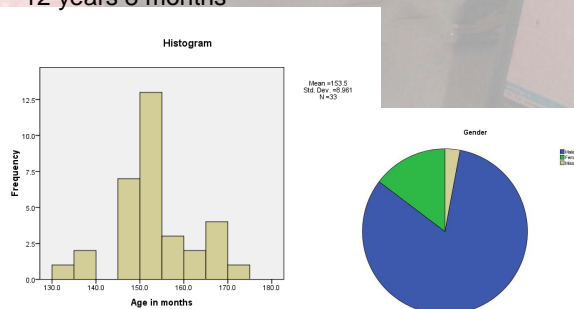
- 2 middle schools with enrollment - 1,000 students.
- 41-48% - African American
- 25-28% - Hispanic,
- 3-9% - Asian Pacific, and
- 14-30% - Caucasian.
- 5% learning disabilities (LD).

2007-2008 8th Grade SOL Writing Assessment

	Adv	Prof	Pass	Fail
All Students	5%	78%	82%	18%
Students w/ disabilities	0%	47%	47%	53%
State w/ disabilities	2%	53%	66%	34%

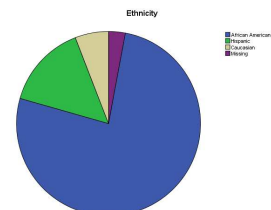
Middle School Students.

- Mean Age- 12 years 8 months
- 85%- Male



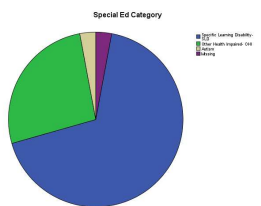
Students.

Ethnicity					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 African American	26	76.5	76.8	76.8
	2 Hispanic	5	14.7	15.2	93.9
	3 Caucasian	2	5.9	6.1	100.0
	Total	33	97.1	100.0	
Missing	System	1	2.9		
	Total	34	100.0		



Students.

Special Ed Category					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Specific Learning Disability- SLD	23	67.6	69.7	69.7
	2 Other Health Impaired-OHI	9	26.5	27.3	97.0
	3 Autism	1	2.9	3.0	100.0
	Total	33	97.1	100.0	
Missing	System	1	2.9		
Total		34	100.0		



Teachers.

- 3 Caucasian & 1 African American
- All Female
- 1- less than 5 years experience
- 1- between 5-10 years experience
- 2- over 15 years experience

Study Design

- Treatment vs. Comparison groups
- Pre-test - Baseline Writing sample
- Intervention
- Intermediate probes
- Post test – Writing sample
- Maintenance Measures

Equipment

- **Dell Desktop** computers with LCD Monitors
 - In large Computer lab
 - 3 in each classroom
- **Read&Write GOLD** Software
- **Criterion** web based writing evaluation application

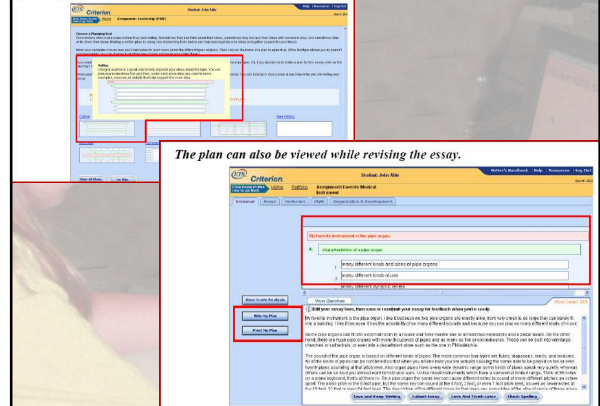
Student materials for both conditions.

- Criterion Tutorial

The Choose a Planning Tool screen will appear.



When the computer mouse is rolled over a specific planning template, a larger of the template and text explaining it appears.



Strategy condition materials.

- Read&Write GOLD Quick Reference Card

The screenshot shows a 'QUICK REFERENCE CARD' for Read&Write GOLD. It lists numerous features such as Phonetic Spell Checker, Word Prediction, Dictionary, Word Wizard, Hear Paragraphs, Calculator, Read Previous, Speak Text, Hear Speech, Read Next, Pause Speech, Stop Speech, ScreenShot Reader, Speech Maker, Daily Book Reader, Pronunciation Tutor, Scanning, Fact Finder, Fact Folder, Fact Mapper, Speech Reader, Translator, and Help Files. Each feature is accompanied by a small icon and a brief description of its use.

