

Technology Toolkit for Writing

Writing Considerations

What do Students Have to Write?

- Grade level tasks
- School assignments vs. homework
- Journals
- Worksheets
- Spelling Sentences
- Essays
- Tests
- Notes
- Book Reports
- Letter

What are the difficulties that they are having?

- Not Enough Time
- Repeated Errors
- Staying on Topic
- Get Stuck on Thoughts
- Translating a Verbal Story into a Written Story
- Editing
- NoteTaking
- Getting Started
- Staying Motivated throughout the Writing Task
- Generating Ideas
- Falling behind Others in Class
- Illegible Handwriting
- Lack of basic computer skills
- Completing lengthy assignments
- Following directions
- Putting thoughts into words
- Generating cohesive idea

Addressing composition woes...

- Word cards, word wall, word banks, picture banks
- Sentence starters, story starters
- Cued notetaking
- Theme-mapping
- Outlining, Webbing

The Writing Process

1. Getting Started: Prewriting
2. Sloppy Copy: First Draft
3. Hamming it Up: Revision
4. Tuning It Up: Editing
5. Neat Sheet: Final Copy
6. Publishing: Sharing and Celebrating

Complex activity that Involves the blending of:

- Fine motor coordination (Graphomotor)
- Attention
- Language
- Memory
- Higher-order thinking

Neurodevelopmental differences can occur in one or more of those areas.

“There is not another academic skill that demands that a child bring together as many different neurodevelopmental functions as are required for writing.”

~Dr. Mel Levine

<http://www.allkindsofminds.org/>

Graphomotor

Graphomotor function refers to the ability to use muscles in the fingers and hands to form letters easily and legibly and to maintain a comfortable grip on a writing instrument. This function plays an important role in maneuvering a pen or pencil and allowing the fingers to keep pace with the flow of ideas.

- Coordinating small muscles of the fingers needed to form letters
- Signs of writing problems:
 - Finds it hard to form letters
 - Has difficulty manipulating a pencil
 - Grips a pencil uncomfortably tightly
 - Holds a pencil in an awkward manner
 - Struggles to coordinate small muscles to keep up with the flow of ideas

Possible Solutions

- Pens & Pencil Grips
- Raised Paper
- Slant Boards
- Templates
- Labels
- Magnetic Letters
- Fonts
- Dictation
- Portable Word Processors
- Onscreen Keyboards
- Speech Recognition

Attention

Attention plays an important role in all stages of writing. This task often demands considerable mental energy and focus over long periods of time. Writers must not only preview what they want to convey as they put their ideas on paper, but also continually self-monitor to stay on track.

- Maintaining concentration and self-monitoring work
- Signs of writing problems:
 - Is distracted or fidgety during writing tasks
 - Loses one's place while writing
 - Appears mentally fatigued or overly tired while writing
 - Doesn't exert effort if topic is not personally interesting
 - Is unable to get started on writing assignments

Possible Solutions

- Emphasize Key Information
- Preview, Plan & Monitor
- Edit - Talking Word Processors
- Talking Word Processors
- Microsoft Word Report Wizard, Templates

Language Production

Language is an essential ingredient of writing. The ability to recognize letter sounds, comprehend words and their meanings, understand word order and grammar to construct sentences, and describe or explain ideas all contribute to a child's ability to write clearly.

- Using words and forming sentences correctly
- Signs of writing problems:
 - Has difficulty with word sounds or meaning
 - Cannot easily spell words so they reflect the way they are pronounced
 - Finds oral expression difficult
 - Struggles with sentence structure and proper word order
 - Has trouble reading back what is written

Possible Solutions

- Dictionaries
- Inspiration
- Spell Checkers
- Microsoft Word
- Word Prediction
- TextHelp
- Kurzweil ~ WYNN
- Earobics
- Ultimate Phonics
- Simon SIO
- Clicker 5
- E-pals
- Hollywood High

Memory

Memory ability has a significant impact on writing. The rate at which children generate ideas must coincide with their retrieval of necessary vocabulary, spelling, and prior knowledge. When organizing essays, writers must be able to think about a topic, draw upon facts and concepts, and sequence ideas and facts in the right order.

