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18 September 2017
Sabbatical Fall 2016 Report

Using Technology to Increase Students' Digital Literacy & Foreign Language Acquisition

Several years ago, the English as a Second Language Department redesigned its curriculum so that students would be more strongly prepared to succeed in undergraduate or graduate credit programs. The curriculum changes resulted in a very intensive day program in which the most motivated and successful full-time students could complete the entire program from levels A-F in six terms and would be prepared to enter college programs.

When I applied for the sabbatical in 2016, I was the Level F lead instructor. One of my responsibilities was to coordinate Grammar/Writing F, Listening/Speaking F, and Reading/Vocabulary F instructors and help them understand the objectives of our newly updated curriculum while maintaining consistency of curriculum delivery in all sections of the same course.

One aspect of our revised curriculum is to ensure that students' digital literacy is at least sufficient to meet requirements to study at a college or university and/or to begin working or get a better job in the United States.

Lane's ESL students have varied educational backgrounds ranging from never having gone to college to already having completed an undergraduate or graduate program (masters' and doctoral degrees to post-doctoral studies). Furthermore, they tend to be quite proficient at using

their cell phones for texting and surfing the Internet but often lack the technology skills frequently used in higher education and in the workforce.

Requirements for digital literacy for university study and/or the workplace are in constant flux. To illustrate the changing technological environment, the Obama Administration launched its “Computer Science for All” initiative to ensure that all students from kindergarten through high school in the US were not simply digital consumers but also active users. The initiative recognized that the ability to use coding and other computer science skills was now a “new basic skill necessary for economic opportunity and social mobility.”

In addition to needing to learn new technology skills to meet university and workforce needs, students must be able to seamlessly move among devices. This is especially true as certain types of devices and/or their accessories become obsolete. For example, some companies, such as Sony, have or are in the process of phasing out the manufacturing of desktops, and there is a strong probability of greater tablet use replacing desktop use in the workplace and in higher education.

Many of our ESL students do not have computers at home. They may also not have had them at home in their countries of origin -- maybe because of a lack of space or money. The students are, however, as previously mentioned, venturing into tablet technology use. For example, they tend to have smart phones as substitutes for both landlines and computers, and some have both a smart phone and an iPad. Their technology purchase habits are mimicking what is happening among US adults. According to “Technology Device: 2015,” an October 2015 Pew Research

Center report, 45% of adults in the US are tablet owners, while 86% of people from ages 18 to 29 and 83% of adults ages 30 to 49 have a smart phone. Since 2011 there has been a dramatic increase in tablet purchases, and consumers are gradually increasing tablet use for home, academic, and business use. Though our ESL students may have mobile devices, their use of them tends to be limited to texting, taking pictures, and surfing the Internet. They may not know how to maximize their use of mobile technologies for educational purposes.

We, as faculty, need to help address technological changes that our ESL students face and assist in bridging the digital divide that many of them may experience. As previously mentioned, coding skills are becoming a basic digital literacy requirement, and if our students, both resident and international, hope to compete in the US at the college level or at the workplace, they will also need to become competent consumers of the technology and then active users. We need to be ahead of the curve and prepare students for the new technological environment, but to help students increase their digital literacy, we need to first focus on improving our own.

The goals of my fall 2016 sabbatical were to update my technology skills by learning about and using the most recent mobile technologies and their apps and by delving into coding to assist students in preparing them for the coming “coding as a basic digital literacy skill” era.

Increasing my technology skills would ultimately help me diversify my lesson delivery format to address various learning styles, meet student needs, and offer more innovation in my Grammar/Writing and Reading/Vocabulary courses. In addition, the philosophy was that the more students became active users of the mobile technologies for educational purposes, the better prepared they would be for the changing technological era.

During my sabbatical, I read current research on technology in foreign language education with an emphasis on tablet use for ESL; explored how ESL and foreign language departments at other institutions were using tablet technology; studied how to create an IOS app; researched capabilities of existing app creators for iOS; and reviewed the latest iOS tablet technology capabilities and specific iOS apps that could be used in ESL teaching. I chose the iOS platform as the ESL Department at Lane has sets of iPads for classroom use, and many of our students have personal iPads.

Relevant research articles from Language, Learning & Technology, CALL Journal, TESOL Journal, and EDUCAUSE Review included but were not limited to the following: “Digital Mindsets: Teachers’ Technology Use in Personal Life and Teaching,” by Ekaterina Tour, Monash University; “Contributing, Creating, Curating: Digital Literacies for Language Learners,” by Robert Godwin-Jones, Virginia Commonwealth University; “Emerging Technologies: The Evolving Roles of Language Teachers: Trained Coders, Local Researchers, Global Citizens,” by Robert Godwin-Jones, Virginia Commonwealth University; “Learning to Identify and Actualize Affordances in a New Tool,” by Karen Haines, Unitec, “Teaching Critical, Ethical, and Safe Use of ICT to Teachers,” by Sang-Keun Shin, Ewha Woman’s University, and “Students’ Mobile Learning Practices in Higher Education: A Multi-Year Study” by Baiyun Chen, Ryan Seilhamer, Luke Bennett and Sue Bauer.

