This & That Newsletter

2011
Summer Issue

Keyboarding Standards

Elementary keyboarding has been a hot discussion topic among administrators this year. Because statewide assessments for writing will soon be given online, many school districts have begun to revisit their scope and sequence for how keyboarding is delivered. Pat Roschewski, team leader for the Nebraska Department of Education Statewide Assessment, states that:

- Starting in 2012, 8th grade and 11th grade writing assessments will be keyed at a computer. Students can compose by hand but will be asked to key the document online.
- A taskforce will study the possibility of having students keyboard the 4th grade assessment. At present, no decision has been made. Business teachers need to prepare for the strong possibility that in future years, 4th grade students will also be asked to key their writing assessments online.

Now is the time to take advantage of this renewed interest in keyboarding. Initiate conversations and plan for and develop a scope and sequence that will assure that all of your middle-level students are computer literate by the end of 8th grade. To help you in your efforts, this issue of *This & That* is designed to provide standards and best practices being used in Nebraska and across the nation.

Enrollments. According to the enrollment data reported to the Nebraska Department of Education by public and nonpublic schools in 2009-10, 12,753 middle-level students were enrolled in Keyboarding Applications and 9,173 were enrolled in Computer Applications. Visit *www.education.ne.gov/BMIT/bmm-cis_enrollments.html* to see a breakdown of NDE's most current data on middle and secondary enrollments.

The new Business, Marketing and Information Technology (BMIT) and the Basic Business teaching endorsements allow a business teacher to teach keyboarding in grades 6-12, although NDE recommends that keyboarding be mastered by the end of 8th grade. A business teacher delivering keyboarding to the lower elementary grades can do so if the elementary teacher assigned to those students is present in the classroom. Any certified teacher can teach computer applications so we recognize that course enrollments for the elementary and middle level are more driven by who teaches the course than the content of the course. In any case, we know that a lot of elementary schools provide for computer instruction! All districts are encouraged to provide a solid keyboarding scope and sequence that provides proper introduction to keyboarding with repeated practice and application. Elementary students need to be able to key faster than they can print or write in longhand. Middle-level students need to be computer literate by the end of 8th grade.

Nebraska Career Education

Join other NCE educators at the

NCE Conference
June 7-9, 2011
Kearney

Complete conference details at

nceconference.com

NBEA Keyboarding Standards

The National Business Education Association (NBEA)'s elementary keyboarding standards include:

- Develop proper input technologies such as keyboarding, voice recognition, handwriting recognition, virtual keypad and the use of multi-touch screen or mouse.
- Identify appropriate input technology for various tasks.
- Describe ergonomic issues related to input technologies.

An excellent resource for all districts to utilize is NBEA's ***Elementary/Middle School Keyboarding Strategies Guide***, 3rd edition. The guide explains why keyboarding should be taught by identifying research that includes improved language arts skills and handwriting skills, motivation of students and effective use of school equipment and time. This valuable resource identifies how keyboarding should be taught, adaptations for special needs students, examples of recommended scope and sequence and NBEA's keyboarding rates table (Table 1). NBEA members can purchase the guide through *NBEA's Bookstore* for $18 (nonmember price of $35).

Keyboarding instruction in Grades 3-5 is typically 6-12 weeks per year with intervals of 1-2 hours per week, for a minimum of 3 times per week. Speed expectations vary but typically correspond to Table 1 below:

Table 1: NBEA Keyboarding Rates

Hours of Instruction	Speed Expectations
15-18 hours	10-15 wpm
30-35 hours	25-30 wpm
45-60 hours	30-40 wpm

Teaching Keyboarding, 4th edition, was published by Delta Pi Epsilon in 2011 and can serve as another excellent guide for keyboarding pedagogy. The resource is a research-based presentation of topics important to keyboarding teachers including selecting course content, methods of instruction, elementary school keyboarding, meeting individual needs of students and evaluation. You will find timed-writing charts and guides for selecting keyboarding textbooks and software. *Teaching Keyboarding* by Gary N. McLean (82 pages) can be purchased from DPE for $25 by calling 501.219.1866 or sending email to dpe@ipa.net.

