Subject: Speech & Handwriting/Input Technologies Newsletter 1Q 2003 - Idaho
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This is the first of three newsletters inspired by the new input technologies courses being implemented in a half-dozen states. These classes are replacing the traditional keyboarding classes with new courses whose objectives were articulated in the NBEA standards: Develop proper input technologies (e.g., keyboarding, scanning, speech recognition, handwriting recognition, and use of the touch screen or mouse), including SAFETY METHODS to avoid repetitive strain injury.

This first issue will address SAFER KEYBOARDING INSTRUCTION. Part 2 will address THE PROGRESS OF MOBILE, PEN-BASED COMPUTING AND HANDWRITING. Part 3 will approach THE ROLE OF SPEECH IN THE BATTLE AGAINST INJURIES. (Note if you received this newsletter in error or wish to cancel your free subscription, e-mail info@speakingsolutions.com.)

PART 1

A. Safer Keyboarding Introduction

B. Fifteen Principles of Safer Keyboarding Instruction

C. Speed or Accuracy? How Our School Reduced Typing by 50 Percent

D. Seven Tips to Reduce Typing and Clicking with Dragon NaturallySpeaking

E. A Major Step Forward: South-Western Educational Publishing has a New DigiTools/Input Technologies Text in Process

SAFER KEYBOARDING INTRODUCTION

(Find the complete article at www.speakingsolutions.com/news)

by Karl Barksdale (c)

Keyboarding is like an enormous, highflying zeppelin that is gradually cooling and descending toward the horizon. Changes in national and state standards, deteriorating student interest in typing, and new mobile technologies (Tablet PCs, handheld PDAs, speech and handwriting recognition, and Smart Screens) are starting to

take the air out of the keyboarding balloon.

But, it is a gigantic balloon.

It would be a mistake to believe that keying instruction will be grounded any time soon. The money spent on North American keyboarding instruction -- salaries, software, materials, and supplies -- can be estimated at $3 to $5 billion or more annually! For the present, keyboarding is a vital input technology and must be taught.

Albeit, given the sharp rise of keyboard and mouse-related injuries since the 1980s, it is clear that we have not done enough on the safety front, so our instructional approach must come down clearly on the side of safety. Here are:

FIFTEEN PRINCIPLES OF SAFER KEYBOARDING INSTRUCTION

1. LIMIT INTENSIVE PRACTICE TO 15 MINUTES: Practicing longer than 15 minutes at a time produces diminishing returns. Students get bored, lose their concentration, start falling into bad habits, and are at a higher risk for injury.

2. EMPHASIZE ACCURACY: Typing accurately is one of the most important injury prevention techniques available. Every mistake requires at least two additional keystrokes, and sometimes more. For example, say a student types this common mistake: HTE SPACE instead of THE SPACE. What started as 4 simple keystrokes has turned into 12 total strokes (4 incorrect strokes, 4 backspace strokes, and 4 corrected strokes). Typos greatly increase the amount of typing and clicking, punishing hands unnecessarily.

3. REMOVE WPM AS A PERFORMANCE REQUIREMENT: Speed increases the risk of injury. Some kids can not handle the repetitions. As teachers, we will not always guess which students are predisposed to injury. If a student comes down with carpal tunnel syndrome because they are asked to type increasingly faster and faster, then the fault may lie with the school.

4. GRADE ON PROPER TECHNIQUE AND ACCURACY, NOT ON WPM. Using wpm performance measures causes at-risk students to give up because they can never compete. Besides, the true measures of success should be proper technique, ergonomic safety, and accuracy.

5.   ELIMINATE ALL TIMINGS LONGER THAN 3 MINUTES AND USE 3-MINUTE TIMINGS SPARINGLY. For years we used long production timings. Today, timings of 5 or 10 minutes should NEVER be assigned. Prolonged typing without meaningful rest must be prohibited. Even 3-minute timings should be avoided whenever possible.

6.   STRETCH, SHAKE, AND REST: Students should rest their hands, using proper stretching, shaking, and relaxation techniques at the end of each section of typing -- EVERY MINUTE or so. This activity MUST become habitual.

