TECHNOLOGY AND ENGLISH LANGUAGE TEACHING IN BRAZIL

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Abstract: *Most prior research on technology use in English teaching has focused on individual countries. There has been less research that looks at this topic in a broad global perspective and includes the perspectives of diverse teachers throughout the world. As part of a study in 14 countries in the Americas and Asia, this paper examines technology access and use in English language teaching in Brazil. Based on quantitative and qualitative data from an online survey, telephone interviews, and case studies, the paper describes the access and use patterns in Brazil in comparison to that which exists in other countries, as well as the attitudes of Brazilian educators toward technology use in English teaching. Brazilian educators in the study sample were principally located in private sector schools. Within the confines of the study sample, Brazilian teachers have among the highest level of access to, use of, and interest in technology of teachers in any of the countries studied. The strong preference of Brazilian educators for open source resources and technologies matches well with preferences among English language teachers in other countries. This study suggests that Brazilian teachers merit having an important voice in the international field of technology and language learning.*

Keywords: *technology; language teaching; English teachers and technology.*

Introduction

New technologies have become increasingly important in society, in education, and in second language learning. Language teachers use multimedia, web-based resources and other computer technologies to create an authentic context, connect to the target culture, and promote student motivation (ARNOLD,

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2007). Overall, teachers and students hold positive attitudes toward technology use if consistent support is available (FELIX, 2008).

A wealth of research has been conducted on the role of technology in language learning. However, almost all of it focuses on one or two individual countries, and most that has been done in either the "Anglosphere" (North America, England, Australasia) or other highly developed countries (e.g., in Western Europe or Japan). There has been little research available that looks at this phenomenon in a broad global perspective and that focuses on inclusion of perspectives from economically and socially diverse countries around the world.

In the study reported in this article, we examined technology and English teaching internationally with teacher participants from 14 countries in the Americas and Asia. The full findings of the study have not yet been published, but in this article we focus in particular on what we learned about technology and English teaching in Brazil.

A few prior studies have attempted to survey access to and use of technologies in Brazil. A recent literature review on the use of computers in Brazilian primary and secondary schools outlined how the use of computers in education has steadily expanded since the 1980s with the role of computers shifting from tutor and topic to a learning tool (FIDALGO-NETO et al., 2009). Research suggests that computer resources are distributed unequally; Amiel (2006) found that fewer than 0.1% of rural schools had Internet access compared to about 12% of urban schools, and that less than 0.4% of schools in the poorer northern and northern and northeastern states had such access, compared to about 17% in the wealthier southeastern states. A study by Castro and Alves (2007) investigated the use of computers in the public school system in the city of Niterói, which was known for its educational efforts and digital inclusion efforts, and found that computer labs were widespread in elementary schools but that inadequate teacher training programs, problems with equipment maintenance, and difficulties in scheduling the labs all contributed to less than ideal use of computers in education.

A number of studies have reported on specific projects involving computers and the Internet for language learning in Brazil (see, e.g., DE ALMEIDA SOARES, 2008; LEVY, 2007; NEGRETTI, 1999), and at least one paper has put forth a history of computer-assisted language learning in Brazil (MENEZES, 2009), but no studies to our knowledge have attempted to document broad patterns of technology access and use for language learning in Brazil or in comparison to patterns that exist in other countries.

The Study

In conjunction with Cambridge University Press, a research team from the University of California, Irvine conducted an international study investigating technology and English language teaching in the United States, Latin America

and East Asia. For the purposes of the study, *technology* was meant to incorporate hardware (e.g., computers, cell phones, electronic dictionaries), software (e.g., CDs for teaching pronunciation) and online technologies (e.g., websites). The study addressed three questions:

1. What kinds of *access* do English language teachers and their students in these countries have to technology for teaching and learning?
2. How are those technologies used for teaching and learning?
3. What opinions do English language teachers have about the value of particular technological resources for teaching and learning and how that value can be enhanced?

Methods

The project consisted of three incremental stages:

1. An online survey of English language teachers;
2. Telephone interviews of selected English language teachers;
3. Multiple observational case studies of school environments in the three areas.

Online Survey

An online survey was conducted between September and December 2008. The initial contact list included 891 English as a second or foreign language teachers in Latin America (Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Nicaragua, Panama, and Peru), East Asia (Japan, Korea, and Taiwan), and the United States. The names of teachers were provided from lists of contacts by Cambridge University Press. All of the teachers worked in institutions serving teenagers and adults, which included public and private secondary schools, private language schools, adult schools, two-year and four-to-five-year colleges or universities, and intensive English programs. The proportion of teachers in each kind of institution varied from country to country. In exchange for completing the survey, participants were offered free access to an online Cambridge resource and entry into a lottery for an iPod.

The survey took approximately 15 minutes to complete, although it could be taken in stages, and was not required to complete in one sitting. Most questions were in the form of Likert scales and other multiple-choice formats, but two questions asked for open-ended comments. All questions were optional, but participants had to complete more than 75% of the survey to have their responses considered complete for inclusion in analysis.

A total of 332 teachers completed the online survey, for a response rate of 37%. A total of 40 teachers in Brazil were invited to complete the survey, with 37 doing so, for a response rate of 92.5%. The vast majority of Brazilian respondents work in private institutes, including 54.1% in a private language

school and 32.4% work in a private secondary school; the remaining 13.5% in Brazil teach at a regular four-to-five year university or college. More than half the Brazilian respondents have 21 or more years of teaching experience.