Just a few of the important concepts that you will find in *Teaching Keyboarding* include:

- Keyboarding instruction in grades 3 or 4 should limit focused practice to approximately 15-20 minutes with frequent changes of pace within that time. For older students, focused practice may be 20-30 minutes with frequent changes of pace (Crews et al., 2006).
- Correcting errors should not be implemented before speed is approximately 20-25 words per minute on a one-minute timed writing. Before this rate of speed is achieved, error correction slows students' progress (Crews et al., 2006).
- Accuracy is a result of keying at the right speed, which is usually one to two words a minute below what is comfortably keyed (Erthal et al., 2003).
- Don't use more than a couple of minutes a day for "warm-up." It is important to establish goals for each activity.
- Carpal tunnel syndrome can result from resting wrists on the base of the keyboard or on the desktop while keying (Perkins, 1992).

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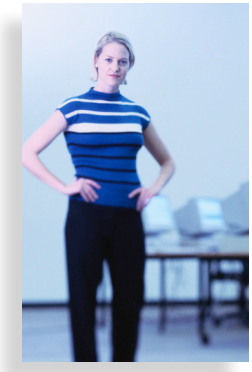
NBEA Keyboarding Standards continued

How Can We Evaluate and Grade Students Fairly and Accurately? In a beginning keyboarding class, it is important that students should not be graded on their performance while learning a task but should be graded only on those activities that are performed at the terminal point, when a grade must be assigned. It is best if you can wait until the end of the semester to assign a grade. At the elementary level, give a pass/fail if at all possible instead of assigning a letter grade. At the middle level, *Teaching Keyboarding* recommends assigning grades based on:

- Straight-Copy Timings.....30%
- Personal Letters and Envelopes 20%
- Business Letters and Envelopes with Proofreaders' Marks 20%
- Reports with Headings and Proofreaders' Marks 30%

As students progress to intermediate and advanced courses, the proportion of the terminal (final) grade arising from timed writings would be expected to fall to 10% and then 5%. Teachers are often concerned about the timed writing scales that they use at each level. **Timed writings should not be overemphasized**.



Standards for Information Technology, Arts, A/V Technology and Communications,

and

Hospitality and Tourism

will be up for revision during 2011-12.

Watch for BMIT Listserve announcement about how you can get involved!

Nebraska Department of Education Standards

Many elementary and middle level keyboarding resources are posted in the Curriculum section of the BMIT web site – click on Elementary Keyboarding to view the *Nebraska Elementary Keyboarding Position Paper*, a recommended elementary keyboarding model and numerous examples of scope and sequence models used by various districts.

Elementary Keyboarding Workshop

Is your school district looking for guidance in the area of elementary keyboarding? Are you seeking the right combination of hours of instruction combined with the appropriate grade level? If so, consider attending an elementary keyboarding workshop presented by Bonnie Sibert and Beverly Newton in the Nebraska Department of Education computer lab.

Invite a team of teachers to learn keyboarding teaching strategies, preview elementary keyboarding software and review keyboarding scope and sequence plans from Nebraska school districts. The next one-day workshop date at the Nebraska Department of Education has not yet been established. If you would like to put your name or another teacher name on a waiting list, please email name, school, and email address to Bonnie Sibert at *bonnie.sibert@nebraska.gov*. Once the workshop date has been established, Bonnie will contact those on the waiting list and also advertise the workshop details through the BMIT Listserve. The cost of the 9 am to 3 pm workshop is $15 per person.

Nebraska Department of Education Model Scope and Sequence for Keyboarding

The keyboarding scope and sequence plan should begin with the following:

Keyboarding Awareness, Grades K-3

Exposure to Foundation Technology Skills, Grades K-6

Introduction to Keyboarding (20 days each year—20-30 minutes each day)
Grade 4: touch typing (don't teach numbers)
Grade 5: review keyboarding and integrate into language arts
Grade 6: build skill and writing process

Elementary students will master touch operation of the keyboard and demonstrate correct technique, key stroking and care of equipment.

Keyboarding Applications (9 weeks), Grades 6-8

A course designed for students to learn touch techniques and proper key stroking while continuing to develop composition and proofreading skills as well as speed and accuracy. Students will demonstrate keyboarding proficiency in document formatting (personal letters, reports, tables). Other forms of input technology (speech recognition, wireless devices, voice-activated and handwriting recognition applications) may be introduced.

Computer Applications (9 weeks), Grades 7-8

A course designed for students to improve touch method keyboarding skills and to develop handwriting recognition and speech recognition skills. Instruction emphasizes improved techniques for increased speed and accuracy and composition at the keyboard. Students will be introduced to word processing, electronic presentation and spreadsheet applications.

