Listening to Revise: What a Study about Text-to-Speech Software Taught Us about Students’ Expectations for Technology Use in the Writing Center

by Tammy Conard-Salvo and John M. Spartz

About the Authors

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This is a story of a failed study. In 2007, we set out to demonstrate that Kurzweil 3000, an adaptive text-to-speech software program, would help any student revise with its read-aloud function and numerous writing tools. During the course of the study, we confronted our misconceptions about students’ technology use and realized
that we could not definitively support our original hypothesis that Kurzweil could help students substantially revise their writing—despite the potential that still exists for technology like Kurzweil to be successfully used in writing centers. Participants’ focus group responses, which provided considerable and interesting details about their use of Kurzweil, led us to an important discovery: we learned that students value tutors’ advice during writing center sessions, particularly when tutors introduce new ways to revise, but tutors need additional support, training, and confidence to introduce these technological tools and strategies to students.

Thus, in order for students to use technology like Kurzweil in meaningful and productive ways, well-trained tutors need to incorporate this technology into tutorial sessions and model how to use its features effectively. In other words, we need to provide an “infrastructural framework” that includes not only the technological artifact (i.e., Kurzweil 3000) as a component, but also the writing center space, the tutors, and the administrators who help operate the writing center; this framework—infrastructure—also takes into consideration any curricula within the writing center and first-year composition program, as well as the necessary training of both tutors and students to use the software (DeVoss, Cushman, and Grabil 20). We learned from our participants’ feedback that simply making adaptive technologies available in a writing center environment or mentioning the technology in tutorial sessions, without extensive modeling or detailed instruction, does not encourage the software’s effective use among students. Furthermore, we discovered that we also need to include a critical theory of technology, described by Stuart Blythe as a means of asking “conceptual questions . . . [that] anticipate the full range of long-term consequences that computer technology will have on writing center work” (18). This critical theory of writing center technology allows writing center administrators to “use technology to support writing in a way that would not disrupt our practices, that [is] congruent with our particular theoretical and pedagogical stances” (Thomas, DeVoss, and Hara 76). Therefore, we argue that before writing center administrators can successfully use technology like Kurzweil, they should carefully consider how students use technology, students’ expectations for writing consultations, and
requirements for training tutors and students to use the software. Each of these considerations allows writing center directors to develop an infrastructure that will support technology use and help avoid conflicts found in earlier uses of technology in writing centers. By reporting on a failed study, we reinforce the value of empirical work in writing centers, especially because our own student-users have taught us how to better use, incorporate, and plan technology use.

**Motivation and Background for the Study**

Our study investigated the use of Kurzweil 3000, also known simply as Kurzweil, in a university writing center over the course of two years. Kurzweil is considered an adaptive technology beneficial to individuals with disabilities. Historically, text-to-speech programs were designed to accommodate individuals with sight impairments; however, software developers and teachers soon recognized that individuals with learning disabilities, such as ADHD and dyslexia, found some text-to-speech programs useful because students could visually focus on highlighted text while simultaneously hearing it. The visual and auditory features of text-to-speech software have assisted students with disabilities in overcoming difficulties composing, reading, and processing text, which can increase reading comprehension and writing proficiency. While adaptive technologies can level the playing field for students with disabilities, we planned to demonstrate text-to-speech software’s benefits to any student—regardless of background—especially if the technology included specific tools to aid students with composing and revising documents. We specifically targeted students who were not institutionally identified as having disabilities in order to investigate the software’s *mainstream*² use during the writing process.

