SKIP-Secondary Kurzweil Implementation Project

By Roger Rachow and Cinda Rachow

The use of digital text software i.e., Kurzweil 3000, WYNN, Read and Write Gold, should be considered as a support for students at the middle and high school level who demonstrate low proficiency in reading (in Iowa, below the 40th percentile). These students generally are not receiving the same curricula as typical students due to their low reading comprehension level. The low performing student generally does not like and is not able to "read" grade level materials and the use of text material that is at their level of reading is being used versus grade level text curriculum. It was also observed that teachers of these students did not emphasize the use of text based materials. The use of digital text assists the student in staying in the general education curriculum. There are limited strategies for students who are low readers at the middle and high school. The idea behind the use of digital text software is to assist students to remain in the general education curriculum and to not become more aversive to use of text based curriculum i.e., textbooks, reference materials, tests and quizzes. Digital text software converts textbooks and other print material via the use of a scanner and OCR (Optical Character Recognition) into books that can be available to the student on their computer. The text is read by the computer to the student. Kurzweil 3000 is digital text software that scans and converts text to digital text while retaining all of the original formatting of the original text (graphs, fonts, pictures, etc.) and allows the use of embedded learning supports i.e., highlighting, pre-reading questions, study guides, electronic dictionary, etc. Secondary Kurzweil Implementation Project (SKIP) was implemented at middle schools and high schools to assist the student to receive LRE (least restrictive education) as required by IDEA.

This is a four year project that began in 1999 in a rural Iowa school district.

The needs assessment data used for this initiative was collected from the following three sources: 1) Requirements for No Child Left Behind requirements as of 1999-2000, 2) Iowa Test of Basic Skills / Iowa Test of Educational Development (comprehension subtest scores), 3) Individual Education Plans (special education students). The following specific criteria were used as measures of student eligibility for this intervention: Individual Student Scores below the 40th percentile on the reading comprehension test in the Iowa Test of Basic Skills/ Iowa Test of Educational Development achievement test used by a majority of Iowa districts. This population of students included all students who were below proficiency in reading comprehension, including students in all subgroups of assessment. If the student was served by Special Education Inclusionary services, there was a reading comprehension goal on the students Individual Education Plan.

Question #1 How did the Kurzweil 3000 Digital Project begin?

The Initial Planning Conversation

This project was a collaborative endeavor among the Area Education Agency (AEA) consultants for Assistive Technology and School Improvement, Local Education Agency (LEA) Riverside Community School District, the instructional technology coordinator and special education/assistive technology teacher at the secondary level. The beginning design was skeletal and began with a planning conversation that included the following district and Area Education Agency personnel: district superintendent, AEA regional administrator, middle school principal, high school principal and the initial project training team members.

The plan was designed to be a three to five year project based on the data from the implementing change innovations research (Hall G., CBAM, 1972)

After obtaining administrative approval, the project training team began planning the professional development requirements and implementation strategies to build the project and meet Iowa professional development standards and Iowa teaching standards.

The following questions were used to build and implement the project.

Question #2 What is the student selection criteria?

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The students were selected as subjects for this project given the following criteria:

Scores below the 40th percentile on the reading comprehension test in the Iowa Test of Basic Skills achievement test used by the majority of Iowa school districts. This population of students included all students who were below proficiency in reading comprehension including students in all subgroups of assessment.

Question #3 How will the comprehensive professional development be designed to meet the specific teaching responsibilities of the staff?

The participants were divided into two groups based on their individual teaching responsibilities. All core content instructional teams were included in the training at both the middle school and high school levels. The district has a structure of delayed arrival built into the system that provides one and one-half hour sessions one time a week during the school year which was used to carry out the trainings. The two overview training sessions included both groups of participants and administrators training together. Specific skill training on the features of the software began for both instructional groups separately. There was an alternative week schedule designed to provide time for practice and work to implement the features of the software into digital text. Each group received coaching by the training team on the weeks that teachers or para-educators were expected be be implementing the embedded study skills into the digital text. The ongoing coaching related to the navigation of the software (technical assistance) as well as the integration of the use of Kurzweil 3000 into the curricula, instruction and specific learning activities.

Question #4 What is the training curricula used?