I also surveyed a number of ESL and foreign language programs to learn about their use of tablet technology and to see if they were creating apps or using app makers to make apps for their students' language acquisition.

To potentially create an IOS app for supplemental teacher and student study materials, I reviewed existing app makers such as Good Barber, Shoutem, Swiftic (formerly Como), AppInstitute, AppyPie, AppYourself, and BuildFire.

I explored unfamiliar existing iPad apps for ESL such as GrammarUp for grammar, word selection, and vocabulary quizzes; Cram, for flashcards; Study Blue for lecture notes and flash cards; Chicktionary for word games and trivia; QuizOholic for trivia quizzes; Grammarly for a grammar checker; Anki and Memrise for retaining information; and Phrase Maze, which works with Quizlet and converts vocabulary flashcards to games. I also reviewed a number of free apps by the British Council, including WordShake, My WordBook 2, and LearnEnglishGrammar and other apps found at <https://grammar-express.com>.

To learn how to code for IOS 10 app creation, I completed courses in Swift 1 and 2 in IOS app development through Apple's Developer Course Online and familiarized myself with Apple's development tools and its guidelines. I also enrolled in "The Complete iOS 10 & Swift 3 Developer Course" at www.udemy.com and read "The Swift Programming Language," Swift 3.1 edition by Apple.

Challenges & Findings

Coding

Learning to code well usually takes longer than three months. Some say it can take at least 700 hours of study and maybe even up to the number of hours it takes to master a foreign language. Furthermore, as technology is dynamic and changes quickly, what is learned could abruptly become obsolete or altered, especially with the emergence of new operating systems. It is also important to decide whether to use an iOS or Android platform and commit to that in order to reduce personal financial and time investment in equipment and enrolled courses.

The learning process for coding is easier for those who have taken computer programming classes. I found that my previous experience with programming languages such as Logo and Basic were helpful in writing programming for gaming in Swift 1 and 2. I also learned late in the project that it may be useful to learn design patterns in coding as opposed to strict programming languages.

Equipment

Sometimes equipment is out of date or inappropriate for coding needs, and it may become necessary to purchase additional equipment with personal funds. For example, I expected to be able to complete my coding courses on my iPad Pro, but after learning that I could use it only for Swift 1 and 2, I was required to purchase an iMac computer desktop to enroll in more coding courses. Quite a bit of time was spent finding the best machine with sufficient power and a decent screen size, which are necessities for coding.

Online Coding Classes

Taking coding classes online can be frustrating. Students often do not immediately get the feedback they need to solve a coding issue and maybe not at all. Answers may not be provided by the instructor but rather the coding community associated with the classes. Also, although rarely, sometimes the answers to a coding problem can be incorrect, even though one's coding can achieve the desired result in a different way. It is ideal to have someone with coding experience to help with questions outside of the course.

Learning to code requires steady concentration. Any unforeseen event, appointment, or interruption of any kind can be quite disruptive and require another day of redoing what one was trying to do the day before.

Even those with a great deal of knowledge of technology can experience challenges. As one technologically-savvy colleague at another institution wrote, "A few years ago, I was really interested in this topic and did some research. At that time, the drag-and-drop style app makers were really limited, and I could not see a way to get them to do what I wanted, so I looked at the Apple development environment and started doing some tutorials on how to make apps. It did not take very long before I was completely overwhelmed by the coding, even though the Apple Software Development Kit (SDK) is straightforward. I think it is...easy to get a simple app up and running, but as soon as you want to do something more sophisticated, then you really need to know how to code....One possible solution is to learn enough to make the interface and sketch out what you want to do, [and] then try to elicit help on some of the developer's boards from coders who might be willing to help you with the harder stuff, or maybe the computer science

department at LCC might get some students to help you once you had story-boarded your project. Then again, you might take to coding more easily than I did.”

Existing App Makers

Existing app makers such as Good Barber, Shoutem, Swiftic (formerly Como), AppInstitute, AppyPie, AppYourself, and BuildFire are currently unable or quite limited in their ability to provide a good gaming design for language learning apps. App maker subscriptions can be quite expensive with required monthly and/or annual subscriptions, app makers can have very limited templates, and they may have customer support issues and/or have customer support in a foreign country. Furthermore, they tend to be designed more often for business purposes, and their features may be completely inappropriate for language acquisition. Clearly, either an instructor who wishes to create a successful language-learning app needs to learn coding and have a great deal of time to develop the app, or the instructor must work with the technology department at his/her institution to create a customized app. Even in the latter case, a background in coding would be helpful.