In fact, earlier studies have demonstrated some benefits of text-to-speech to individuals without physical or learning disabilities, and both Elaine O. Lees and Kevin Garrison have researched the technology’s use during the writing process. Lees concludes that these technologies can help basic writers proofread their texts more effectively, while Garrison’s study of students using a program called Natural Reader finds that they benefited from hearing their text read...
aloud when locating surface-level errors. Furthermore, in a manual for the Drexel University Literacy Project, Ben Burenstein offers strategies to teachers and students for productively using text-to-speech programs during the writing process, noting that “speech synthesis fulfilled [students’] needs to hear their work aloud” and “provided them with a sense of freedom and helped them feel better about their writing, leading them to write more. Teachers and students felt it helped with grammar, punctuation, and preventing run-on sentences” (9-10). Although these studies demonstrate that speech synthesis programs can aid with grammar, mechanics, and proofreading, we saw benefits in using adaptive software during higher-order revision, especially with software containing research and writing tools combined with the basic read-aloud function.

In addition, speech synthesis programs can allow tutors to work with students in a multisensory way (as recommended by Howard Gardner and Shoshanna Konstant) because students can see, hear, and manipulate text electronically during a writing consultation. Jean Keidaisch and Sue Dinitz, in advocating a Universal Design (UD) approach, suggest that writing center spaces should be made “accessible to the widest audience possible,” and they offer Kurzweil as one example of software “that might prove useful to a wide range of students” (51, 53). In addition, Gelbwasser notes a common “misunderstanding [of] who can benefit from adaptive technology.” Most students and educators assume that adaptive technologies exist only to benefit those with learning and physical disabilities, thus ignoring benefits for students who have not been identified as having special needs.

With these ideas in mind, we thought Kurzweil’s combination of auditory and visual features, along with its specialized writing tools, might help any student accomplish a variety of multi-sensory tasks during the writing process. For example, writers can hear text read aloud and follow along as the software highlights words, phrases, sentences, and paragraphs in multiple colors. Writers can apply specific colors to text for later extraction into an auto-generated outline to identify topic sentences and organizational structure. The entire revision process becomes more kinesthetic when writers cut, copy, paste, and rearrange their text with the use of a mouse and
keyboard. Although students can highlight or rearrange text in many common word processing programs, Kurzweil strategically combines these tools with the read-aloud and extraction features.

Our motivation to study Kurzweil seemed appropriate as technology use has increased in writing centers. Many centers already offer computers with or without specialized software for students to use either independently or in tutorial sessions, and others provide online support materials or online tutoring to assist students. Research since the 1990s has focused on online tutoring pedagogy, practice, systems, and implementation (Hobson’s *Wiring the Writing Center* and Inman and Sewell’s *Taking Flight with OWLs*, for example). More recent texts, conference presentations, and listserv posts have included instant messaging, Skype, and Second Life as options for interacting with students (see Neaderhiser and Wolfe and Carpenter and Griffin, among others), and a recent feature of *The Writing Lab Newsletter*, Jackie Grutsch McKinney’s “Geek in the Center” column, has explored topics such as audio-visual-textual conferencing and cloud computing.

Writing center directors now confront issues of technology adoption, open-source software, and even how technology affects the documents that students must compose; the relationship between writing centers and technology continues to evolve as first-year composition and other writing courses continue to incorporate new media assignments. In his 2003 article, Michael Pemberton suggests that writing centers may need to alter their pedagogy to accommodate students creating digital documents such as hypertexts, and McKinney further reminds writing center administrators that “[m]any texts that students compose, even for FYC, never leave the screen. . . . In these ways, we have witnessed a fundamental change in the textual climate” (“New” 33). As students increasingly interact with technology for their coursework and in their composing practices, they will likely look to technology to support their writing beyond word processing functions.

With the potential development of writing center technologies and pedagogy in mind, we began an IRB-approved study to examine whether Kurzweil could help any student revise more effectively and whether the technology would have any impact on tutorial
sessions. In order to test whether and how tutors’ guidance would affect students’ use of Kurzweil, we divided first-year composition students into two groups and asked them to use the technology either independently or with a tutor in our writing center. Participants provided demographic information and described their attitudes toward writing and technology through surveys; these students then reported on their experiences using Kurzweil through a single focus group. We introduced the study and its requirements in a meeting for participants where we also offered information about the Kurzweil user guides we prepared. Finally, we provided an overview of Kurzweil to tutors during a staff meeting, and we encouraged tutors to play with the software when they did not have consultations.