Phone Interview

Follow-up phone interviews were conducted in February and March 2009, primarily from a subset of those who had completed the survey. Criteria of selection for phone interviewees included their being active users of new technologies in language teaching and learning (based on survey results), their having interesting opinions about the use of technology for language teaching and learning (based on the two open-ended questions on the survey), and achieving a geographic balance among the three main regions of the study (East Asia, Latin America, and the United States). To achieve this last goal, a few extra teachers who had not taken the survey were added to the list from East Asia and the United States based on prior direct or indirect contacts with UCI. Teachers were offered payment of $100 in U.S. or local currency for participating in approximately a one-hour phone interview.

A total of 80 English language teachers were invited to participate in the interviews, and 42 teachers from eight countries participated. Interview questions focused on the interviewee's and interviewee students' use of technology, as well as interviewee's opinions on the future of technology and its impact. Interviews were digitally recorded for transcription, and written notes were also taken during the interviews.

A total of 19 teachers from Brazil were invited to participate in interviews, and 9 did so. Five of them work at a private language school (55.6%), three at a private language school (33.3%), and one at a regular 4-5 year university or college (11.1%).

Case Study

In May and June 2009, one-day case studies were carried out at eight different educational institutions in the United States (4), Japan (2), Mexico (1), and Brazil (1). Case study sites were chosen based on extensive and interesting uses of new technology and geographic proximity to the research team (near Los Angeles, California; Tokyo, Japan; Mexico City, Mexico; and São Paulo, Brazil). In seven of the eight cases, this selection was based on data from the surveys and interviews. In the eighth case, one of the two sites in Tokyo was chosen based on personal contacts of a member of the research team, as there were insufficient sites available from the surveys and interviews for that reach.

At each site, case study participants included a focal teacher, other English language teachers, the English language program coordinator, and

some students in one of the focal teacher's classes. Most of the case studies were conducted within one day. The case studies involved individual interviews with the focal teacher and the program coordinator, focus group interviews with students and other teachers respectively, observation of at least one English language class (and, in some cases, lab) taught by the focal teacher, and an observational tour of the institution's facilities. Interview and observation protocols were developed beforehand to ensure consistency across cases.

The one-day case study in Brazil was conducted at a private language institute in São Paulo which had been identified from the survey as making extensive and interesting use of new technology. The researchers carried out a series of interviews and observations at its English for adults program.

Sampling Issue

It should be stressed that because the initial contact information of participating teachers was provided by either Cambridge University Press or the UCI research team, this study is not based on a random sample. Rather, it is meant to be representative of English language teachers around the world that are in contact in various ways with a major international publisher or U.S. researcher. This resulted in a skewing of the sample by region, with survey participants in East Asia located principally in universities, in the U.S. located largely in community colleges and adult schools, and in Latin America being more mixed but including many teachers at private secondary schools and private language schools. In particular, in Brazil, these teachers are disproportionately based in private institutions, and are thus not representative of what is occurring in the public education system.

Other skewing of the sample may have been affected by the return rate; it may well be the case that those teachers that took the time to complete the initial survey were more interest in technology, more proficient speakers of English, or otherwise different from the broader sample of those were invited.

The sampling became more skewed as the research moved into interview and case study stages. Only a portion of the survey respondents was contacted for a phone interview. Again only a portion of the interview participants was chosen for an observational case study. The researchers intentionally selected those who were using technology and appeared to have more insights into the nature of technology use. This reflected the differential purpose of the different stages of the study, with the survey designed to paint a broader picture, and the interviews and case studies designed to explore in more depth those contexts in which technology is being activity used.

Findings

**The Survey and Interview Results**

High Access to Technology

In general, most participants (67%) within the sample of the study reported that there are open access computers available for student use at school. However, computers are generally more common in computer labs than in classroom, as 184 respondents (63%) reported that there is one computer available for each student in a language lab. However, 197 participants (67%) reported that most classrooms do not have computers available for students. The Internet is also available for student use in a majority of schools, with a cumulative 90% of participants reporting that Internet is available for teaching use. A majority of participants (83%) reported that Internet is available through a broadband connection.

Similar pattern of computer and Internet availability can be observed for the participants from Brazil. Among them, most (81.1%) reported that students have open access computers available for them at school. It is slightly higher than the availability rate reported by the U.S. participants, albeit from a different sample (77.5%). Within the sample of the study, access to computers is more prevalent in labs than in classrooms. As reported by the participant teachers from Brazil, 94.6% of the labs have computers for student use. 86.4% of them reported that there is one computer available for every one to three students in the labs.

