

**White Paper**

**Using Technology as a Solution for  
English Language Learners in Higher Education**



**Kurzweil** Educational Systems



## **Table of Contents**

<b>Summary .....</b>	<b>1</b>
<b>Background .....</b>	<b>1</b>
<b>The Evolution of Technology for English Language Learners.....</b>	<b>3</b>
<b>Specific Features of Kurzweil 3000 That Meet the Learning Needs of English Language Learners .....</b>	<b>4</b>
<b>In Conclusion .....</b>	<b>6</b>
<b>What Teachers of English Language Learners Have to Say About Kurzweil 3000.....</b>	<b>7</b>

## Summary

---

### The problem

English Language Learners are one of the fastest growing groups in U.S. colleges, universities, business and technical schools. Although most are conversant in English, and/or have passed qualifying tests such as the Test of English as a Foreign Language (TOEFL), many experience difficulty when confronted with the more rigorous demands of academic reading and writing. A great many post secondary schools have instituted programs focusing on skills such as typing, vocabulary and phonics to ease the transition for these students. While helpful, they fail to provide the individualized support English Language Learners need to meet multiple course requirements. Most institutions readily acknowledge the need for additional support, but often lack the necessary staff or resources to provide it.

### The solution

Innovations in text-to-speech technology offer a cost-effective and efficient way to provide English Language Learners with the individual support they need to successfully pursue their studies. Versatile text-to-speech software can be easily installed on personal computers or made available in computer labs or media centers. Programs like Kurzweil 3000, from Kurzweil Educational Systems, Inc. enable students to simultaneously read and listen to any kind of digital or scanned printed material as well as provide a host of on-line reference and study skills tools to strengthen reading, writing and comprehension.

## Background

---

### English Language Learners

English Language Learners represent a broad spectrum of nationalities and ethnic groups. They include the more than 600,000 foreign students attending U.S. colleges, universities and trade schools as well as a growing number of Americans who speak a language other than English at home. These numbers will continue to grow as an ever-increasing pipeline of English Language Learners moves through our elementary, middle and high schools into post-secondary education. According to the 2000 U.S. Census, there are currently 9.7 million students between the ages of 5 to 17 who speak a language other than English as a primary language at home.

Despite their formal education, many English Language Learners have had limited exposure to the structure and vocabulary of academic English. Even students who are highly accomplished in their particular field of study are often held back by their lack of understanding of English syntax and vocabulary.

### Needs of English Language Learners

To learn more about the needs of English Language Learners, Kurzweil Educational Systems, Inc. interviewed a variety of educators working with this population at the post-secondary level. A number of critical needs emerged from these discussions, including:

- **Vocabulary development**

The English vocabulary of most English Language Learners is not sufficiently extensive to deal with the specialized vocabulary used in textbooks, technical materials, essays or articles. Because of their limited exposure to academic English, students are often unable to fully comprehend lectures or actively participate in class discussions. Many are also hampered in their ability to express themselves in writing. Repeated exposure to academic English is thought to be one of the best ways for English Language Learners to increase their reading and writing vocabulary.

- **Improved pronunciation**

English Language Learners often have difficulties with English pronunciation. Because languages differ in their phonetic structure, and because English has many phonetic inconsistencies, English Language Learners frequently mispronounce words. Once they develop incorrect associations with the spoken and written forms of words, and these errors become “fossilized”, they often fail to recognize even familiar words when they hear them and are likely to misspell these words when writing.

- **Attention to phrasing and punctuation**

Phrasing is critical to comprehension. If words are grouped inappropriately, they lose their meaning. English Language Learners are frequently unaware of the rules governing English phraseology and often don't pay sufficient attention to punctuation. As a result, they may miss the logic of what they are reading. The more opportunities English Language Learners have to simultaneously hear and read text, the more sensitized they will be to the natural flow of the English language.

- **Exposure to authentic writing**

English Language Learners often lack familiarity with the stylistic conventions for writing papers and essays. Many have never learned how to compose an American-style essay or write a critique. Some international students, for example, who have been trained to be neutral in their writing and avoid stating an opinion, need to learn a very different way of expressing themselves. Exposure to a wide variety of stylistic conventions is one of the best ways to provide English Language Learners with models for their own writing.