In the end, we realized that our hypotheses didn’t completely hold up, not because we didn’t ask valuable questions, but because our data could not definitively support the impression that Kurzweil 3000 could help students conduct higher order revisions. Although we learned that most students in our study responded positively to using Kurzweil during revision and editing—particularly when the software was introduced by tutors during writing consultations—our study also (and perhaps most importantly) revealed our underlying misconceptions about how students use technology during the writing process and the importance of introducing electronic resources to students during tutorial sessions. Some of the participants’ feedback contradicted our assumptions that students in this digital age could or would easily and quickly begin using new software with just a brief overview and with little or no assistance from tutors.

Rather than report our comprehensive research methodology and results, we will concentrate on participants’ focus group responses because they provide the most revealing information about students’ expectations for tutorial sessions, technology, and technology infrastructure. By doing so, we do not renounce the work we’ve done in this project or the value of empirical research in writing centers. Instead, our narrative demonstrates how even failed or unsubstantiated hypotheses can yield valuable lessons for technology use in writing centers.
Students’ Expectations for Technology and Writing Tutorials

Although we divided participants into two groups, one using Kurzweil independently and one using Kurzweil with a tutor, we combined both study groups during a single focus group session, presuming that participants’ different experiences would lead to a richer discussion. In the session, we asked students to describe Kurzweil’s benefits and drawbacks, whether the software impacted their revision practices, and whether using Kurzweil during a tutorial session was or would be helpful. (See the appendix for a list of focus group questions.) When identifying Kurzweil’s most useful tools and how tutorial sessions impacted their use of the software, students began to reveal their expectations for technology and what they value regarding tutors’ knowledge about technology.

For example, when launching the program, participants gravitated toward Kurzweil’s text-to-speech component, its primary and most apparent feature. One participant explained that the read-aloud (text-to-speech) feature was beneficial, stating:

I always think it helps when somebody else reads it to you. It is much easier to pick out errors when someone is reading it to you. When the computer read it back to me, I was just like, oh, there’s an error—you know, stop, fix it, read it again.

Another participant noted that “the voice reader feature [is] helpful in determining how well a paragraph flowed,” while still another mentioned that “it helps to hear how your words sound and how coherent they are.” Kurzweil allowed participants to locate “awkward sentences, typos . . . things that grammar check didn’t pick up.” Many of our participants focused on, for the most part, sentence-level problems, and this type of assistance seemed to be highly valued by those who considered themselves less proficient with grammar and punctuation. One participant aptly noted:

I really liked it . . . hearing it out loud. I think it is something really beneficial because I make a lot of little, just dumb mistakes. I actually like hearing it out loud . . . for mistakes on grammar or whatever. I’m terrible at that stuff. . . . for me, someone like me. . . it helps, ’cause I am not good with grammar.
... you know, I am a bad writer. This program obviously does a little more for me than for somebody who is a better writer than I am.

Participants’ interest in Kurzweil’s read-aloud function reinforced the benefits of reading aloud during tutorial sessions (Brooks and Crowe), and students also valued using this feature under the guidance of knowledgeable tutors, not as a replacement for tutors, which we address later.

Interestingly, many of the comments about hearing text aloud were tied to students’ lack of familiarity with Kurzweil. Students indicated that they were “kind of frustrated by how non-human [Kurzweil] sounded” and that “it read everything,” “disrupted the flow of the reading,” and “it didn’t pause at the commas or stop at the periods.” Prosody certainly plays a role in text comprehension, but these students were apparently unaware that Kurzweil would allow them to modify voice speed, gender, accent, and other speech characteristics. Students articulated the need for more familiarity with Kurzweil, which would have helped them select and modify available voice options.