Training Modules

The training curriculum was designed as specific modules that include two components, software features and the meta-cognition skills that enhance and/or provide scaffolds for successful student learning. These modules are specific to each participant group's role within instruction and student learning. The weekly instructional training schedule was as follows:

Teacher Group

Week 1: Needs assessment data and innovation rationale

Week 2: Tool bars

Week 3: Scanning, text zone and editing underlying text

Week 4: Highlighting

Week 5: Pre-reading questions

Week 6: Study guides

Week 7: Notes – Stick notes and voice notes

Week 8: Test taking

Para-educator Group

Week 1: Needs assessment and innovation rationale

Week 2: Digital text preparation-scanning, text zones and editing

Week 3: Highlighting

Week 4: Bookmarks

Week 5: Pre-reading questions

Week 6: Study guides

After a few weeks of training, it was apparent that there were several levels of participant skill. The training team, in conjunction with the administrative team, discussed further professional development strategies to provide adequate support for learning and implementing the assistive technology scaffold for enhanced student learning. As a result the multi tiered training plan was designed. Participatns were rated on their comfort with navigation on the features within the software and the use of Kurzweil 3000 in the classroom

The following schematic is a more sophisticated breakdown of participant groups that provided the training team with the ability to more precisely focus the level of instruction to meet the level of the teachers' and para-educators' performance.

Tier 1 – Advanced Users

• Those teachers/para-educators who are integrating the software into their teaching or re-teaching efforts.

• Teachers/Para-educators that are collaborating with others regarding the implementation of the software.

• Teachers/Para-educators that participate in study groups to refine their own skills and share implementation ideas with the software.

Training Plan

Those teachers/para-educators receive all training modules and curriculum and instruction connection modules.

Tier II-Emerging Users

• Those teachers/para-educators that are beginning to integrate Kurzweil 3000 opportunities into their teaching or reteaching.

• Those teachers/para-educators that use limited amounts of print resources in their classrooms.

• Para-educators that use only basic access skills and scanning of text resources.

Training Plan

The emergent users will receive the modules of highlighting, pre-reading questions, study guides and features of Kurzweil 3000 that match their specific instructional and/or curricular design.

Tier III-New Staff

Teachers/Para-educators that are new to the district or content area

Training Plan

New staff will receive all basic access modules, highlighting, pre-reading questions, study guides and specific features modules as determined by the training team.

Question #5 How are students trained to implement Kurzweil 3000 and implement the learning scaffolds appropriately?

The students are trained in a variety of ways. The learning style of a student as well as his or her computer skill level determines the method of training and materials that are used to train the student. The students are typically identified in groups of three or less. Persons used as trainers are from within a core group of fluent teacher, para-educator, consultant or accomplished student users. The curriculum that is taught is "Hey, Can I Do That" developed in Wisconsin (WATI) is used by all trainers for all students. The student training design included three formal trainings and follow-up and re-teaching of software features as needed for the student to use the software with confidence. The students are also able to obtain additional training via the mini-modules that are offered during the school day.

Question #6 What follow-up or review is provided for continued or refined implementation?

Mini-module review and follow-up

To review specific features, teachers and para-educators are invited to attend a twenty minute module group that is scheduled throughout the month and at various times of the day, such as lunch, before school and or after school. The time and day is determined by the needs and interest of the teachers. These modules are very pragmatic and focus on the access to the specific features and topics that are a need or interest of the participants. These twenty minute

mini-sessions are typically trained by the in-district staff.

Question #7 Where in the school building is Kurzweil 3000 located for student use?

The training team determined the locations of where the students could access Kurzweil 3000 based on several parameters. Factors were the availability of hardware that meets specifications, coverage of supervision and support for the use of Kurzweil 3000 and numbers of student users in a class. Given these parameters, the locations in the high school are study hall rooms, media center, learning center, general education classrooms – Science, Social Studies, Industrial Arts, Practical English, and English 9, 10 and 11. The middle school locations are slightly different due to the design of the building. The location sites are, success center, commons area, computer lab, media center and intensive studies rooms. General education classroom access varies from one computer access to multiple computers given the core content of the course. There are also wireless laptop computers that are available at the middle school when a larger group of students within a class is needing to access Kurzweil 3000. Class access is available in the Science, Social Studies, English, and reading courses.

At the middle school level, there is a system that has been designed for Kurzweil users to earn Accelerated Reader points. The stories are in digital format with template tests that accompany each story. These test templates are teacher created and are used as a measure of comprehension for each specific story. The comprehension template tests and digital literature, both fiction and nonfiction, are designed by the teachers, then scanned and saved into the digital library for students who have difficulty with reading. The students may access the digital library to fulfill the required recreational reading curriculum similar to the Accelerated Reader expectations for each student.