**Figure 1: Availability of Open-Access Computers**

Availability of Open-Access Computers

- Available: 81.1%
- Available, but difficult to access: 13.5%
- Unavailable: 5.4%
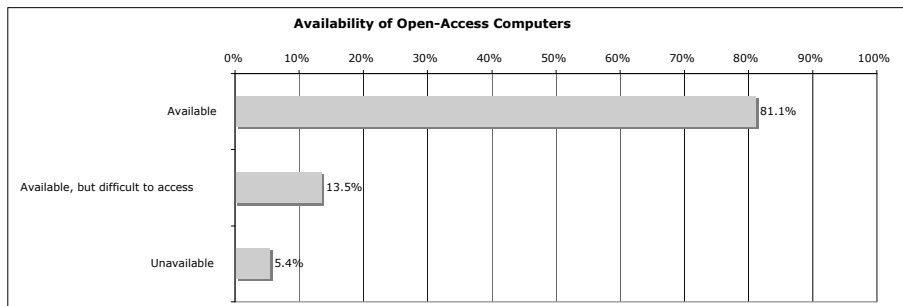
Figure 2: Computer Availability in Labs
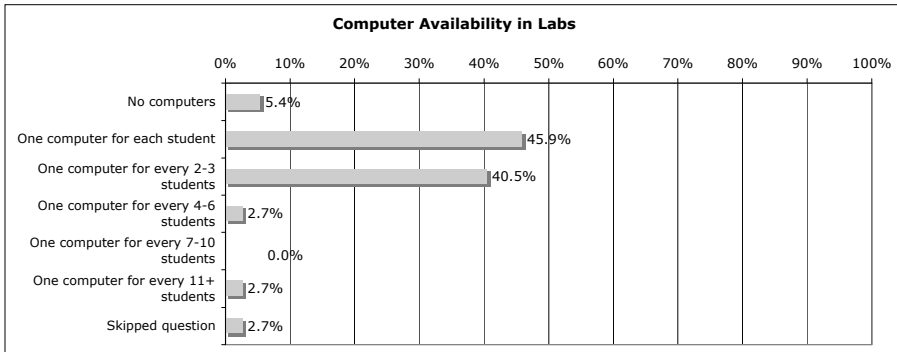
Within the sample of the study, the Internet is readily available for student use at schools in Brazil. A total of 97.3% of the Brazilian teachers reported that their schools have Internet access available via broadband and 1.4% reported that it is available via dial-up.
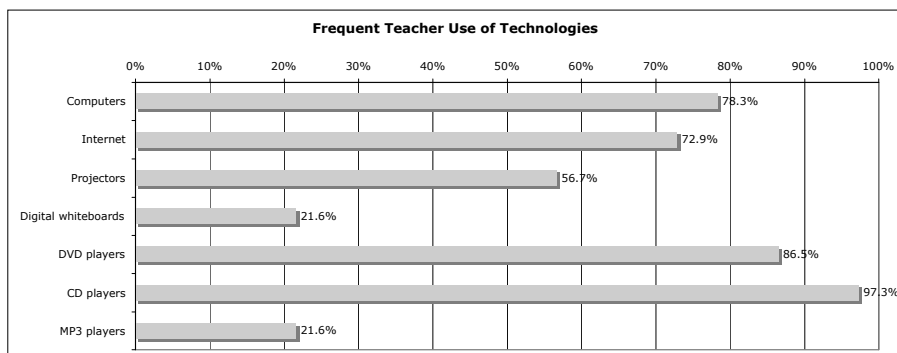
Figure 3: Availability of Internet for Student Use
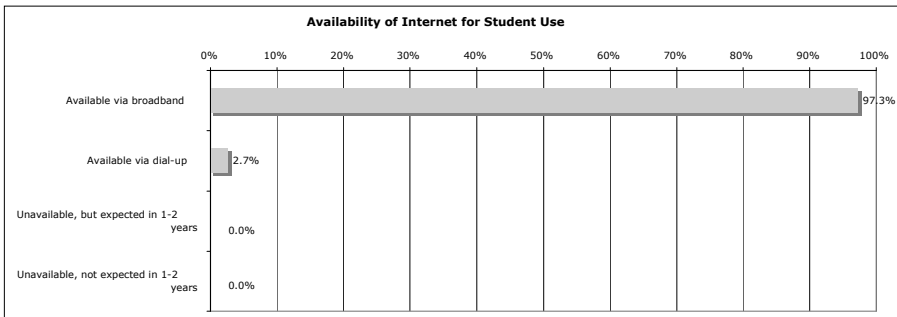
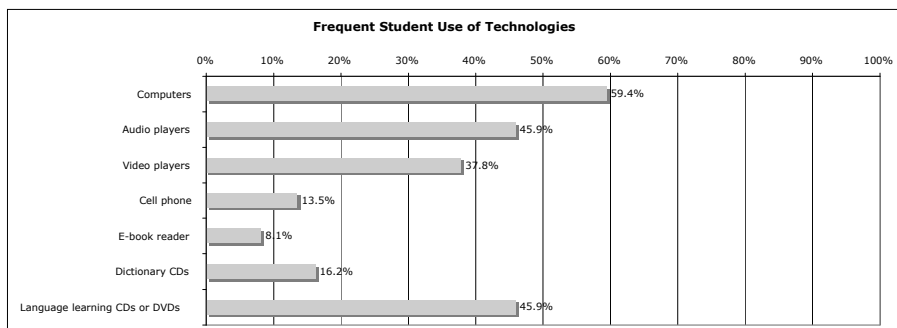*High Interest in Technology Use*

Within the sample of the study, most Brazilian teachers used the following five technologies for teaching almost every class or every few classes: CD players (97.3%), DVD players (86.5%), computers (78.3%), Internet (72.9%), and projectors connected to a computer (56.7%).