Additionally, some students found Kurzweil’s tools to be unremarkable because they were “nothing really new,” especially because Microsoft Word has been more readily available to students. One participant mentioned that “pretty much all of the features I discovered were not unique to Kurzweil. Microsoft already encompasses most, if not all, of Kurzweil’s features, and it [Microsoft Word] is already available on almost any computer on campus.” So, for several of the participants, Microsoft Word worked just as well, if not better, and using Kurzweil required a special trip across campus to the writing center. Convenience is important to students, and based on our participants’ comments, any resources offered in a writing center should be significantly better than those that students already use and to which they are accustomed, however students define or perceive the term “better.”

We also learned that the students in our study would not use or search for all the tools in a software program, even when they were told about the tools through tutorial sessions or in user manuals. Some participants used only the read-aloud tool during the study because of its prominence in Kurzweil. Most students simply did
not look for the other available tools, including the highlighting or footnoting features. When students became aware of Kurzweil’s highlighting, footnoting, and extraction tools (either during the focus group or during a consultation), they indicated that the tools were or could be quite valuable during revision.

Even when mentioning Kurzweil’s benefits, participants reiterated that prior knowledge of the software and its many features would be beneficial in facilitating effective use for revision of documents. For example, one participant proposed that, “for [Kurzweil] to be most helpful would be to at least know how the software works, know all of the features and what they do . . . once I have a good grasp of that, start working on revising my paper.” When we introduced the study and its requirements to participants, we did not offer formal training sessions on using the software. Instead, we developed and provided at each computer station comprehensive user guides that included specific, detailed instructions and screen shots describing Kurzweil’s read-aloud, highlighting, footnoting, and extraction features—those which we felt might be most instrumental in the writing and revision processes. We hoped that students would use the guides and explore the software, and we didn’t want extensive training sessions to give students the impression that the software was overly complicated, to discourage students from participating in the study because of additional time required for training, or to reveal that Kurzweil was adaptive software with features traditionally used by students with disabilities.

However, we learned that the user guides were an underutilized resource. One explanation for this involves users’ expectations for new technology, as echoed in Donald Norman’s analysis of product development and technology markets:

Convenience, price, and prestige are the driving forces. Among other things, convenience means ease of use, that the product can be purchased, turned on, and used, with no lengthy learning cycles, no need to call telephone support services, no need to consult complex manuals or to take classes. And no feelings of puzzlement, no loss of control. (36)

As we stated earlier, participants’ comments demonstrate that Microsoft Word is a more convenient option than Kurzweil because
Word is familiar and readily available, and participants did not consider reading a user guide to learn about Kurzweil. Norman explains that in “the real world . . . for a product to be accepted by the public it has to fit into some recognizable niche, to provide value the customers understand” (15). Or, as Davis suggests, when presented with a new technology, users’ adoption decisions are influenced by its perceived usefulness and perceived ease-of-use (320). Whether Microsoft Word is truly easier to use or more convenient can be debated and is beyond the scope of our research and this article. What we have learned is that Kurzweil does not fill an “out-of-the box” niche for students that convinces them to switch to a completely new writing technology, despite any benefits that students identified during the focus group.

Although participants were unwilling to read the user guides or dig deeper into Kurzweil on their own, they were interested in learning about the software from another person. A student who used the software independently stated, “If we had someone to teach us techniques or ways to use the software for editing or revising . . . that [Kurzweil] would be beneficial.” Without any prompting, study participants began to offer additional ideas about tutors’ roles or potential roles when using Kurzweil. Students indicated that using the software during typical consultations, under the guidance of a knowledgeable tutor, was more helpful than using it on their own. Students linked their positive experience with Kurzweil to their tutors’ integration of and facility with Kurzweil during their consultations, and for many study participants, using Kurzweil while meeting with a tutor was the winning combination. Students found that “it’s easier on the computer [with Kurzweil] when your paper is already there so you can fix it as you are going along. . . . when you have the tutor with you, that made a big difference” and that “the program alone might not be too useful, but the program with a tutor would be more useful than just a tutor . . . or just me and the computer.” Some students reported that during tutorial sessions, they highlighted sections of their essays that needed revision and added footnotes about what needed work, all while the tutor offered comments and suggestions along the way. Participants also mentioned that they used the footnoting and extraction features to identify problem areas, discuss these areas with a tutor, and draft notations to which they could return for later
revision. One participant noted

Where she [the tutor] thought it was a problem, we would highlight it and
go to the footnote thing, and she would write in what she thought I should
elaborate on or how I could fix it and make it better. . . . once she was gone,
I was able to go back to those notes, read it, and correct those mistakes.