Information Technology Career Cluster

The Information Technology Career Cluster offers four pathways for students to consider as a career option: Network Systems, Information Support and Services, Programming and Software Development and Web and Digital Communication. In addition, information technology is identified as a foundation knowledge and skill area for all students regardless of their career interest. The following course (previously called Computer Applications I) has been identified as a foundation course:

Information Technology Applications I (18 weeks), Grades 9 – 10

Students will demonstrate basic skills in the areas of word processing, spreadsheet applications, database applications, electronic presentation, Internet use, security issues and electronic communication. Students manage computer operations and file storage, identify ethical issues pertaining to information systems and learn about information technology careers.

Information Technology Applications II (18 weeks), Grades 9 – 10

Students will develop skills in advanced word processing and spreadsheet applications as well as integrating applications using word processing, spreadsheet, database and electronic presentation software. Students will develop skills in desktop publishing, including page layout and formatting and web page development by creating and editing web pages. Students will demonstrate knowledge of advanced operating systems principles, basic computer troubleshooting, Internet security issues, ethical issues pertaining to information systems and virus protection.

Keyboarding Assessment

What's Happening with Keyboarding in Other States?

Missouri

The Missouri Department of Elementary and Secondary Education does not set the speed requirements statewide. Missouri's *K-14 Scope and Sequence* shows when competencies should be introduced, reinforced and mastered for K through 14 for Keyboarding and Computer Applications. Local districts set the requirements for timed writings.

Utah

The Utah State Office of Education provides standards for keyboarding at 3rd, 4th, 5th and 6th grade at *www.schools.utah.gov/cte/keyboarding_standards.html*. At the 6th grade level, the standard indicates that students will use correct keyboarding techniques and achieve a minimum of 27 words per minute (WPM) on at least 3 one- or two-minute timed writings. Students are expected to key at 2 or fewer errors per minute and are not allowed to use the backspace key on timings.

NC Keyboarding Timed Drill Grading Scale

	1-3 Minute Timed-Writings						
	Weeks of Instruction						
GWAM	**6**	**8**	**10**	**12**	**14**	**16**	**18**
0-5	55	50	45	40	35	30	25
6-10	60	55	50	45	40	35	30
11-15	70	65	60	55	50	45	40
16-20	80	75	70	65	60	55	50
21-25	90	85	80	75	70	65	60
26-30	100	97	94	90	87	84	80
31-35	100	100	100	100	98	96	94
Over 35	100	100	100	100	100	100	100

These scores are adapted from the National Business Education Association, "Grades for Gross Words a Minute Scale." On weeks 6-8, these should be the average of the three best 1- minute timings completed on a computer with error correction during the input process. On weeks 10-18, these should be the average of the three best 3-minute timings completed on a computer with error correction during the input process. It is not recommended to assign a grade for timings before week 6 of instruction.

What's Happening with Keyboarding in Nebraska Schools?

Scottsbluff

The **8th Grade Technology Proficiency Assessment** is an activity-based assessment of 8th Grade Computer skills and was developed to provide a means to measure attainment of the defined skills associated with basic computer technology. (*See the attachment for specific proficiency skills and knowledge measured by the assessment.*)

The **Technology Proficiency** project is an effort by technology teachers at Bluffs Middle School in Scottsbluff to define technology proficiency, or more specifically, the key elements of basic computer proficiency necessary to function effectively in the high school classroom and beyond.

The knowledge and skills required to begin using basic computer knowledge have been identified and listed. There are seven skill areas that are measured with a total of 42 specific skills. The seven general subject areas are (1) Keyboarding, (2) File Management/Computer Fundamentals, (3) Internet and Ethics, (4) Word Processing Techniques, (5) Spreadsheet Techniques, (6) Presentation Techniques and (7) Publishing/Layout Techniques. After each section is taught and applied in class, an **Application Assessment** is administered, which is one exercise that will measure each skill addressed in that section. The students then have to individually demonstrate proficiency on that assignment. Students are instructed that "proficiency" means that they can do the skill **without any help** so the assessment is given as independent work only. The proficiency check off sheet (assessment) is then completed as part of an ongoing process after each unit is completed.

When the semester is completed the instructor then determines if an 8th grade proficiency level is met and if there is still a need for the student to take High School Computer Concepts 1 or not, as well as if there is a need for high school keyboarding. The assessment sheet is then passed onto the high school freshman counselor where it is used during the class registration process for the following year. Because the Scottsbluff School District School Board had removed Computer Concepts 1 as a graduation requirement, a system was needed to determine skill/knowledge level and the need for additional training and education.