Question #8 What data collection process is used to guide the project and assess student performance?

The student results on the comprehension subtest in the standardized assessment (ITBS/ITED) is used as an ongoing summative measure of improvement in reading comprehension using the national percentile rank scores. The formative data collection that is used to guide the project is the CBAM model. The Stages of Concern survey is used throughout the project (three times a year, or when the planning team needed direction for planning) to gain ongoing information from staff regarding the training and coaching support they are receiving for the project. To collect more precise needs information from the staff, concerns paragraphs are collected during the initial training phases of the project. These paragraphs are generated by the staff at the first, fourth and eighth professional development training session. Once the training phase is completed with the staff, the second component of the data collection system is utilized. The levels of use interviews are completed by the training team with the staff. This structured interview process is used so the planning team is able to determine specific areas that need support to best facilitate the project. This process provides important data that is current and easy to collect. The levels of use interview is used frequently to monitor the use of the intervention. Since this data collection process is short and fluid within conversations with staff, it can be collected as frequently as necessary to guide the next steps of the project on an ongoing basis. The interview data is reported to the planning team members so that decisions can be made to facilitate the success of the project. This process has allowed the planning team, which includes the district administrative team, to allocate the necessary resources that align with the needs of the staff.

Question #9 What types of support are needed to keep the project intervention moving effectively and efficiently?

Support for several areas is needed to keep the project aligned with progress in student learning. It is necessary that staff have access to technical support at several levels. These levels include in-school supports for technology questions and problems, technical assistance for system questions that are software specific, and curriculum integration support is necessary for staff to fluidly infuse the use of Kurzweil 3000 into the teaching and learning for struggling readers.

A barrier that arose was the speed at which books could be scanned to meet the usage levels of the students. To address this issue the Area Education Agency provided a high speed scanning service. Schools send textbooks to be scanned and the digital versions of the books are sent to the schools on CDs. Also, the district subscribes to electronic book sites and uses other Internet sites to enhance the list of available books that can be accessed by the students.

As a result of this project, data indicated that the number of middle and high school students performing in the low proficiency range in reading comprehension was reduced by 25 percent and the number of students performing in the proficient level of reading was increased.

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See Flowchart of SKIP – Secondary Kurzweil Implementation Program (next page).

SKIP – Secondary Kurzweil Implementation Program.

SKIP
Secondary Kurzweil Implementation Project

How Implemented

Where Implemented

Comprehensive Staff Development

Data Collection Concerns & Use

Teachers & Students

Study Halls HS/MS

Learning Centers HS/MS

Teachers

Para-Educators

Student Training

Tech & Integration Support

Planning Conversations

Media Center HS

Commons Area MS

General Education Classrooms Eng/ Science/ Social Studies/ Industrial Arts HS/MS

Highlighting
Sticky Notes
Voice Notes
PreReading Questions
Text Zones
Study Guides
Test Taking

Scanning
Editing Text
Bookmarks
Pre-Reading Questions
Text Zones
Study Guides

Scanning
Basic Access
Self-Advocacy

Dist Tech
AT Consultant
Educational Consultant
AT Teacher
High Speed Scanning of Text

Superintendent
Tech Coordinator
Principals
Sp. Ed. Tech
Para-Educators
Parent Educator
LEA Coordinator

CBAM Stages of Concern
Open Ended Paragraphs
Surveys (Quartely)

CBAM Level of Use
Interview (Quartely)

Innovation Configuration Matrix (Quartely)

Tiered Training Plans

11th & 12th Grade Students embed own study skills. Advanced Independent Study Skill Usage

Tier I Advanced Users

Tier II Emerging Users

Tier III New Staff

Tier IV Resistant Staff

Teachers Integration. Collaboration Study Groups.

Teachers Emerging/ Integration. Limited Print. Highlighting Text. Pre-Reading Questions.

Teachers Basic Access. Highlighting Text. Pre-Reading Questions.

Teachers In classroom Collaboration/ Tier II Mentor. Ongoing awareness/Info

Para-Educators Basic Access. Scanning/ Editing. Study Guides. Study Groups

Para-Educators Basic Access. Scanning Text.

Para-Educators Basic Access. Scanning Text

Para-Educators In classroom Collaboration/Tier II Mentor. Ongoing awareness/ Info

On-Going Coaching in Classroom Teachers and Para-educators

Technical Assistance

Curriculum & Instruction Use