- Recalling letters, rules and ideas
- Signs of writing problems:
 - Cannot easily recall letter formation.
 - Cannot easily recall rules of spelling, grammar, punctuation
 - Presents ideas out of sequence
 - Has trouble accessing prior knowledge while writing
 - Struggles to organize ideas while writing

Possible Solutions

- Desktop Helpers
- Strategies
 - Break Processes into steps
- Speaking Homework Wiz
- Mnemonic strategies

POWER
P...Plan the paper
O...Organize your ideas
W...Write the draft
E...Edit your work
R...Revise

COPS
Capitalization
Omissions
Punctuation
Spelling

Post writing

Does content equal framework?
Error monitoring strategies
Does the writing make sense to others?
Is the writing too long or short?

Self-Checking:

Do the sentences make sense?
Are the correct words capitalized and all others lower case?
Is correct punctuation used?
Are all the words spelled correctly? (Isaacson, S. 1997)

Make sure that:

You did not spend too much time on one part.
You did not leave out anything important.
You did not include too much information.
The writing flows smoothly.
Events happen chronologically.
(Kemper et al. 1995)

Questions when revising:

Was any information overlooked?
My favorite part of the writing is....
Is there a section that could be made clearer?
Are my thoughts chronological?
Could I have done this differently? (Marzano et al. 1995)

C-D-O Revising Strategy:

Compare: Read a sentence.

Diagnose: Does this sound right?

Am I getting away from the main idea?
Will other people understand and believe the main idea?
I like it as it is.
Why was this the diagnosis for that sentence?

Operate: Do I need to leave this sentence out?

Do I need to include more information?
Do I need to reword it?
I should leave it the same.
Go to the next sentence. (Harris et al. 1996)

EmPOWER (*Singer & Bashir – www.architectsforlearning.com*)

Evaluate – pick apart the assignment to find out what I have to do

Make a Plan – decide how I will approach the task & what strategies I'll use

Organize - show & organize my ideas visually

Work – do the work of writing my paper

Evaluate – reflect on & judge the quality of my work

Re-work – make any necessary adjustments

Inspiration

Activate Prior knowledge - Organize and arrange thoughts <http://www.inspiration.com/>

Higher Order Cognition

In the upper grades, writing relies on higher-order cognitive functions. Assignments often require students to generate original and creative ideas while integrating spelling, grammar, and punctuation rules. By early adolescence, many written assignments demand critical thinking skills and conceptual ability such as evaluating opposing arguments and drawing conclusions.

- Generating ideas and taking a stepwise approach to plan/revise
- Signs of writing problems:
 - Cannot easily generate ideas or elaborate on them in writing
 - Has difficulty with writing tasks requiring creativity and/or critical thinking
 - Finds organizing writing tasks difficult

Higher Order Cognition involves (*allkindsofminds.org*)

Concept Formation/Transformation – Integrating ideas that go together

Critical Thinking – evaluating ideas and opinions

Creativity – independent thinking and self-generated thoughts

Problem Solving – applying a strategic approach to complex questions

Rule Use – Learning, developing, and applying rules and principles

Logical thinking/Reasoning – generating answers to complex issues

Mental Representation – portraying new ideas so they are meaningful and lasting

Helpful hints

Create an environment for risk taking and promotes innovative thinking

Encourage areas of focused interest

Allow students to select materials, projects, reading texts, writing topics, spelling words

Use high interest subject matter for creative activities

Allow students to create products using different formats

Comics, TV scripts, magazine articles, song lyrics

Develop activities that help the students' ability to think ahead, or predict possible outcomes

Collaborative activities, working in teams

Write using story starters

In social studies, students have students make predictions about historical events

Have students estimate answers to science experiments

Provide a strategy sheet for problem solving with

estimation, prediction and outcome comparison

Steps of the Creative Process (*from allkindsofminds.org, adapted from Wallas, 1926*)

Preparation- At this initial step, students will need to familiarize themselves with the problem at hand or the product they wish to create. The goal of the Preparation step is not to solve the problem, but to become intrigued by it.

Incubation- At the second step, the task, problem or initial idea is put aside and no conscious effort is expended on the task. Creative people feel that this rest period may be a period in which the unconscious mulls over the problem.

Inspiration- During this phase, the creator has a strong sense of the solution and/or the path to take in order to solve the problem.

Verification- This step involves an intense period of work during which mental effort is expended to solve the problem or complete the activity in order to verify the initial inspiration.