One thing that was difficult for me to do (because I've been teaching high school for so long), is to remember that the assessment says "8th Grade Proficiency." In other words, what skills do we want them to be proficient at by the end of 8th grade….not when they graduate? I had to pull myself back to remember that fact quite often. Because of this, even though I determined a student was proficient, I may still have recommended or required High School Computer Concepts 1. The only way I didn't recommend one of those options is if the student could **very clearly** complete the assignments and they did so independently and without help.

The results for the fall semester 2010 included:

88 total 8th Grade students:

78 = Proficient
12 = Recommend High School Computer Concepts
22 = Require High School Computer Concepts
8 = Require Basic Keyboarding (needed 25 GWAM with 10 errors or less for 2-minute timed writing)

Submitted by Deb Surber, Bluffs Middle School, Scottsbluff, dsurber@sbps.net

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What's Happening with Keyboarding in Nebraska Schools? *continued from page 6*

Omaha Public Schools

The Omaha Public School district is in its third year of following a district-wide K-6 technology literacy sequence. The goal of K-6 technology is to create capable technology users, information seekers, analyzers and evaluators. Also, we understand that it is imperative that students of all ages be able to communicate, collaborate and produce using technology resources.

As part of the elementary technology sequence, all third-grade students are now required to engage in a five-week sequence of keyboarding activities. Follow-up activities are suggested at the fourth-, fifth- and sixth-grade years. One of the four middle school Computer Applications standards includes keyboarding skill and use with the highest level achieving a desired minimum speed of 35 words per minute with 90% accuracy.

As an initial step to ensure our guidelines are appropriate, this winter a group of elementary and middle level technology teachers were pulled together to discuss our sequence. Teachers and district level administrators had a very good discussion on identifying ways in which we can improve our guidelines to make sure we are providing what is best for students.

As technology changes, we also understand that technology goals and standards must change. Currently, the Omaha Public School district is reviewing its elementary keyboarding sequence to ensure that students are prepared to use technology appropriately, are able to complete required state assessments using technology resources and to ensure that students are receiving the necessary skills to become good digital citizens.

Submitted by DeLayne Havlovic,
Omaha Public Schools

Tri County

At Tri County, keyboarding is taught in the seventh grade. Several years ago the class was cut from a semester to 12 weeks. The seventh graders are split between three elective classes and they rotate. The students have been introduced to keyboarding in earlier grades but need a quick refresher on techniques again.

I use a variety of assessments in this class. The grades are all weighted the same and no tests are given. Keyboarding grades include quizzes, production assessments, timed writing and technique grades. The simple technique rubric that is used is very similar to the keyboarding rubric found on page 62 of the assessment chapter in the *Nebraska Business Education Frameworks.*

The timed writings are usually no longer than one minute. Those timed writings for the first couple of weeks are for speed only and are based on the grading scale in the instructor's manual of Cengage Learning's Century 21 textbook. I don't start looking for errors until about the eighth week of class and then the students are allowed two errors per minute. I try to make keyboarding as fun as possible but also as useful as possible.

Submitted by Dennis Krjeci, Tri County,
dennis.krejci@tricountyschools.org

Fremont

At Fremont Middle School, the student outcomes for the 6th grade 12-week keyboarding class indicate that students will learn:

- What good technique looks like and demonstrate it when keying.
- Location of all the keys on the keyboard (alphabetic, numbers, symbols, punctuation).
- Spacing rules regarding punctuation.
- How to use the program Microsoft Word with Windows.
- Basic proofreaders marks, what they mean and how to use them.
- Students also focus on building their typing speed. They take 1-minute timed writings and emphasize having an accuracy level of 3 errors or less per minute.

The students will work on the interactive program, ***All The Right Type***, which is designed to teach keyboarding. This program contains 4 sequences of learning including:

- Learning Lab
- Practice Pavilion
- Skill Building
- Testing Center

Students will also work ***on Micro Type 4***, an interactive program that gives them additional practice in learning the correct reaches and the correct techniques. Additional skill building is also provided.