This is a duplicate of the screenshot in the previous block, showing the 'QUICK REFERENCE CARD' for Read&Write GOLD with its various software features and descriptions.

Teacher materials.

- NCS Mentor program
 - assessment verification
 - Inter Rater Reliability
- Training for using the rubric-
 - Discuss assessment of sample papers
 - 2-3 raters

Measures

Appendix D
Middle School Descriptive Writing Rubric

	Composing (central idea, elaboration, unity, organization)	Written Expression (word choice, precise information, sentence variety, tone, voice)	Usage and Mechanics (sentence formation, usage, mechanics, punctuation, spelling)
Compositional (not scored)	420 (20%) • The central idea is clearly focused and relevant to the subject. • Supports the central idea with relevant, specific, concrete, and relevant details. • Organized in a logical pattern with clear transitions that link the ideas.	310 (20%) • Writer's voice is strong. • Use of vivid, descriptive, and sensory details to create an image in the reader's mind. • Informative and consistent tone and style. • Creative and original.	210 (20%) • Focus on capitalization, spelling, punctuation, commas, hyphens, and dashes. • Clear and consistent use of subject-verb agreement, pronouns, and subject-verb agreement and conjunction of clauses and sentences.
Developing (not scored)	360 (20%) • The central idea is present and focused. • Establishes central idea and supports it with evidence. • Organized in a logical pattern with clear transitions that link the ideas.	250 (20%) • Writer's voice is consistent. • Some use of descriptive, vivid, and sensory details to create an image in the reader's mind. • Informative and consistent tone and style. • Some clarity and originality.	150 (20%) • More error in capitalization, spelling, punctuation, commas, hyphens, and dashes. • Focus on the use of subject-verb agreement, pronouns, and subject-verb agreement and conjunction of clauses and sentences.
Emerging (not scored)	300 (20%) • The central idea is present. • Use of relevant, specific, and relevant details to support the central idea. • Not fully organized, but some transitions are present.	190 (20%) • Writer's voice is inconsistent, but some use of descriptive, vivid, and sensory details to create an image in the reader's mind. • Informative and consistent tone and style. • Clarity and originality is minimal.	90 (20%) • Error in capitalization, spelling, punctuation, commas, hyphens, and dashes. • Some error in use of subject-verb agreement, pronouns, and subject-verb agreement and conjunction of clauses and sentences.
Emerging (not scored)	240 (20%) • The central idea is unclear. • Evidence is incomplete. • Organization is unclear, but some transitions are present.	130 (20%) • Writer's voice is not evident. • Use of descriptive, vivid, and sensory details to create an image in the reader's mind. • Informative and consistent tone and style. • Clarity and originality is minimal.	30 (20%) • Numerous errors in capitalization, spelling, punctuation, commas, hyphens, and dashes. • Significant error in use of subject-verb agreement, pronouns, and subject-verb agreement and conjunction of clauses and sentences.

Standards: L.7-8.1, L.7-8.2, L.7-8.3, L.7-8.4, L.7-8.5, L.7-8.6, L.7-8.7, L.7-8.8, L.7-8.9, L.7-8.10, L.7-8.11, L.7-8.12, L.7-8.13, L.7-8.14, L.7-8.15, L.7-8.16, L.7-8.17, L.7-8.18, L.7-8.19, L.7-8.20, L.7-8.21, L.7-8.22, L.7-8.23, L.7-8.24, L.7-8.25, L.7-8.26, L.7-8.27, L.7-8.28, L.7-8.29, L.7-8.30, L.7-8.31, L.7-8.32, L.7-8.33, L.7-8.34, L.7-8.35, L.7-8.36, L.7-8.37, L.7-8.38, L.7-8.39, L.7-8.40, L.7-8.41, L.7-8.42, L.7-8.43, L.7-8.44, L.7-8.45, L.7-8.46, L.7-8.47, L.7-8.48, L.7-8.49, L.7-8.50, L.7-8.51, L.7-8.52, L.7-8.53, L.7-8.54, L.7-8.55, L.7-8.56, L.7-8.57, L.7-8.58, L.7-8.59, L.7-8.60, L.7-8.61, L.7-8.62, L.7-8.63, L.7-8.64, L.7-8.65, L.7-8.66, L.7-8.67, L.7-8.68, L.7-8.69, L.7-8.70, L.7-8.71, L.7-8.72, L.7-8.73, L.7-8.74, L.7-8.75, L.7-8.76, L.7-8.77, L.7-8.78, L.7-8.79, L.7-8.80, L.7-8.81, L.7-8.82, L.7-8.83, L.7-8.84, L.7-8.85, L.7-8.86, L.7-8.87, L.7-8.88, L.7-8.89, L.7-8.90, L.7-8.91, L.7-8.92, L.7-8.93, L.7-8.94, L.7-8.95, L.7-8.96, L.7-8.97, L.7-8.98, L.7-8.99, L.7-8.100.