Figure 4: Frequent Teacher Use of Technologies
(Technologies used by participants "<u>every few classes</u>" or "<u>almost every class</u>" for teaching)

Frequent Teacher Use of Technologies

Technology	Percentage
Computers	78.3%
Internet	72.9%
Projectors	56.7%
Digital whiteboards	21.6%
DVD players	86.5%
CD players	97.3%
MP3 players	21.6%

As reported by the Brazilian teachers, most students (59.4%) frequently use computers for class-related English language learning. They also reported that their students used the following two types of technologies frequently in class: language learning CDs or DVDs, audio players (both 45.9%).

Figure 5: Frequent Student Use of Technologies
(Technologies reportedly used by students "<u>every few classes</u>" or "<u>almost every class</u>" for studying)

Frequent Student Use of Technologies

Technology	Percentage
Computers	59.4%
Audio players	45.9%
Video players	37.8%
Cell phone	13.5%
E-book reader	8.1%
Dictionary CDs	16.2%
Language learning CDs or DVDs	45.9%

Brazilian students use the following three Internet-based resources for English language classes almost every class or every few classes: Email (64.8%), general web sites such as news sites and info sites (64.8%), and websites for language learners such as exercises and vocabulary (62.1%).
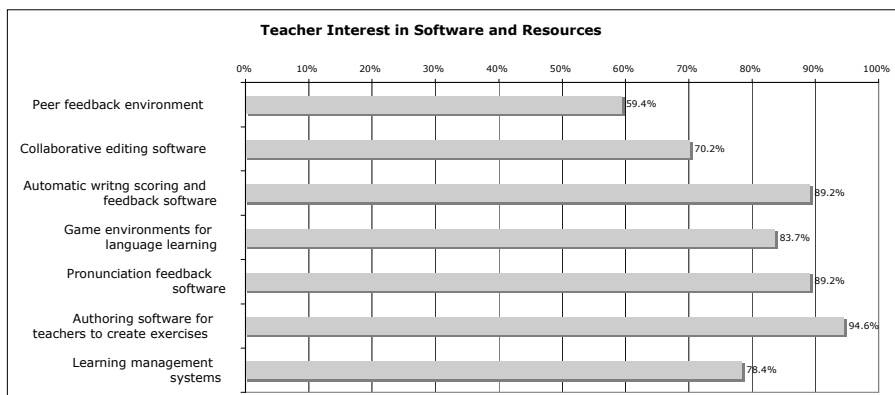
Figure 6: Frequent Student Use of Internet Resources
(Internet technologies reportedly used by students "<u>every few classes</u>"
or "<u>almost every class</u>")

Frequent Student Use of Internet Resources

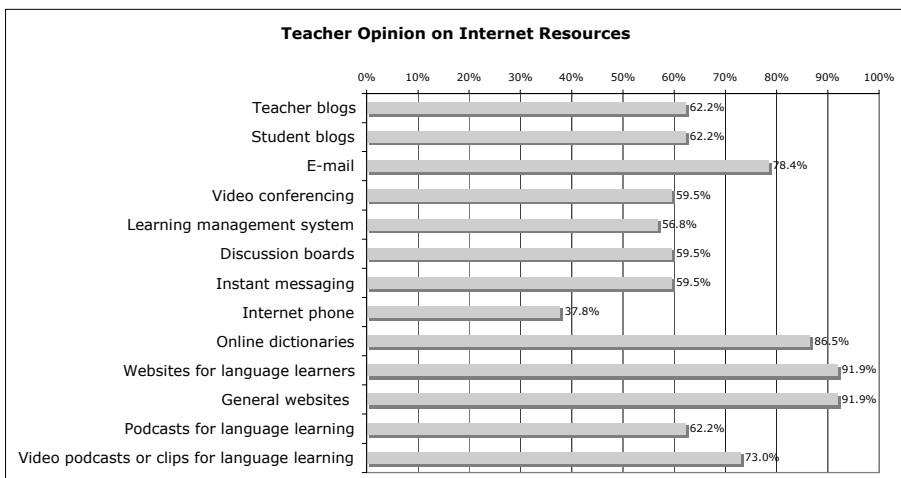| Resource	Percentage
Teacher blogs	24.3%
Student blogs	27.0%
E-mail	64.8%
Video conferencing	2.7%
Learning management system	13.5%
Discussion boards	13.5%
Instant messaging	16.2%
Internet phone	8.1%
Online dictionaries	37.8%
Web sites for language learners	64.8%
General websites	62.1%
Podcasts for language learning	21.6%
Video podcasts or clips for language learning	40.5%
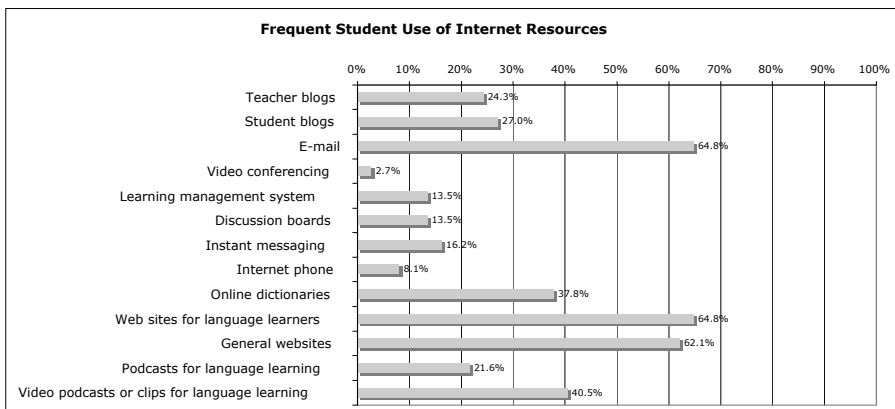
Within the sample of the study, teachers from Brazil have positive attitudes toward technology use in language learning. They attach high importance to different kinds of Internet-based resources and show keen interest in a variety of software and resources. Compared to teachers from the U.S., more teachers from Brazil highly value all the Internet-based resources and feel interested in software and resources. The differences are generally quite large on other items, particularly when asked about software resources. For instance, 89.2% of Brazilian participants were "extremely interested" or "very interested" in automatic scoring and essay feedback, whereas only 50.8% of U.S. teachers concur.