- **Multi-sensory learning**

Too often English Language Learners operate in a closed system. They are asked to read, listen or write as solitary pursuits. Most readers learn best when all their senses are engaged. They benefit from the synergy of seeing language, hearing it, speaking it, and writing it simultaneously. Opportunities for this type of learning are limited in academic settings, especially at the post-secondary level.

- **Development of independence as a learner**

English Language Learners often spend many extra hours doing assignments. They frequently have to seek help outside the classroom from more English proficient peers or spend hours pouring over outdated bilingual dictionaries. Reliance on outside resources limits the ability of English Language Learners to take charge of their own studying and necessitates spending valuable time on the mechanics of reading and writing that could more profitably be spent learning content.

## **The Evolution of Technology for English Language Learners**

---

The use of technology in education has closely mirrored the development of the personal computer. Since their introduction in the late seventies, personal computers have developed in speed, power and ease of use. Falling prices have made it possible for more and more students, particularly those in post secondary education, to purchase their own computers. Today, the use of laptops is ubiquitous on most college campuses. Improved access to the Internet has put a wealth of resources just a click away and has revolutionized the way instruction is delivered. More and more courses are available on-line and the use of the Internet for teacher-student communication has become a fact of everyday life.

Many early innovations in educational technology grew out of a desire to help students with various physical and learning disabilities overcome barriers to success in school. For example, touch screens and alternate keyboards were introduced to improve physical access to the computer; communication devices provided a way for students physically unable to speak to communicate; text readers provided auditory reinforcement for the visually impaired or struggling readers.

Among the many innovative tools, programs that converted printed text into audible speech have been among the most popular. Although originally designed for students who were visually impaired or had learning difficulties, educators soon realized that text-to-speech software could benefit students with a broad spectrum of learning needs, including English Language Learners.

It is not surprising, given its early history, that educators using text-to-speech software with children with special needs were among the first to recognize the benefits of such programs for English Language Learners. Many began to notice how much programs such as Kurzweil 3000 were also helping their English Language Learners become more proficient in English. Improvements in the quality of synthesized speech have continued to make these programs even more effective for this population.

Until recently, only a handful of software programs have been available for English Language Learners at the post secondary level. These programs, while useful, focus on specific skills such as typing, phonics and vocabulary. None provide the vital support English Language Learners need to work independently with text materials used in or outside the classroom. Text-to-speech software, because it provides access to virtually any printed material through scanning, as well as to digital files and the web, provides the individual support English Language Learners require. Students can load text-to-speech software onto their own laptops or download files to MP3 players and can automatically convert word processing documents or worksheets to text-to-speech format. By being able to read any kind of text at any time and in any location, English Language Learners can take charge of their own learning and gain true independence.

Based on the growing interest in using text-to-speech applications with English Language Learners, a key innovator in this field, Kurzweil Educational Systems, Inc., has recently introduced an edition of its popular software program, Kurzweil 3000, especially for students who want to improve their English language proficiency. The program, which can be used with any content, reads out loud to students while simultaneously highlighting words on the screen. Students can also read web pages as well as utilize a host of writing, study skills and test-taking tools. A closer look at this sophisticated reading, writing and learning software demonstrates the many ways text-to-speech software can benefit English Language Learners.

## **Specific Features of Kurzweil 3000 That Meet the Learning Needs of English Language Learners**

---

Kurzweil 3000 offers English Language Learners a broad range of features that collectively address the specific needs identified by instructors working with this population at the post secondary level. These include:

### **Multi-Sensory support**

Kurzweil 3000 offers English Language Learners the multi-sensory reinforcement so critical to learning. Students can:

- Simultaneously listen to and read scanned text, image text (such as PDF files), digital files and Internet pages
- Visually track words and phrases on screen as they are read aloud
- Make text notes or listen to recorded notes
- Hear their own writing read aloud to them
- Use colored highlighters and other visual prompts to identify important information
- Create audio files for listening to text anywhere

### **Opportunities to hear authentic text across all subject areas**

Exposure to authentic text is one of the best ways to introduce English Language Learners to a variety of writing styles and formats. By experiencing different writing formats firsthand, students learn the conventions for writing essays, critiques or research reports. Kurzweil 3000 facilitates this process by enabling English Language Learners to:

- Scan text, or access digital files, then simultaneously listen to and read any printed material while retaining the document's original formatting
- "Read" articles from the Internet
- Add notations or questions to discuss with the instructor
- Highlight features critical to different conventions

### **Pronunciation and vocabulary instruction**

Kurzweil 3000 is an ideal tool for helping English Language Learners develop a stronger vocabulary. Students gain a greater understanding of words by being able to hear and read them in context. They can look up unfamiliar words as they read, highlight words for future reference and create vocabulary lists organized by topic or attribute. Kurzweil 3000 features that help strengthen vocabulary include:

- Access to a variety of audible dictionaries including standard and children's English dictionaries (users can also look up words within a definition if needed)
- Easy access to popular picture dictionaries
- Audible dictionary definitions in English, French, German, Spanish or Italian, and the ability to read text in any of these languages
- Vocabulary lists of homophones and easily confused words (teachers or students can also create their own vocabulary lists for quick reference)
- A thesaurus to generate a list of synonyms
- A syllable tool which gives the syllabification of words, parts of speech, roots, prefixes and/or suffixes as well as the correct pronunciation

### **Fluency training**

Fluency is the ability to read independently with ease and accuracy at a reasonable speed. English Language Learners often read haltingly and without attention to punctuation, and need practice in grouping words into meaningful grammatical units. Kurzweil 3000 helps increase fluency by enabling English Language Learners to:

- Read text in phrases to focus on meaningful groupings of words
- Limit the amount of text on the screen to more carefully study the composition of each sentence
- Gradually increase reading intervals to improve fluency
- Control the speed at which text is read to facilitate comprehension
- Train the eye to move more quickly across the page to increase reading speed
- Listen to text multiple times to reinforce the flow and cadence of the words

### **Multiple exposures to the same text**

The ability to read text multiple times has been shown to improve both comprehension and fluency, however, many English Language Learners find the process of rereading to be very arduous. Kurzweil 3000 facilitates multiple readings by making it easy to:

- Pre-read text to highlight key ideas to use as a guide when reading
- Re-read passages with the click of a mouse
- Jot questions or comments on text or sticky notes for later review
- Highlight important information for further review
- Insert bookmarks to instantly locate specific parts of a document for further study
- Listen to text as many times as needed

### **Note-taking features improve comprehension**

Given the large volume of text English Language Learners are expected to read, effective note-taking is critical to digesting and summarizing essential information for easy reference when writing papers or studying for exams. A number of Kurzweil 3000 features facilitate the note-taking process including:

- Use of text or sticky notes to jot down information while reading
- Ability to drag and drop text into a text or sticky note
- Use of notes to generate questions that can later be converted into a separate document (this can be done by the teacher as well and used as a study guide by the student)
- Highlight critical information to turn into an outline for further study
- Voice notes to enable students to express more complex ideas in their own words



### **Writing and proofreading**

Written work is the primary way students at the post secondary level are assessed. English Language Learners often have difficulty expressing their thoughts and ideas clearly in writing. A number of Kurzweil 3000 features make it easier to compose, edit and proofread written work including:

- Converting highlighted text into an outline as a starting point for writing
- Using word prediction to improve vocabulary selection and spelling
- Using the thesaurus to substitute alternate words to make writing more interesting
- Using dictionary and spell check to facilitate proof reading
- Listening to written work to correct awkward sentences, missing words, or incorrect tenses
- Referring to customizable lists to clarify the correct usage of confusable words and homophones

### **Independent access to material**

Becoming an independent learner is critical to the academic success of English Language Learners. Kurzweil 3000 features that promote independence include:

- Accessing any type of printed material at any time or location
- Reading text at a natural pace
- Looking up unfamiliar words while reading so as not to disrupt the flow of ideas
- Highlighting, annotating or marking important passages for later review
- Using word prediction and spell check when writing
- Listening to written work for accuracy
- Creating audio files (MP3, WAV) for listening to reading material anywhere while on the go

### **In Conclusion**

---

Educators have found that software tools such as Kurzweil 3000 can be extremely beneficial in addressing the needs of English Language Learners. The ability of these tools to “read” every kind of text material from textbooks to Internet pages offers students unlimited exposure to academic, business and technical texts as well as many opportunities to increase their fluency and comprehension. Text-to-speech software can be used alone, or as an enhancement to special purpose programs already in place. It provides English Language Learners with choices of when, where and how to study and enables them to take charge of their own learning by focusing on content instead of struggling with the mechanics of reading and writing English.