Kurzweil affected and enhanced this student’s revision strategies, and
another student discussed learning how to use highlighting to revise,
a strategy that had never occurred to her before using Kurzweil.

Even for these twenty-first century students, who we all assume
to be independent and technology-driven as evidenced in the Pew
Internet and American Life Project (Jones), no technology, not even
that as potentially useful as Kurzweil 3000, can replace the interaction
with knowledgeable and trained tutors. Ultimately, students found
the combination of technology and human interaction to be the
most instrumental in revising and producing their self-reported best-
written document, a formula that students claimed was “better than
just a regular pen and paper session.”

While students identified benefits of using Kurzweil with the
assistance of tutors, the study revealed the need for more extensive
tutor knowledge for using the software in writing centers. Although
we offered an hour-long workshop for all our tutors and encouraged
them to explore the software during available time in the writing center,
our participants’ comments indicate that the training we provided
was insufficient and had a distinct bearing on students’ experiences
and revision practices. Students expressed concern for not having
their own facility with the program, one that was exacerbated by the
perceived lack of knowledge of their tutors. Participants expected
tutors to be experts not only in writing but also with tools like
Kurzweil. They wanted “not just a tutor that is like, familiar with
the basic features, but someone who has more advanced training
on it and is more familiar with those complex features” because
Kurzweil “would have been more pertinent if we had someone to
teach us different techniques that we could have used the software
to accomplish . . . if we had someone telling us different strategies”
and “lay[ing] out different options for you to try out.” This feedback
about tutor training reiterates Rodgers’ argument that effective
instructional use of technology requires adequate faculty training in technology and learning styles. Universities must develop cohesive training programs to assist faculty in integrating technology into their instructional spaces (23-25). As we’ve discovered, whether technology is integrated in a classroom or writing center, extensive training contributes to an infrastructural framework for the technology’s effective use and sustainability.

We learned that in its most basic use, Kurzweil supports read-aloud techniques that are the foundation of many writing center consultations, and students are able to detect surface-level errors when hearing their texts read aloud. Kurzweil may still offer potential for addressing higher order concerns as students become more adept at working with the software. But this remains an unproven hypothesis. Although students saw benefits of using Kurzweil, especially when working with tutors, they stated that tutors needed more training than we provided during the study.

**Implications for Writing Center Work**

Why is a (failed) study about text-to-speech software such as Kurzweil relevant to writing center work? What can be taken from this study to inform other uses of technology in writing centers? First of all, we learned that incorporating any technology in writing centers requires both a critical theory of technology and an infrastructural framework, necessary components for sustaining the technology’s use and fostering innovation, research, and pedagogically appropriate approaches to using hardware and software. Because we did not fully consider a critical theory or infrastructural framework, our study cannot definitively show Kurzweil’s usefulness in writing centers. We weren’t fully prepared for the kind of support that both tutors and students needed to use new software for revision. While it may seem obvious that preparation and training of tutors and students is necessary, we simply did not anticipate what constituted an adequate amount of training or how much students would depend upon tutors’ recommendations and knowledge when using technology to revise. Based on the focus group responses, our participants’ most successful encounters with Kurzweil took place when a confident
and knowledgeable tutor could introduce the software and guide the
student through new revision strategies by way of the technology. When
students perceived tutors as being less confident or knowledgeable
about the software, they did not perceive the software—and perhaps
even the tutorial session—as useful. We were obviously mistaken
in our assumption that students’ general comfort with technology
would allow them to use new software with minimal assistance. Our
participants articulated that they wanted and needed more from
the tutorial sessions and from some of the tutors themselves. This
is actually good news for writing center administrators because
our study reaffirms the importance of modeling in tutorial sessions
and demonstrates that students highly value tutors’ knowledge and
confidence.