Figure 7: Teacher Interest in Software and Resources
(Software or resources teachers are "<u>extremely</u>" or "<u>very interested</u>"
in)

Teacher Interest in Software and Resources

Resource	Percentage
Peer feedback environment	59.4%
Collaborative editing software	70.2%
Automatic writng scoring and feedback software	89.2%
Game environments for language learning	83.7%
Pronunciation feedback software	89.2%
Authoring software for teachers to create exercises	94.6%
Learning management systems	78.4%

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Most Brazilian participants think that the following Internet-based resources have, or potentially could have great value if available for English language students: general websites (91.9%), websites for language learners (91.9%), online dictionaries (86.5%), Email (78.4%), video podcasts or clips for language learning (73.0%), teacher blogs (62.2%), student blogs (62.2%), podcasts for language learning (62.2%), discussion boards (59.5%), instant messaging (59.5%), and learning management system (56.8%).

Figure 8: Teacher Opinion on Internet Resources
(Internet-based resources highly valued by teachers - of "<u>great value</u>")

Teacher Opinion on Internet Resources

Resource	Value
Teacher blogs	62.2%
Student blogs	62.2%
E-mail	78.4%
Video conferencing	59.5%
Learning management system	56.8%
Discussion boards	59.5%
Instant messaging	59.5%
Internet phone	37.8%
Online dictionaries	86.5%
Websites for language learners	91.9%
General websites	91.9%
Podcasts for language learning	62.2%
Video podcasts or clips for language learning	73.0%

All the listed software and resources are of great interest to most of the participants from Brazil. They were "extremely interested" or "very interested" in the following resources: authoring software for teachers to develop their own learning materials (94.6%), automatic scoring and essay feedback (89.2%), feedback software for pronunciation (89.2%), game environments for language learning (89.2%), LMS for English learners (78.4%), collaborative editing software for students (70.2%), and online peer feedback environment for students (59.4%).

When asked about why using technology in the English classroom, many teachers commented that it was impossible not to use technology in modern society. As one Brazilian teacher from a private language institution commented, "We have to bring [technology] to the class, to teaching. When we do that, it's more dynamic and the students are going to want to come in more since we are using technology." Another Brazilian teacher teaching at a regular private school reiterated the point: "I think it's getting more and more important to using technology... it's making teaching more meaningful, there's no way out." A Brazilian teacher from a private secondary school, who is also the coordinator for foreign languages at the institution, explained the matter in more detail:

First, because technology is a part of our modern society. …We have to be updated. Secondly, because I think it's a very good way of drawing their attention, attracting them to class. … I always like to prepare something new for them. Also, some years ago, English class was very academic; nowadays we know what English is used for, because they are going to use that, so we have to bring things that are authentic. We have to show them English being used currently. So it's important to bring things and technology helps us a lot with that. … I believe things that …technological things are faster so we have quicker access to things, to information. So I think it's very hard to be away from technology. It's impossible not to use technology in class. Parents demand that, students demand that, the society demands that from us. We have to get more updated.

Talking about the effect of technology on language learning, some teachers elaborated how technology has transformed teaching. As a Brazilian professor from a public university in the south of Brazil commented,

One thing, there's this discourse that technology can enhance learning and it can enhance much more than traditional teaching, right? So this is one thing. It's like if we use technology devices our teaching will be much better and students' learning will also be much better.

A private school teacher in Brazil added,

I think technology has been changing the way we teach as a whole…There are lots of things that we can learn together so I think it changes the way teachers usually teach when not teacher-centered. We can share this learning. We are both learning. I think one of the aspects that is really important is it changes the way we teach and the way we learn and the way we relate to our students. We are not the teacher, I think you are the facilitator, the guide, so you plan what you want them to learn and you guide them through it. But you are not the one who knows everything and the most important thing in the classroom.

Strong Desire for Open Learning Environments

Prohibitive cost is one major factor preventing teachers from using new technologies. This was reiterated throughout the study, and by Brazilian teachers in particular. As a private secondary school teacher in São Paulo said,

I think we have the problem of the price. That it's not very cheap, so it's not very useful for schools and students to have materials or access. Now, I'm not only talking about my students, but English speaking things in Brazil things are not very cheap so this is one of the problems we have.

Another Brazilian teacher from a regular private school concurred:

> We are teachers so we want to have this sort of technology but they are the headmasters so they have to think about the budget and everything so sometimes it just doesn't happen because I think mostly because of budget. I think they are really concerned in investing in all of these resources.