Measures

Descriptive Essay Rubric

Student Name _____
Date _____
Class _____

Composing: _____

Written Expression: _____

Usage & Mechanics: _____

Total _____/100 points _____ Grade

Composing – 40 points

- Use of logical and spatial order _____/10
- Use of transitional words and phrases to assist in cohesiveness _____/10
- Clear, concise ideas _____/10
- Conclusion that brings ideas together without restating _____/10
- Sufficient paragraphs to make a clear introduction, body and conclusion for subject _____/10

Written Expression – 40 points

- Use of variety of descriptive adjectives _____/10
- Use of images that appeal to the senses _____/10
- Maintain a consistent voice _____/10
- Elements of creativity and originality _____/10

Usage & Mechanics – 10 points

- Use of correct grammar, usage, and mechanics _____/10

Procedures

- Train Teachers-
 - Summer
 - 2 – 3 hr sessions
 - Software for practice
- NCS Mentor Program-
 - Inter rater Reliability
 - Descriptive Essay Rubric
- Baseline Prompt
- Train Students
 - 2 – 1 hour sessions
 - Multiple practice sessions

Testing.

- **Writing Prompts-**

- 1st Session
- 6th Session &
- 12th Session

- **Maintenance**

- 4 weeks after
- 8 weeks after
- 8th grade SOL Writing test

Future Research

- **Long term, regular use of**
technology
on **high stakes** writing assessment
students with L. D. ?

Future Research

- **Other groups** of learners:

- Slow learners?
- English as a Second Language?
- Cognitively challenged?
- Emotionally Disturbed?

Future Research

- Ramifications of having software tools available to **all** students?
- What effect would success in writing with technology have on **student attitude** about writing?

Future Research

- What effect would success in writing with technology have on **student behavior** and **achievement** in school?

Future Research

- **Optimum** amount of **writing time**,
 - **physical effects** on developing fingers,
 - bodies, and
 - minds of young students?

Future Research

- Technology features such as text to speech **during practice** still have a **positive effect on student scores** if they were not allowed those features during testing conditions?

References

- **Beck, N. & Featherston, T. (2003).** The effects of incorporating a word processor into a year three writing program. *Information technology in Childhood Education Annual*, 139-161.
- **Hetzroni, O. & Shrieber, B. (2004).** Word processing as an assistive technology tool for enhancing academic outcomes of students with writing disabilities in the general classroom. *Journal of Learning Disabilities*, 37, 143.

References

- **Lewis, C. (2007)** *Technology for learning disabilities project*. Central Washington University, Special Education Technology Center. RMC Research Corporation. Portland, Oregon.
- **MacArthur, C. (2000).** New tools for writing: Assistive technology for students with writing difficulties. *Topics in Language Disorders*, v20(n4), p85. Retrieved Wednesday, March 07, 2007 from ERIC database.

References

- **MacArthur, C. A. (1996).** Using technology to enhance the writing processes of students with learning disabilities. *Journal of Learning Disabilities*, 29, 344-354.
- **McCutchen, D. (1995).** Cognitive processes in children's writing: Developmental and individual differences. *Issues in Education: Contributions from Educational Psychology*, 1, 123—160 .

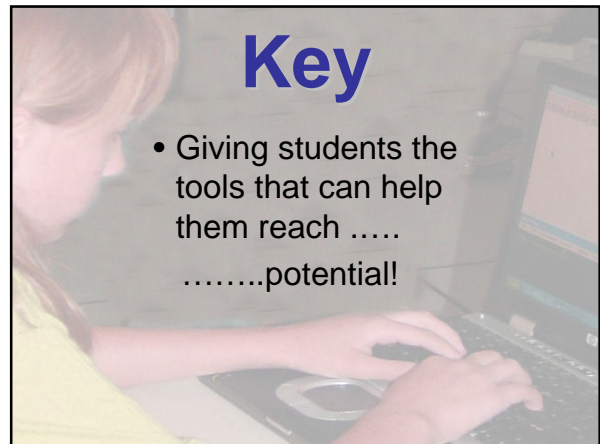
References

- **Newcomer, P. L., & Barenbaum, E. M. (1991)** The written composing ability of children with learning disabilities: A review of the literature from 1980-1990. *Journal of Learning Disabilities*, 24, 578-593.