There will be a **CRT** at the end of the 12 weeks. Basic areas of grading throughout the semester include:

- Technique
- Production
- Quizzes
- Daily work
- Participation
- CRT

Submitted by Marlys Gentry,
Fremont Middle School, marlys.gentry@fpsmail.org

Auburn

Auburn just began offering sixth grade keyboarding this year for 9 weeks. Seventh and eighth graders also receive one quarter of keyboarding instruction. Proficiency, scope and sequence and placement tests are goals that the Auburn technology committee is discussing. This is the second year that *KeyboardingOnline.com* for instruction has been used with 6th, 7th, 8th and high school students.

Submitted by Teresa Hahn,
Auburn High School, thahn@esu6.org

Twin River

Betty Shanle at Twin River reported that many times for a warm-up drill she will have the students key the alphabet down the left side of their paper. She then chooses a subject for whom they have to identify items that fit that subject—names of boys, names of girls, activities, fruit, animals, etc. Betty tries to offer simple prizes for the winner/winners who get them all filled in with appropriate words before the time is up.

Circle time is utilized to share information that is then keyed when they return to their seats. Students are asked to key the names of everyone in class, then in the circle they share things like "What cartoon character

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What's Happening with Keyboarding in Nebraska Schools? *continued from page 8*

are you most like and why?" Then the students return to their computers and key in what they remember. While this does take up some of the class time, I think building community...learning about each other is important, and it also gives them reasons to listen and use their memory as they key. There are lots of ideas for questions to ask on the Internet.

Submitted by Betty Shanle,
Twin River High School, bshanle@esu7.org

Lincoln Public Schools

All elementary schools in Lincoln Public Schools (LPS) have a rich technology program where every grade level has technology objectives as part of the elementary report card. Conceptual skills (such as home row location) are taught from the very beginning, but actual keyboarding instruction begins to occur at the 3rd grade with continuous reinforcement at each grade level. The amount of time devoted to keyboarding instruction varies significantly from school to school based on the availability of computers and the limited time in elementary school schedules. Other variables include excluding students needing remedial math and language arts instruction and the budget constraints of the school to staff instruction for specialty classes. As a result, the keyboarding instruction in elementary in Lincoln Public Schools is consistent with conceptual awareness and exploration but limited in skill development for the reasons stated above. Currently we use All the Right Type as software at the elementary level. In elementary schools, the computer curriculum is under the direction of Instructional Technology in the Computing Services Department.

In LPS middle schools, all 6th graders are required to take a 12-week keyboarding class unless they are pulled out for remedial math and language arts instruction. Music students are often pulled out of keyboarding classes once a week for group lessons as well. The 6th grade keyboarding classes are under the direction of the Business Department and primarily taught by business teachers and supplemented with general 6th grade teachers when team schedules and class loads require additional instructors. The 9-week 7th grade computer classes also reinforce keyboarding skills through skill-building warm-ups and attention to continuing proper technique and fingering. There is also an elective semester 8th grade keyboarding course at some middle schools for students who wish to improve their skills or have not had opportunity to take keyboarding previously. Currently we use Typing Time as software for the 6th grade class and MicroType Pro for the 8th grade elective.

Data from our middle level 6th grade keyboarding classes has been collected over multiple years with approximately 1,500 students taking this course each year in our 10 middle schools. LPS uses the guideline of 35 wpm with < 2 errors on a one-minute timing as a goal for consumer life skills. However, we use 25 wpm with < 2 errors as a Commendable marking for our 6th grade classes because of age appropriateness and the length of time to introduce and build skills in a 12-week class. ***Our data shows that about 55% of the 6th graders reach 25 wpm or better at the end of the class***. Only about 22% reach the consumer life skills goal of 35 wpm by the end of the class. We have worked with varied instructional strategies, pacing, reinforcement in computer classes, etc., to improve student achievement but the data continues to remain around these levels given the variables of students being pulled out of classes, the wide variety of student abilities and teacher consistency.

LPS continues to offer high school keyboarding as a semester elective course. We have found this

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to be an excellent elective for our ELL special population students to give them further language arts and technology skills before taking additional technology classes so that they can be successful. We also still have some students who have transferred to our school district or not had the opportunity to take keyboarding in middle school. Other students simply recognize the need to improve their speed and accuracy because they realize the impact on their educational and employment goals if they achieve greater productivity. High school keyboarding enrollments have seen significant reductions because of the desire to get these skills to our students in earlier years. Currently LPS uses MicroType Pro for the software in our high school classes.

Submitted by Carol Andringa,
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