Possible Solutions

Note Taking

Be able to listen and write at the same time
Fine Motor speed
Saliency determination required
Recall
Sequencing

Note Taking – Outline/Web

Graphic Organizers

Web Resources:

Design and print different graphic organizers. You don't have to be an artist to do it!
http://teachers.teach-nology.com/web_tools/graphic_org/
http://www.eduplace.com/kids/hme/6_8/graphorg/

Brainstorm Ideas/Lists

Generate ideas apart from writing
Record ideas in list form
Record ideas into a tape recorder

Kidspiration/Inspiration: Super Grouper - Rapid fire mode for brainstorming and listing ideas

Writer's Companion – Systematically walks students through the writing process.

Solo - Students learn the "Process of Writing"

1. Outlining and Mapping
2. Add notes and expand outline
3. Synthesize outline and notes into a draft

Provides auditory feedback

Students can work in outline view, diagram view or both.

Structured Writing

Using Inspiration Software to Teach Paragraph Development

Why Use Structured Writing?

- Students do not know where to start when writing
- Students have difficulty with logical sequencing
- The visual organizer provides an overall view for the nonlinear thinker
- Structure helps students alleviate semantic difficulties

Why Use Computers?

- Produce legible text
- Direct the writing process (planning, writing, editing)
- Increase fluent production of sentences
- Encourage elaboration
- Guide organization
- Enhance student self-esteem

Structured Writing Paragraphs

- Basic five-sentence paragraphs
- Expanded paragraphs
- Reason Paragraphs
- Process Paragraphs
- Classification Paragraphs

Compare and Contrast Paragraphs

Writers Writing in the Content Areas

- Writers write to demonstrate understanding
- Writers write to Enhance Learning and memory
- Writers write to inform and to express important ideas in the real world
- Writers write to
 - Analyze and solve problems
 - Express feelings including anger, joy, laughter, or sadness
 - Share secrets, personal ideas, and interests
 - Share experiences, wildest ideas and discoveries
 - Record information
 - Share thoughts with other individuals
 - Appreciate the beauty and magic of language
 - Remember information for later use or study
 - Become a published author
 - Play with words, thoughts, and ideas
 - Relax and enjoy self-expression
 - Brainstorm and journal

Resources

- Chapman, C., & King, R. (2003). Differentiated Instructional Strategies for Writing in the Content Areas. Corwin Press, Inc.
- Culham, R., (2003). 6+1 Traits of Writing: The Complete Guide Grades 3 and Up. Scholastic,
- Cunningham, P.M., & Allington, R.L. (2006). Classrooms that work: They can all read and write, 4th.ed. Longman: New York, NY.
- Cunningham, P.M., Hall, D.P., & Sigmon, C. M. (1999). The teacher's guide to the four blocks: A multimethod, multilevel framework for grades 1-3. Carson-Dellosa Publishing Company, Inc.: Greensboro, NC.
- Detheridge, T., & Detheridge, M. (1997). Literacy through symbols: Improving access for children and adults. David Fulton Publishers: London.
- Developing Minds - Getting Thoughts on Paper. Dr. Mel Levine. Videocassette. WGBH Educational Foundation, 2002.
- Harris, K. R., & Grahman, S. (1996). Making the writing process work: Strategies for composition and self-regulation. Brookline Books: Cambridge, MA.
- McMurdo, K, & Haynes, C. (2001). Structured Writing: Using Inspiration to Teach Paragraph Development. ISTE
- McMurdo, K. (2003). Structured Writing II: Using Inspiration Software to Teach Essay Development. ISTE
- Sigmond, C. M. (2001). Modifying the four blocks for upper grades: Matching strategies to students' needs. Carson-Dellosa Publishing Company, Inc.: Greensboro, NC.
- Sousa, David A. How the Special Needs Brain Learns. Vol. 1. California: Corwin P, Inc, 2001. 1- 237.
- Sousa, David A. How the Brain Learns. 2nd Edition. California: Corwin P, Inc, 2001. 1-3057.