In addition, our study has allowed us to consider how infrastructure
and a critical theory of technology enables writing centers to
successfully offer students a hybrid pedagogy that combines the
expertise of tutors with useful technology for addressing students’
writing concerns. Hybrid or blended learning environments, most
often associated with e-learning and distance education courses,
include a combination of online instruction—either synchronous,
asynchronous, or both—with face-to-face instruction time.
Proponents of hybrid courses argue that such courses increase
learning and student engagement while providing unique teaching
opportunities for instructors (University of Wisconsin–Milwaukee
Learning Technology Center). For writing centers, a hybrid or blended
learning environment might include a mixture of face-to-face and
online instruction, such as online tutoring and online support
materials. However, we argue that hybrid learning can also include
technological augmentation of face-to-face writing consultations in
the form of software or hardware that is thoughtfully integrated into the
session. If best practices for hybrid education include encouraging
quality feedback between students and instructors, using technology
to facilitate collaboration, and teaching students strategies to also
learn at home (Martyn 21-23), then our study shows the potential for
a hybrid learning model. Students and tutors can collaborate using
both face-to-face interaction and software, and students continue
learning at home by revisiting session notes throughout the revision
Although tutors offer useful feedback to students without the aid of software like Kurzweil, our participants indicated that they valued 1) face-to-face interactions with qualified tutors and 2) technology that enables them to examine and revise their documents in new ways. Yes, students found that Kurzweil’s read-aloud tool can replicate the read-aloud techniques used by human tutors. However, our participants found Kurzweil most helpful when used with knowledgeable tutors, not in place of tutors, because proficient tutors are able to explain how to use Kurzweil’s features, provide feedback on students’ writing, and answer additional questions at the point of contact. In face-to-face sessions, tutors can also judge students’ understanding of concepts through verbal and nonverbal cues, using technology to reinforce and illustrate core concepts. Kurzweil may still support writing center practice and augment tutorial sessions with its unique tools, but tutors must be sufficiently trained to use the software, continue to use best writing center practices, and give students the responsibility for making changes within their own documents.

Through their comments, our study participants unknowingly confronted historical fears of technology replacing tutors in writing centers. In fact, many writing center directors and tutors still remain suspicious because, during an earlier point in writing center history, technologies served as models of efficacy intended to replace tutors, not as pedagogical innovations designed to enhance face-to-face sessions. Peter Carino notes that some writing centers “happily implement[ed] technology to satisfy larger campus entities” while others “have paused to scream with Luddite recalcitrance, taking the humanist high ground to fend off perceived threats of obsolescence” (172). Neal Lerner offers additional insight in his account of early instructional technology in writing centers, reporting that some centers in the laboratory model used technology for drill and practice. Proponents of these technologies claimed “superiority over ‘traditional’ approaches and even a tutor-staffed writing center” (133). Both Carino’s and Lerner’s articles remind writing center administrators about programs like Comp-Lab which attempted to replace human interaction between tutors and students with independent practice modules and audiotapes. This early technology
created conflict with the face-to-face, collaborative pedagogy that informs writing center consultations, especially as administrators supported Comp-Lab as a cheaper, high-tech alternative to staffing writing centers with real, live humans. Contemporary concerns include the fear of online tutorials replacing face-to-face sessions or that corporate entities like Smarthinking will enable schools and universities to outsource electronic writing center services to offsite tutors who are unfamiliar with the unique needs of individual campuses. Our study participants challenged the notion that software alone could replace the interactions of tutors and students. Yet rather than dismiss any use of technology, our participants provided an opportunity to suggest a hybrid model of incorporating technology in writing centers.