There was a strong desire for easy-access, open-source materials in the study overall, as noted in both the online survey as well as the phone interviews. Many participants expressed a desire for open-source, multiple-platform and free or inexpensive online resources. Many participants mentioned using free, open-source materials in their teaching to supplement school-provided materials. If the participants were not using these easy-access materials, they wanted to. As a teacher from a private language school in Japan noted,

> I would like to see a "design it yourself" type of textbook where I could choose a limited number of chapters from an existing textbook and only use a few units from it. I have a problem with textbooks usually being much too voluminous to cover in a single term (usually twelve lessons, 2-3.5 hours each). However, owing to course pricing and a host of other factors, I cannot re-use the same book in subsequent terms even though there is a lot of great material still remaining to be taught. If I could request the units I want/need to compile a specialized text, that would be great. Perhaps it wouldn't even need to be traditionally published with the glossy cover and all. I could even print it on our office printers. Perhaps I could go to a website, choose the units I want and buy a licence (or as many licences as I plan to print copies of) that material and print it/compile it myself. For publishers, this would take production costs out of the equation. I guess the only question remaining is how to protect publishers from theft of the data. Is it possible to limit the number of times a document can be printed? Anyway, something like that would be of great use to my school.

Considering the convenience in instructional use, some teachers prefer web-based materials to CDs and DVDs. One teacher from a community college in California commented,

> I really like it when textbook publishers make web-based materials. I just really hate the CDs and DVDs and I just hate loading it in and figuring out what to do with it.

Many teachers use audio and video clips from the Internet. A community college teacher from Texas selected authentic materials about current events from news websites,

> I know a lot of us [teachers] just use what is available online. There's so much online now, especially for current events, news clips... I watch some TV now and I log onto ABC News, Yahoo News, they have so many different clips about different topics. Sometimes I just give [students] a link and I say choose something that interests you and they go with whatever is online.

A strong preference for open learning environments was shared by many of the participants in Brazil. Many teachers use online resources often, like this Brazilian teacher from a private language school in São Paulo:

> I like net a lot so I search a lot. Whenever I want something, especially for instance celebrations, I search a lot on the net. To see what is available. To see what are people doing around the world. What can be used here in my country and what could be interesting for my kinds of students.

A Brazilian college teacher argued that teachers should have free access to online course books:

> I would love to have free online course books to use with private students and/or classes. I mean, the teachers would have free access to it, but the students would buy a license (instead of buying a printed book).

Another teacher from a private school said that she and her colleagues used free Web-based resources frequently in teaching:

> [We] try to make use of the technology that's available on the Internet, like ThinkQuest and Moodle. This is what we use the most in our school.

She continued to talk about how she prepared exercisers with audio and video materials retrieved from the Internet:

> I learned how to catch a movie and a video clip and a song from the Internet and how to use the script from these movies… I try to prepare something for them [students] to work with dialogues taken from the movies or the lyrics taken from the songs.

In Brazil, as in other countries in our study (e.g., Japan), the free open source course management system, Moodle, appears to be in wise use. A university professor teaching in southern Brazil mentioned the use of Moodle among public universities:

> The Ministry of Education has this idea of sharing all the materials that is produced for distance education programs, for example, to be public. So they want this material to be public… So for us [public universities], it's mandatory that whatever we do we have to share. This has to be public because the government wants to create this, they're calling it a 'virtual library', where students can go and download material and teachers of the public school system, elementary, high, middle school, they can go there and say, OK so today I want to teach this about science, so they go there and download that material that some professor prepared.

Within the sample of the study, a vast majority of the Brazilian

participants (94.6%) attach great importance to web activities for learner (exercises, webquests, etc.). In an open-ended question asking for comments, six out of 37 survey participants made comments on web-based resources. There is also a common interest in an online community where teachers from different parts of the world can share ideas and provide support to each other. Most Brazilian teachers in the study perceive the web community for teachers and learners as "extremely important " or "very important". They highly value the importance of a web support community for teacher (70.3%) and learners (56.7%).

Figure 9: Teacher Value of Web Community
(Teachers rank as "<u>very important</u>" or "<u>extremely important</u>")
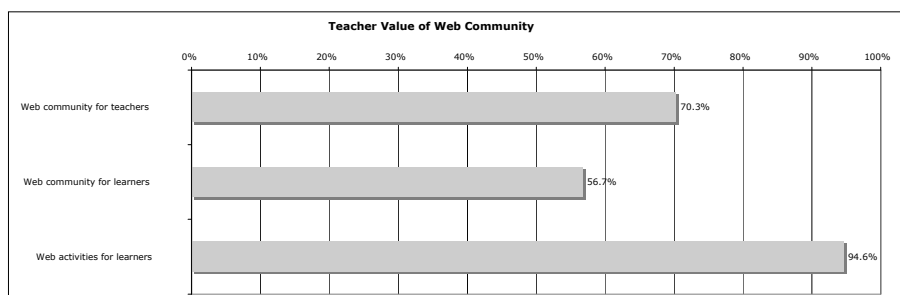
Some Brazilian teachers talked about how they tried to create an online community for students to communicate with learners in other countries. A Brazilian teacher from a regular private school helped her students to establish communication with students in the United States:

> We use the Internet a lot to do exercises, games, and also to contact students in other schools we have in other parts of the world. So we have this sort of cultural exchange between countries. For example they have communicated with students the same age in Virginia, so I contacted the teachers in another school and then we developed these projects. And also a school in Rhode Island.