7.   AS STUDENTS PROGRESS, REDUCE THEIR PRACTICE TIME. When students progress to 35-40 wpm at accuracy rates consistently over 95 percent, reduce practice time! This is an injury prevention issue.

8.   ELIMINATE ALL PRACTICE AFTER A STUDENT REACHES 55 WPM AT 95% OR HIGHER! It is simply not safe to type fast over long periods of time. Set a reasonable upper speed limit.

9.   DO NOT INITIATE KEYBOARDING INSTRUCTION UNTIL MIDDLE SCHOOL: Keyboarding instruction at elementary grades is fraught with problems. (For more, read The 10 Things Wrong with Elementary Keyboarding at www.speakingsolutions.com/injury/elemkey.html.) Plus, by the time our current elementary students reach high school, the input technologies revolution will be in full swing, and computers and input methods will have changed drastically.

The computer skills elementary students should be learning include penmanship, clear enunciation, and reading aloud.

10. REDUCE TYPING FOR ALL K-12 STUDENTS BY 50 PERCENT BY 2005. The amount of typing that students are asked to do in some school districts goes beyond any long-term need. (Read HOW OUR SCHOOL REDUCED TYPING BY 50 PERCENT below.)

11. ASK STUDENTS TO USE PROPER TECHNIQUE WHEN THEY ARE OUTSIDE OF YOUR WATCHFUL EYE: In an informal survey we discovered that over 80 percent of our students went back to two-finger typing as soon as they are not being observed and practice bad habits!

12. EXPECT STUDENTS TO KNOW WHAT THE RSI SYMPTOMS ARE AND EXPECT THEM TO USE ALTERNATIVES TO KEYBOARDING: Sadly, only a few students will describe their repetitive stress injury symptoms to their teachers. Many students will continue to type and never voice their symptoms and pains. For this reason, make sure your students know about the alternatives to typing. Make sure they have speech and handwriting recognition skills. Let them know that not everyone types and it is OK

for them to use these alternatives if thy feel RSI-like symptoms.

13. FORBID THE USE OF THE BACKSPACE OR DELETE KEYS DURING PRACTICE: Students that use the Backspace or Delete keys quickly become dependent upon them and become less concerned with keying accurately the first time.

14. TEACH PROPER KEYING/SITTING POSITION: While ergonomically correct techniques alone WILL NOT prevent injuries from happening, they can minimize the impact of typing and clicking on the human body. See explanations of each item at www.speakingsolutions.com/news. Always:

* Teach neutral wrist and arm position.

* Demand proper sitting position and keyboard height.

* Provide each student with an adjustable chair.

15. TEACH PROPER CURVED FINGER AND FLOATING TECHNIQUES: Have students pay attention to their hands and how they work the keyboard. See explanations of each item at www.speakingsolutions.com/news. Always:

* Tell students to use a light touch.

* Emphasize curved fingers.

* Allow hands to float to the upper and lower reaches.

* Never let students rest their hands on the keyboard or the table.

C. SPEED OR ACCURACY?

CASE STUDY: HOW OUR SCHOOL REDUCED TYPING BY 50 PERCENT

(Find the complete article at www.speakingsolutions.com/news)

BACKGROUND: Keyboarding has reached unsafe levels for many students. In our district keyboarding instruction has been the rule every year for grades 4, 5, 6, 7, 8, and 9. And there is another requirement that is baffling from an injury perspective -- students MUST pass a typing exam after 8th grade where they must type 30 wpm at 96% accuracy on multiple three-minute timings before they are allowed to continue taking computer classes in the 9th grade. Failure to pass the exam requires yet another required semester of typing in summer school where instruction proceeds for nearly two hours each day.

To reduce typing pressure to reasonable levels, under the leadership of our thoughtful principal, we completely canceled our semester of 7th grade keyboarding. This cut the amount of typing students do in our school by 50%. (We only have two grades, 7th and 8th.)

Careful records were kept comparing the last group to have 7th grade keyboarding with the first group to avoid the class. With these 8th graders, we were careful to follow the 15 principals of safer keyboarding outlined above. Here is how things are turning out!