Resource List for Toolkit

Graphomotor

Pens & Pencil Grips - Raised Paper	Beacon Ridge Pro Ed Pocket Full of Therapy	www.beacon-ridge.com www.proedinc.com www.pfot.com
Literacy Lined Paper	Beacon Ridge	www.beacon-ridge.com
Magnetic Letters	Magnetic Poetry	www.magneticpoetry.com
School Fonts	School Fonts	www.schoolfonts.com
Alphasmart, Neo, Dana	Renaissance Learning	www.alphasmart.com
Quickpad	QuickPad	www.quickpad.com
Laser PC 6	Perfect Solutions	www.perfectsolutions.com
The Writer	Advanced Keyboard Technologies	www.keyboardinstructor.com
OnScreen Keyboards		
Reach Keyboard	Applied Human Factors	www.ahf-net.com
PixWriter	Slater Software, Inc	www.slatersoftware.com
Intellitalk	Intellitools	www.intellitools.com
Dragon Naturally Speaking	Nuance	www.nuance.com
Speak Q	QuillSoft	www.wordq.com

Attention

Templates/Wizards	Microsoft	www.microsoft.com
Highlighter Tape	Onion Mountain Technology Beacon Ridge	www.onionmountaintech.com www.beacon-ridge.com
Web Highlighting	i-Lighter	www.i-lighter.com
Kidspiration, Inspiration	Inspiration Software	www.inspiration.com
Read Please	ReadPlease	www.readplease.com
AspireReader	Aequus Technologies	www.aequusdps.com
Intellitalk III	Intellitools, Inc.	www.intellitools.com
Write:Outloud	Don Johnston, Inc.	www.donjohnston.com

Language Production

Word Finder	Pilot Light Books. www.phonicspeller.com/WordFinder.html	
Sound-It-Out Speller	Don Johnston, Inc.	www.donjohnston.com
Bad Spellers Dictionary	Random House	www.randomhouse.com
Speaking Homework Wiz	Franklin Learning Resources	www.franklin.com
Quicktionary Reading Pen II	WizCom Technologies Inc.	www.wizcomtech.com
Co:Writer	Don Johnston, Inc.	www.donjohnston.com
Word Q, Speak Q	Quillsoft	www.st4learning.com
Read and Write Gold	TextHelp	www.texthelp.com
WYNN	Freedom Scientific Learning Group www.freedomscientific.com/LSG	
Kurzweil 3000	Kurzweil Education Systems Inc.	www.kurzweiledu.com
Scan and Read Pro	Premier Assistive Technology	www.readingmadeeasy.com
Phonics Companion	Visions Technology in Education	www.toolsforteachers.com
Phonics Alive	Advanced Software	www.phonicsalive.com
Ultimate Phonics	Spencer Learning	www.spencerlearning.com
Earobics	Cognitive Concepts	www.earobics.com
Lexia	Lexia Learning System	www.lexialearning.com
Simon SIO, WordMaker	Don Johnston, Inc.	www.donjohnston.com
ePals	ePals	www.epals.com
Hollywood High	Software Express	www.swexpress.com

Memory

Desktop Helpers	Really Good Stuff	www.reallygoodstuff.org
Kidspiration, Inspiration	Inspiration Software, Inc.	www.inspiration.com
Homework Wiz	Franklin Learning Resources	www.franklin.com

Making the Writing Process Work: Strategies for Composition and Self-Regulation (1996) Karen Harris and Steve Graham

Higher Order Thinking

Carbonless Notebook	Beacon Ridge	www.beacon-ridge.com
Graphic Organizers	teAchnology http://teachers.teach-nology.com/web_tools/graphic_org	
	Houghton Mifflin	www.eduplace.com/kids/hme/6_8/graphorg
Kidspiration, Inspiration	Inspiration Software, Inc.	www.inspiration.com
SOLO	Don Johnston, Inc.	www.donjohnston.com
Writer's Companion	Visions Technology in Education	www.writerscomp.com
Write:OnLine	Crick Software	www.cricksoft.com/uk/writeonline