Teachers from a private language school in São Paulo connected their students with learners in other countries via the use of Internet phone or instant messenger. As one explained to us,

> We have some teachers who have some friends abroad and we try to register them under Skype or MSN so we can provide our students with addresses that they can only communicate in English with other students.

The Case Study Results

The researchers observed one writing class and conducted interviews with teachers and students at the English for adults program at the International Center (IC, pseudonym) in May 2009, a large private language school center located in São Paulo, Brazil. About 4,500 to 5,000 students are enrolled at any given time in its several branches in downtown and suburban São Paulo. The class sizes are small, with 8 to 15 students in a typical English class. The school offers an extensive range of services, most of which are general English language courses for all ages and levels.

High Access to Technology

As described by teachers, all the classrooms at IC have a DVD player and a television. However, not all the classrooms have computers available. There are several computer labs and traditional audio language labs available throughout the school. Each computer lab has an average of 12 computer terminals. Teachers explained take students to the computer labs on an occasional basis. Teachers can use the computer labs as well and often do. They can also access the computer available in teachers' lounge. Internet access is available in the computer labs, but certain sites, such as social network sites, are blocked. The school plans to have computers much more broadly available in all classrooms within a year.

IC has its own website (in Portuguese and English) and intranet. Upon registration, each matriculated student receives a password that gives him or her access to the school intranet. To fully participate in the courses, students must have access to computers equipped with an Internet browser, Flash Player, Java Virtual Machine and Adobe Reader. Those who do not have personal computers can use the computers available in the learning center and the library of any IC branch.

When asked to compare their technology access at IC to other institutes in the area, the academic advisor said that IC has more access to technology than many schools and some of the smaller language institutes, but less than some private schools in São Paulo. One teacher commented that "[the administrators] don't invest as much on technology as other schools do." However, teachers emphasized the human element in technology use: "It's not what we have but how we use it." This opinion was echoed by another teacher: "I think the teacher makes a whole big difference." According to them, language teaching is the objective, and technology is "the means of which you get there".

High Interest in Technology Use

The use of technology at IC varies greatly by teacher and class, and to a great deal depends upon the teacher's comfort level. The three teachers

interviewed are frequent users of technologies. They integrate technologies in their classroom teaching enthusiastically. They use technology because "it makes classes more interesting, more dynamic, and it gives [students] another way of learning also. It's another medium and it's always something different." They are confident that technology "does make a difference." Promoting student motivation is the biggest factor why teachers choose to use technology in teaching. One teacher said "the real advantage is that it makes students more willing to do it."

Online technologies and resources are widely in use at IC. According to the academic advisor of IC, almost all courses involve online work in some way, whether it consists of course work or assessment. Some courses consist of online content exclusively, and some make use of electronic content for certain portions of the course work. Nearly all students have a "review day" at some point in their courses, which involves sessions in the computer labs and online work. On the school intranet, there is a learning management system (LMS) that teachers use for high intermediate and advanced courses. High intermediate and advanced students are required to take a 7.5-hour online component as a complement to their mandatory courses. The LMS keeps records of student online work, for example, how many videos they have watched or listening exercises completed.

There are also extra activities that are not mandatory called "learning center online". Students can do the learning center exercises in the computer lab at school. There are pronunciation practice programs on CDs as well as video clips to watch for listening comprehension. A writing teacher explained his expectations on student technology literacy, "to be able to use the computer to captivate knowledge, to be able to interact with the Internet, to be able to use WordPress [blogging software]".

As in many other schools, teachers at IC are facing challenges in using new technologies. The e-learning supervisor of IC stated that "the biggest challenge is the lack of [technology] literacy" among some teachers. She explained that some teachers are "a little bit resistant to the use of technology. Especially when we are talking about using different software, like computer programs and all that." Therefore "some teachers still avoid any kind of materials that has to do with technology. All the teachers have the same access. Some teachers are more resistant to using it than others."

In spite of the challenges, the teachers interviewed held positive attitudes toward technology use. They suggest the school "take it very slowly" and "step by step" to develop technological literacy. Since some teachers don't know anything about computers, it is better to "begin from this very basic, like how to use an email, how to use Word, how to open a Word document". The teachers who are less experienced in technology "have to get used to the new medium". When they get used to technology, they will "find it very useful" and "learn to like it."

Strong Desire for Open Learning Environments

As observed in the survey and interview results, there is a strong desire for open learning environments among the teachers at IC. It is apparent that teachers there have been collaboratively developing teaching resources and sharing contents on the school intranet.

In general, teachers do not use content from publishers that much. Audio and video materials are used for class but not always from the material that comes with the book. For classroom teaching, teachers found them from other sources, for example, free video sites such as YouTube and Hulu. When teachers discover something relevant to the class, they show the video clips to the class. For example, in the American Movies class "all the video clips are from Hulu."

Sometimes it is difficult to "find something ready in outside sources", explained one teacher, therefore teachers have to create electronic content on their own. The e-learning supervisor described some electronic contents they have developed. For example, teachers produced their own podcasts by creating and recording original dialogues. They have also designed drag-and-drop, fill-in the blank activities for vocabulary and grammar exercises.