* Total passing for 2001-2002 school year for students WITH 7th and 8th grade keyboarding = 52%

* First semester 2002-2003 total passing for students WITHOUT 7th grade keyboarding = 65%

Less can be more! So, what caused a jump in performance despite cutting the time spent keying? The elementary and seventh-grade programs were highly concerned with increasing typing speed. This means students are typing thousands of unnecessary keystrokes each day, which increases their risk for injury.

Under the new Safer Keyboarding program, typing speed or wpm is a non-factor in grading. Students are only encouraged to type accurately for 15 minutes or less each day using proper ergonomic techniques.

The results are starting to speak for themselves.

D. SEVEN TIPS TO REDUCE TYPING AND CLICKING WITH DRAGON NATURALLYSPEAKING

(Find online at www.speakingsolutions.com/resources in the Tips of the Month)

For many, the mouse causes more RSI problems than the keyboard! If the goal is to reduce typing and clicking by 50 percent by the end of 2005, students must take advantage of speech recognition and the voice navigation commands to reduce their total number of clicks and keystrokes. Here are seven keystroke and mouse click reducing tips that your students can try the next time they fire up Dragon.

1. Use the MOUSE CLICK command. Position your mouse or digital pen pointer on any active button and instead of clicking, give your finger a rest and say MOUSE CLICK! If a dialog button is active, don't even use your mouse, just say PRESS ENTER to activate the button.

2. Use the SWITCH TO SPELL command (or click WORDS, SPELL MODE) to spell unique names, Web URLs, and e-mail addresses letter by letter. Once a clunky feature in versions 3 and 4, spelling has become fast and accurate -- if you have a good headset and sound card. Spell letters briskly and clearly. Say SPACE to create a space. Say CAP < LETTER > to capitalize a letter. Say SWITCH TO NORMAL MODE (or click WORDS, NORMAL MODE) to return to normal in version 6.0.

3. Learn the military or phonetic alphabet to spell letters that give you trouble in normal spelling mode. (Note: I always have to say ECHO for the letter e when spelling.)

4. Use the multiple backspace command to delete back over spelling errors. For example, say BACKSPACE 1-20.

5. A simple capitalization error takes a combination of keystrokes or mouse clicks to correct. Fix capitalization errors by voice! Select the capitalization error and say CAP THAT, NO CAPS THAT, or ALL CAPS THAT to make the corrections.

6. When working with long documents in Microsoft Word, do not use your mouse to scroll through the document. Use the PREVIOUS PAGE or NEXT PAGE commands to move up and down a page. Use the GO TO TOP and GO TO BOTTOM commands to move to the beginning and end of the documents. To move part of the way down a page use the MOVE DOWN 1-20 or MOVE UP 1-20 commands.

7. Create a Voice Command macro for oft used e-mail and web addresses:

A) Choose TOOLS, ACCURACY CENTER, followed by LAUNCH THE COMMAND BROWSER.

B) Choose CUSTOM and then NEW.

C) Say the name of your voice command in the MY COMMAND NAME box (or hand-enter the name and click the train button to train the voice command name.

D) Enter the text you want to have appear in the CONTENT box when you say your voice command.

E) Say or click SAVE.

F) Try saying your macro/voice command!

E. A MAJOR STEP FORWARD: SOUTH-WESTERN EDUCATIONAL PUBLISHING HAS A NEW
DIGITOOLS/INPUT TECHNOLOGIES TEXT IN PROCESS

We want to congratulate South-Western Educational Publishing on its foresight with the development of the first-of-its-kind input technologies text. DigiTools combines chapters on keyboarding, handwriting, and speech recognition in the same book! Dragon Naturally Speaking, Microsoft XP speech, and Microsoft Tablet PC speech recognition lessons are included. To help students apply these input technologies, it sports in-depth chapters on Microsoft Word, Excel, PowerPoint, Outlook, HTML, and Web Design. The book utilizes a career focused approach. The book will debut early this summer, in time for fall classes. To learn more, visit www.speakingsolutions.com/books or call your Thomson representative and ask about an evaluation copy.