Websites

- www.nwrel.org/assessment/lessonplans.php This site allows you to get lesson plans for traits of writing
- www.nwrel.org/assessment/scoringpractice.php This site allows you to get practice papers for traits of writing. Can select trait and age group you want to score
- www.kidpub.org/kidpub/ This is a site that publishes student writing. Even offers a page for schools to post their students' writing.
- www.kidscom.com/create/write/write_form.html A site that publishes student writing
- www.readwritethink.org/lessons/lesson_view.asp?id=195 This is a lesson that allows students to create a comic strip. It has a comic strip creator, planning sheet and grading rubric.
- www.readwritethink.org/lessons/lesson_view.asp?id=101 Using Picture books to teach characterization in writer's workshop. This lesson has book list for books that have strong characters, interactive graphic organizer and self assessment piece.
- www.thinkfinity.org/home.aspx From Verizon Foundation - A site for finding lesson plans in different curricular areas that incorporate technology. Many of the lessons have on-line tools for making brochures, timelines, graphic organizers, etc.
- www.allkindsofminds.org/ptk/WritingBasics.aspx - Parent Toolkit - From the early formation of letters to crafting an essay, writing involves perhaps more subskills than any other academic task. To write well requires combining multiple physical and mental processes in one concerted effort to communicate information and ideas.
- www.ldonline.org/Ld_indepth/technology/technology.html - Questions and answers about technology and dyslexia.
- www.eduplace.com/rdg/res/frequent.html - High-Frequency words and vocabulary list.
- <http://rubistar.4teachers.org> - RubiStar is a free tool to help teachers create quality rubrics.
- www.allkindsofminds.org - All Kinds of Minds is a non-profit Institute that helps students who struggle with learning measurably improve their success in school and life by providing programs that integrate educational, scientific, and clinical expertise.

Product & Software Resources:

- The Writer Advanced Keyboard Technologies www.keyboardinstructor.com
- AlphaSmart, Neo, Dana AlphaSmart www3.alphasmart.com
- Reach, SoothSayer Applied Human Factors www.ahf-net.com
- Link II, Stages Assistive Technology www.assistivetech.com
- Adapted Pens, Paper Beacon-Ridge www.beacon-ridge.com
- Adapted Books; Emerging Literacy Creative Communicating www.creative-com.com
- Clicker 5; Cloze Pro; Word Bar Crick Software Inc. www.cricksoftware.com
- Little Books; Solo Don Johnston Inc. www.donjohnston.com
- QuickPAD IR QuickPad www.quickpad.com
- WYNN; Test Talker Freedom Scientific Inc. www.freedomscientific.com/LSG/index.asp
- Adapted Keyboards & Mouse InfoGrip www.infogrip.com
- Computer Access, Keyguards Inclusive TLC www.inclusivetlc.com
- Inspiration, Kidspiration Inspiration Software Inc. www.inspiration.com
- IntelliTools Classroom Suite, IntelliKeys, Overlay Maker IntelliTools Inc. www.intellitools.com
- Kurzweil 3000 Kurzweil Educational Systems. www.kurzweiledu.com
- Tracker; Discover Madentec Inc www.madentec.com
- Writing Activities Learning Magic learningmagicinc.com
- One handed keyboard Matias Corporation www.halfkeyboard.com
- Speaking Dynamically Pro; BoardMaker+ Mayer Johnson Co. www.mayer-johnson.com
- Power Point; MicroSoft Word MicroSoft Corporation www.microsoft.com
- PC Notetaker NexConcepts www.nexconcepts.com
- OmniGraffle, OmniOutliner Omni Group www.omnigroup.com
- Writing Aids, Lottie Kits Onion Mountain Technology www.onionmountaintech.com
- Head Mouse; OnScreen Keyboards Origin Instruments www.orin.com/access
- Laser PC; Writer Perfect Solutions Software Inc www.perfectsolutions.com
- Scan & Read Pro, Talking Dictionary Premier Assistive Technology www.readingmadeeasy.com
- WordQ, SpeakQ Quillsoft www.wordq.com
- Picture It; Pix Writer Slater Software www.slatersoft.com
- Spark Space Spark-Space Ltd. www.spark-space.com
- Read & Write Gold TextHelp Systems Inc. www.texthelp.com
- Teaching Rings Therapro Inc. www.theraproducts.com
- Scholastic Keys Tom Snyder Inc. www.tomsnyder.com
- Keyguards Turning Point Therapy & Technology www.turningpointtechnology.com
- Writer's Companion Vision's Technology in Education www.writerscomp.com

Freeware Text to Speech Software

- WordTalk – Free plug in for Microsoft Word – www.wordtalk.org.uk
- Microsoft Reader PC Free - Screen Reader - Windows www.microsoft.com/reader
- Read Please Free - Text-to-Speech Reader - Win 95+ www.readplease.com
- ClipTalk Reads anything copied to the clipboard www.fullmeasure.co.uk