Existing Apps for Language Learning

To select which apps to review, I considered technology lists of the top language-learning apps and recommendations from colleagues at other institutions of apps with which I was unfamiliar. I also checked the Apple App Store for ESL and foreign language apps. Among the recommended language-learning apps, I reviewed GrammarUp for grammar, word selection, and vocabulary quizzes; Cram, for flashcards; Study Blue for lecture notes and flash cards; Chicktionary for word games and trivia; QuizOholic for trivia quizzes; Grammarly for a

grammar checker; Anki and Memrise for retaining information; and Phrase Maze, which works with Quizlet and converts vocabulary flashcards to games. I also checked the free apps by the British Council, including WordShake, My WordBook 2, and LearnEnglishGrammar at <https://learnenglish.britishcouncil.org/en/> Finally, I reviewed apps such as Busuu and DuoLingo for multiple language learning and <https://grammar-express.com> for more language-learning apps. Though there were many newly available or unfamiliar apps for language learning, I found that Quizlet remained the best app for vocabulary development and assessment. This finding reinforces the need for language instructors to learn to create their own apps.

Survey Respondents

It is surprising that few institutions surveyed for this project responded with information about how they were creating or using apps. Based on received responses, reasons that ESL and language programs were not taking advantage of existing apps, app makers, or coding to create apps to increase students' digital literacy while acquiring language skills included the following: a lack of time to update technology skills, a lack of institutional or department focus on technology, a lack of financial resources to train teachers or purchase equipment, and issues with campus connectivity.

One responding institution returned to buying laptops for in-class use as a supplement to student use of cell phones for language acquisition and questioned the project's focus on tablet technology: "It seems now that the device matters less and less – students go from one to another fairly effortlessly. Mobility and communication certainly matter, but so does a nice-sized screen when they are trying to read and writing and watch movies. Traction (learning?) occurs when

there is interest, agency, group participation and points.” The respondent also suggested created language-oriented augmented reality apps such as Pokémon Go.

Another respondent wrote: “There are many websites that I recommend [to students], but I do not have any other apps to list. (I have realized that this is a good ‘next step’ for me to take in my professional development: Learn more about apps to send students to rather than websites.)”

Although the sabbatical helped me increase my technology skills in specific areas such as tablet use, coding, app creation, and app maker creation for educational purposes, it is now clear that this project was quite ambitious for a three-month sabbatical, so I plan to continue my study of coding and improve my ability to use and create apps for my Grammar/Writing and my Reading/Vocabulary courses. Furthermore, I plan to use my updated technology skills to create relevant teacher and student materials and help increase my students’ digital literacy.

Appendix: Resources

Research Articles

“Digital Mindsets: Teachers’ Technology Use in Personal Life and Teaching,” by Ekaterina Tour, Monash University

“Contributing, Creating, Curating: Digital Literacies for Language Learners,” by Robert Godwin-Jones, Virginia Commonwealth University

“Emerging Technologies: The Evolving Roles of Language Teachers: Trained Coders, Local Researchers, Global Citizens,” by Robert Godwin-Jones, Virginia Commonwealth University

“Learning to Identify and Actualize Affordances in a New Tool,” by Karen Haines, Unitec

“Teaching Critical, Ethical, and Safe Use of ICT to Teachers,” by Sang-Keun Shin, Ewha Woman’s University

“Students’ Mobile Learning Practices in Higher Education: A Multi-Year Study” by Baiyun Chen, Ryan Seilhamer, Luke Bennett and Sue Bauer

ESL and Foreign Language Programs Surveyed:

American University of Cairo, Dr. Deena Booraie, Dean and Professor

Yamada Language Center, University of Oregon, Jeff Magoto, Director

Chemeketa Community College, Tim Van Slyke; Instructor

Clackamas Community College; Suzanne Munro, Department Chair

Lane Community College, Karin Almquist, Instructor

Lewis and Clark College, Academic English Studies, Professor Julie Vorholt,

Mt. Hood Community College; Dean Kelley Keith

Portland Community College; Dominique Millard, Instructor

University of Waterloo in Manitoba, Professor Barbara Schmenk

Valencia Community College, Professor Richard Sansone

Valencia Community College, Professor Steven Cunningham

Coding Books

“The Swift Programming Language,” Swift 3.1 edition by Apple

Courses Taken:

“The Complete iOS 10 & Swift 3 Developer Course,” Udemy.com

“Swift 1 & 2 in iOS,” Apple’s Developer Course online

Other Resources for Coding Courses:

Code.org

Codeavengers.com

Lynda.com

Scratch.MIT.edu

Treehouse.com

App Makers Reviewed

Good Barber

Shoutem

Swiftic (formerly Como)

AppInstitute

AppyPie

AppYourself

BuildFire

Apps Reviewed

GrammarUp

Cram

Study Blue

Chicktionary

QuizOholic

Grammarly

Anki

Memrise

WordShake

My WordBook 2

LearnEnglishGrammar

Apps found at <https://grammar-express.com>.

Other Resources

Guidelines for Evaluating Mobile Apps

“Evaluating Authentic Mobile Apps for Learning” by Nik Peachy

<https://nikpeachey.blogspot.com/2013/09/evaluating-authentic-mobile-apps-for.html>

Sources for Augmented Reality

“Getting Learning Out of the Classroom with Augmented Reality”

<https://nikpeachey.blogspot.com/2012/04/getting-learning-out-of-classroom-with.html>