The use of slide presentations (e.g., PowerPoint) seems to be a common practice in classroom teaching. There exists a shared responsibility mechanism in creating presentation slides. For some courses "there are teachers who are responsible for preparing presentations for that course… You just click on it." Slide presentation materials are prepared especially for the particular course, not purely based on the textbook used. A teacher stressed that he uses materials "for specific groups or for specific topics or activities". They are "usually not very book bound" but "more course bound or group bound."

As mentioned above, there is a mandatory online component for the high intermediate and advanced courses, with different sections for listening, speaking, reading, and writing. The content for the online program is prepared exclusively by the IC staff. Students can easily access examples used in the class and complete exercises online. For the Advance 2 course, one teacher said:

> [Students] can access online basically any audio or video that we do in class… What happens is that they access the site and there is a little video site to stream things and some questions. The students answer those questions based on the video and they send the teacher the recording… I give them some feedback in writing… This gets sent back to the students via email.

Conclusions

The findings indicate that within the sample study—which in Brazil is heavily weighted toward private school—Brazilian teachers have very good

access to computers, Internet and other digital technologies. Most of the private schools in our Brazilian sample have open access computers available for student use. They are usually in computer labs that can be scheduled by teachers. The access pattern is not that dissimilar to other countries. In certain aspects, we even found better access among the Brazilian participants than the participants from other areas, though these again reflected the underlying sample.

Brazilian English teachers in our study use many technologies frequently and show a high interest in technology use in general. They highly value all the Internet-based resources. Besides computer and the Internet, Brazilian teachers frequently use CD players, DVD players, and projectors connected to computers. The teachers also reported that most of their students frequently use computers and Internet-based resources for class-related English language learning.

There is a strong interest in open learning environments among many of the teachers in our international study, and especially in Brazil. There are number of reasons behind this quest for open educational resources, such as lack of funding to purchase educational materials and lack of time to create own electronic contents. As Stockwell (2007) questioned, how much more efficient could it be if English teachers start to collaborate and share content and applications? Free/Open Source Software applications have "considerable economic, technical, political, pedagogical, and moral advantages" (Pfaffman, 2007, p.38). Moodle is a popular management system for online learning, which can deliver blended course formats and has great potentials for supporting classroom instruction (Brandal, 2005).

There is some evidence of such collaboration occurring in Brazil. For instance, the distant learning programs at public universities share educational materials on Moodle. The case study also exemplifies such practice. As described by teachers, the school intranet acts as the platform for sharing educational resources. Teachers developed shared slide presentations for certain courses and shared podcasts for student listening comprehension practice.

Recently open source and open access resources are increasingly recognized as important for education around the world. Open educational resources include learning resources such as courseware and online learning communities, resources to support teachers, and resources to assure the quality of education and educational practices (Johnstone, 2005). There are many successful stories how open educational resources have benefited academic collaboration. For instance, the OpenCourseWare (OCW) project of Massachusetts Institute of Technology provides open access to course materials such as class syllabi, lecture notes, and a selection of video lectures. This issue has been gaining much attention in Brazil as exemplified in our study.

This study did not address the situation of technology use in public education in Brazil, which surely differs a great deal from what is occurring in private institutions. That gap, and how to overcome it, will have to be left to future research. As for this study, which focused principally on the contacts of

a major international English language publisher in 14 countries and was thus heavily biased toward private education in Brazil, it appears that Brazilian teachers have as high or higher level of access to, use of, and interest in technology compared to contacts of that publisher in other countries around the world. Brazil deserves to have a major seat at the table as we contemplate the future of technology-assisted language learning. And by their focus on creating and using open source resources, Brazilian English teachers are embracing an issue that is of growing importance worldwide.

REN, Y. WARSCHAUER, M. LIND, S. JENNEWINE, L. TECNOLOGIA E ENSINO DE LÍNGUAS NO BRASIL

Resumo: A maioria das pesquisas anteriores sobre o uso de tecnologia no ensino de inglês têm sido realizada com foco em alguns países, de maneira isolada. Há menos pesquisas que olhem para esse tópico em uma perspectiva global ampla e que incluam as diferentes visões de professores de diversas partes do mundo. Como parte de um estudo feito em 14 países nas Américas e na Ásia, este artigo examina o acesso à tecnologia e seu uso no ensino da língua inglesa no Brasil. Com base em dados quantitativos e qualitativos colhidos por meio de uma pesquisa on-line, entrevistas feitas por telefone e estudos de caso, o artigo descreve o acesso e uso padrão no Brasil em comparação com outros países, assim como as atitudes dos educadores brasileiros em relação ao uso de tecnologia no ensino de inglês. Os professores brasileiros participantes no estudo são oriundos principalmente de escolas do setor privado. Dentro dos limites da amostra do estudo, os professores brasileiros configuram entre aqueles de maior nível de acesso, uso e interesse em tecnologia em relação aos demais países estudados. A forte preferência dos educadores brasileiros por recursos e tecnologias livres é semelhante às preferências dos professores de inglês de outros países. Este estudo sugere que os professores brasileiros devem ter voz importante no campo internacional de aprendizagem de língua e tecnologia.

Palavras-chave: tecnologia; ensino de língua; professores de inglês e tecnologia

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