SCHOOLS PROGRAM PROPOSAL

Program Name - Read&Write GOLD Software	Department- ITS and SPED/Assistive Technology
Budget Requested - \$12,100.00	Proposer- Susan Kenney
# Staff to be involved - Currently - 10	# Students to be served - Currently 20,30 Eventually- All SPED students and perhaps all ELL students
Eventually - All SPED and Inclusion teachers	Today's Date - 12-12-08
Description: ACFS has purchased Read&Write GOLD Software program with features that can assist students with spelling, homophone usage, understanding word meanings, and revising written assignments through audio feedback. This software will be available during the writing process for any middle school student who has an Individual Education Program (IEP) and who has difficulties with such writing components as handwriting, spelling, word usage, grammar, and revising. This software is a tool and should be used in conjunction with effective writing instruction. See Appendix A for more detailed feature descriptions.	
Philosophy: Writing is a complex skill that is vital in many areas of a person's life. Often students with learning disabilities are plagued with horrendous writing difficulties (Newcomer & Barenbaum, 1991). The struggle to focus on fine motor skills of handwriting, illogical spelling, and confusing mechanics, often impedes higher level thinking processes (McCutchen, 1995). When the pressures of handwriting and spelling are reduced through the use of word processing, students can concentrate on those higher level thinking skills.	
Target Population: 7-08- Purchased, 8-08 targeted teacher's trained	
Middle School Students	11-08 Installed on computers 12-08, RWG available at Hammond
With Identified Special Needs	1-09- Official training begins
If found effective- may be used with ELL	4-09- first set of session concludes 4-09- Comparison classes trained
	5-09 - maintenance writing sample 6-09 - 2' maintenance writing sample
	6-30-09- Report delivered 8-09- large scaled teacher training- students, too
	9-09- large scaled student training
Goals: The purpose of purchasing this software was to provide students with special needs with technology that will unleash their thoughts and help them demonstrate their skills as opposed to confining their disabilities. All middle school students with special needs will now have access to the software rather than a limited number of students.	
Activities: Two - three hour teacher training sessions were held in the summer. Teachers were able to earn opt out credit for attending and was provided a copy of the software on their teacher laptops for practice. It took three months for the software to be available for the students. During that time periodic contacts with the teachers continued to reassure them that the software would be coming. Student training sessions were planned and will be	
Survey will investigate the advantages of using assistive technology and the strategies the teachers found effective for integrating it into classroom settings. Teacher interviews will investigate attitudes and strategies more thoroughly to see other teachers with helpful strategies and testimonies of positive experiences of their colleagues. Then teachers may be more likely to approach technology integration in a positive and systematic way resulting in a greater number of students having access to the writing tools.	

<p>Evaluation Plan: See ACP's Research Application for more details. Student 5th grade SOL writing scores, grades, writing samples, SOL Reading scores, and Language Arts writing grades will be collected for each student. After training teachers and students writing samples will be periodically collected from classes using Read&Write GOLD software with Criterion and from the comparison classes using Criterion only. Writing samples will be assessed to determine the effect of student use of the Read&Write GOLD software. Maintenance writing samples and 8th grade Writing SOL scores will also be compared. We will know the software is effective if there is a statistically significant difference of improvement between the subsequent scores of the Read&Write GOLD group and the scores of the comparison classes.</p> <p>Budget Detail Description: Training-\$50 per 3 hour session Software- See appendix B for detail. Less than \$12000.00 for all PCs in both middle schools to have Read,Write GOLD software. It will be purchased in lieu of \$28,000.00 worth of assistive technology upgrades needed and will serve all students with special needs in both buildings! Yearly upgrade fee is less than \$1000.00 per building.</p> <p>Expected Outcome(s): Students with writing deficits who use Read,Write GOLD software will develop better writing skills, experience less frustration, and become more independent and proficient writers. If they experience more success with writing, both motivation and time on task should also improve. We will know that the goals have been realized if student writing is significantly improved and greater independence has been observed.</p> <p style="text-align: right;">11/21/08</p>
<p style="text-align: center;">Resources</p> <p>McCarter, D. (1995). Cognitive processes in children's writing: Developmental and individual differences. <i>Issues in Education: Contributions from Educational Psychology</i>, 7, 123-160.</p> <p>Newcomer, P. L., & Barenbaum, E. M. (1991) The written composing ability of children with learning disabilities: A review of the literature from 1980-1990. <i>Journal of Learning Disabilities</i>, 24, 578-593.</p>



Key

- Giving students the tools that can help them reachpotential!