## **What Teachers of English Language Learners Have to Say About Kurzweil 3000**

---

"Kurzweil 3000 is one of the best kept secrets," says **Robin Schwarz, Coordinator of Tutoring Services and Specialist in ESL/LD, The Learning Lab @ Lesley University (Cambridge, MA)**. "Most ESL/EFL teachers simply don't know about Kurzweil 3000, and those who do aren't aware of how flexible a tool it is. The beauty of Kurzweil 3000 is that one tool addresses so many core needs of English Language Learners. That's why it's such an efficient, cost-effective investment for cash strapped college departments."

**Janie Duncan, World Languages Department Chair and Director of ESL Services, Landmark College (Putney, Vermont)** concurs. Students at Landmark College, a college for students with learning disabilities, have been using Kurzweil 3000 for many years. "While the program is made available to all students for installation on their laptops," Ms. Duncan observed, "Kurzweil 3000 is an absolute necessity for English Language Learners. It gives these students the extra support they need in one piece of software." She adds, "One of the reasons I'm so impressed with Kurzweil 3000 is because the program truly reflect the needs of users."

The multi-sensory nature of Kurzweil 3000 has impressed **Dr. Elizabeth Hanson-Smith, Professor Emeritus, California State University (Sacramento, CA)**. "In my experience," Dr. Hanson-Smith reflects, "the more input students get from different sensory channels, the more effectively they learn. In addition to its numerous speech options, the graphical nature of Kurzweil 3000—for example, its easy to use toolbars, colored highlighters and yellow sticky notes—provides the visual reinforcement so many English Language Learners need."

**Alma Rodriguez, Assistive Technology Coordinator, Laredo Independent School District (Laredo, TX)**, has been using Kurzweil 3000 in her district for many years. Located on the Mexican border, over 95% of Laredo ISD's 24,000 plus students are Spanish speaking. Over 64% receive bilingual services.

Ms. Rodriguez saw Kurzweil 3000 demonstrated at a conference and knew from the start that the program could really make a difference for her students. "I had tried other text-to-speech programs," she recalls, "but found them cumbersome and difficult to use. Kurzweil 3000's icon driven tool bars make it easy for students to access all the features of the program."

As a result of Ms. Rodriguez's advocacy, every school in Laredo has Kurzweil 3000 software. "As often happens," Ms. Rodriguez reminisces, "a program designed for students with special learning needs ends up meeting the needs of other students as well. It didn't take long for our regular education teachers to discover that Kurzweil 3000 could help their students learn English faster as well as be better prepared for post secondary education."



## **About Kurzweil Educational Systems**

Kurzweil Educational Systems, Inc. founded in 1996, is the industry leader and innovator of scanning, reading and learning solutions for people with learning difficulties, and people who are blind or visually impaired. Ray Kurzweil, a co-founder of the original company, invented computer-based reading machine technology 25 years ago to provide access to printed text for the blind. With a pioneering history in developing assistive technology, the company has received worldwide recognition for enabling people with disabilities to lead more independent lives through improved reading and writing abilities.

## **About Kurzweil 3000**

Kurzweil 3000 is reading, writing and learning software for struggling students, and is widely recognized as the most comprehensive and integrated solution for addressing language and literacy difficulties. The software uses a multi-sensory approach – presenting printed or electronic text on the computer screen with added visual and audible accessibility. The award-winning product incorporates a host of dynamic features including powerful decoding, study skills, writing and test taking tools all designed to adapt to each individual's learning style and to promote active learning.

Kurzweil Educational Systems, Inc.  
14 Crosby Drive  
Bedford, MA 01730 USA  
T: 781.276.0600  
800.894.5374  
F: 781.276.0650  
info@kurzweiledu.com  
www.kurzweiledu.com



**Kurzweil Educational Systems**