Finally, researching new technologies allows writing center administrators and tutors to investigate students’ individual writing practices, including their uses of and attitudes toward technology. Prior to conducting our research, we assumed that students and tutors would need minimal training on using a technology like Kurzweil; we assumed that the software would be easy to learn for an increasingly tech-savvy student and tutor populace. With studies showing that nearly all college students begin using computers by the time they are sixteen to eighteen years old (Jones 2), it’s easy for “faculty, staff, and administrators to see the facile use of technology by students and assume that students have more than adequate IT competency” (Oblinger and Hawkins 12). By giving tutors adequate training in using Kurzweil and similar programs, writing center administrators empower tutors to incorporate technology in consultations and to offer choices to students—not just the students who are “most in need,” but any student who might benefit from using the software’s specialized tools. Tutors, when confident and knowledgeable about a technology’s features, can suggest techniques based on students’ needs and the context of the tutorial, bringing together the best of face-to-face interaction with technological innovation. This is a foundation for technology infrastructure.

Yet infrastructure does more than help writing center administrators implement technology in writing centers:

seen infrastructurally . . . writing labs and writing centers have the potential
to support research and professionalization, expanding the role to become a center not just for revision but for scholarly study of writing, technology integration, and research innovation. (Salvo et al. 120)

The act of researching and testing software like Kurzweil can lead to discovering how technology, including adaptive technology, might contribute to achieving the overarching and expanding goals of writing centers. Writing center administrators are well positioned to integrate technology into writing centers and use research to develop innovative practices. Our own study, then, has led us to consider ways of better preparing students and tutors to use new technology in writing centers and ways in which technology can enhance the work writing centers already do. Although our initial hypotheses remain unproven, we have learned from our students how to better support them with technology.
APPENDIX: FOCUS GROUP QUESTIONS

• What is your overall impression of the Kurzweil software?
• What features did you find the most beneficial?
• What were your impressions of the text-to-speech feature? The outlining feature? The highlighting feature?
• How useful do you feel the software was in your writing process?
• Did you find the software easy to use?
• Would you incorporate this software into your writing process in the future?
• Can you see this software being helpful to other students?
• Was it easier to revise the paper when using this software?
• Was it harder to revise the paper when using this software?
• Do you feel your paper improved because of the Kurzweil software?
• What did you change in your paper as a result of the software?
• Do you have any other comments about your use of the software?
• Were there any aspects of the software that you didn’t like?
• How comfortable were you using the software in the Writing Lab?
• Would you use the software if it were offered on regular, ITAP computers?
• If given the choice of using this software by yourself or with the help of a Writing Lab tutor, which would you choose? Why?
• Have you worked with a Writing Lab consultant before your experience with Kurzweil?
• What did you find most beneficial about your consultation before you used Kurzweil?
• What did you find least beneficial about your consultation before you used Kurzweil?
• When working with a Writing Lab consultant while using Kurzweil, what did you find most beneficial?
• When working with a Writing Lab consultant while using Kurzweil, what did you find least beneficial?
• If given the choice of using this software by yourself or with the help of a Writing Lab tutor, which would you choose? Why?
NOTES

1. Our study was partially funded by an International Writing Centers Association Research Award.

2. We realize that the term “mainstream,” closely tied to the concept of inclusion of children with disabilities, is potentially problematic: “Advocates for full inclusion raise the issue of equity . . . [that] disabled youngsters are burdened with an additional handicap where they are segregated from their nondisabled peers” while others argue that “a one-size-fits-all approach will be disastrous for the disabled children themselves” (Shanker 18, 19). However, we use the term “mainstream” to describe general use of software designed for specialized groups of users.

3. Some readers may question why tutors were not involved in this study as test subjects. Tutors were included during an earlier study that analyzed several different types of text-to-speech software. Tutors’ feedback during that study led to the adoption of Kurzweil for our writing center and to the study we describe in this article. Although tutors did not serve as test subjects in the current study, they were invited to informally provide feedback about their experiences participating in the study, but none chose to do so due to time constraints. The general consensus, through anecdotal evidence, is that tutors wanted more time learning Kurzweil, and participants’ responses during the study reinforced the briefness of tutors’ training.
WORKS CITED


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