

Assessing and Implementing English-learning Mobile Applications in a University Graduation Program: SLA 2.0

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1 RESEARCH PROBLEM

Our research problem for this doctoral proposal is verifying the efficacy of using tablets and smartphones Learning Virtual Environment (LVE) applications designed for the English language autonomous learning and if these apps can be implemented as mandatory in an English university graduation course syllabus.

The research question comes from the fact that most students enrolled at this course at the university where I work (UNIT – Brazil) and where I develop my doctoral studies (UNL – Portugal) are digital natives and competent users of the aforementioned gadgets in a daily basis.

2 OUTLINE OF OBJECTIVES

The major objectives for this doctoral research are:

- To verify the efficacy of using (two) tablet and smartphone Virtual Learning Environments named Busuu (01) and Babbel (02) for the Second Language Acquisition of the English idiom in an autonomous and self-paced way using as a focus group 50 UNIT and 50 UNL students.
- To assess all pedagogical resources presented by those apps and their HCI (Human Computer Interaction) with criteria such as Immediate Feedback, Information Density, User Control, Consistency and Compatibility, then establishing an academic perspective to the applications.
- To implement ONE of the aforementioned Virtual Learning Environment applications into the English Language graduation course syllabus at Universidade Tiradentes (Brazil) because most students enrolled at this higher education institution are digital natives and tablets and smartphones users.

3 STATE OF THE ART

The presence of smartphones and tablets has broadened the possibility of learning a foreign language and apps focused on SLA are used by many university graduates around the world nowadays. As an Assistant Professor of English Language and Literature at UNIT, I am trying to implement the use of ICT on a daily basis through the suggestion of installing digital dictionaries (Farlex, dictionary.com) and thesaurus apps (Advanced English) on their personal phones. After that implementation, the results in class performance improved a lot; especially concerning their new vocabulary acquisition (Krashen, 1981) and determination to learn (Papert, 1996).

It has to be mentioned that the familiarity with this new “interaction design” (Banga & Weinholt, 2014) for searching unfamiliar vocabulary proved to be more comfortable to them than a printed dictionary. As a next step after this experience, I realized that apps such as Busuu and Babbel were worth a deeper and longer analysis. In charge of these curricular units at UNIT and with the project idea of implementing a Mobile/Tablet Application as part of the syllabus (Slattery, 2006), I decided to investigate some of the authors dealing with mobile learning or *m-learning* (Anderson, 2008; Chen, 2013; Kukulska-Hulme (2009); Vavoula, 2005) and its associated consequences and understand which concepts would fit best to my study.

Bringing one of the understandings of *m-learning* to this study, we are certain that our students’ use of such apps “happens anywhere, in special outside of class, it is focused on the student (learner-centered) and it is thoroughly ubiquitous (Valk, Rashid and Elder, 2010). These authors clearly depict the reality we are soaring with this thesis project. Personally, I have received online comments from students outside class hours which indicate they were into a “SLA mode” at that particular moment and sending me a WhatsApp

message or an Inbox on Facebook certainly showed a commitment to their L2 autonomous learning process (Chen, 2013). This organic presence of Learning Virtual Environment applications in our smartphones is a new paradigm (Murray, 2011) in instruction; now the “school” is inside our pockets and the access to any information, website or application has really catapulted the accessibility to knowledge to a unique pattern.

Hence, we believe that this new horizon in language instruction (Kukulska-Hulme, 2009) will enhance and broaden the capacities of SLA. When analyzing the spatial or location characteristic of education; tablets and smartphones are promoting learning beyond classroom walls which according to Vavoula (2005) is

“any sort of learning that happens when the learner is not at a fixed predetermined location, or learning that happens when the learner takes advantage of the learning opportunity offered by mobile technologies has to be defined as m-learning”. (Vavoula, 2005)

Classrooms walls are long gone with this uber-access to smartphones and tablets and it is more than adapting to a new learning process for schools and higher education institutions (Papert, 1996), it is a complete redesign of educational notions (Blake, 2008) that both must embark due to these recently created learning environments. Another issue to be observed here is the narrowing of the gap between Formal and Informal learning environments (Bo-Kristensen, Ankerstjerne, Neutzsky-Wulff and Schelde, 2009) in a moment when most fossilized ideas about Pedagogy and Education as a whole are under scrutiny. Moreover, the blurry line between ‘i-am-studying’ versus ‘i-am-not studying’ traced on young adults and teens minds when it is about school or learning is being erased (Robinson, 2006). The informality, easy accessibility and ubiquitous presence (Leu et al, 2004) may take the formal school-interface out of perspective.

On this research proposal, we also shed some light over the urgent necessity of developing some new approaches to educational techniques at the XXI century university classrooms due to the fact that we have seen a lack of interest by some students in traditional instruction methodologies; result of the distance between their multi-faceted reality involving electronic and face-to-face communications versus the lecturer style of teaching. According to Oblinger (2005),

“New ways of teaching and learning have to be employed in an attempt to ensure these technologies are used to their fullest extent to engage all learners and to enable the construction of culturally significant

meaning for Net Generation students. We are finding that new pedagogies are facilitating the engagement of other students for whom the strategies and learning environment is conducive to engaged and deep learning”. (Oblinger, 2005)

The Net Generation (Tapscott, 1998) might be taken as a broad concept nowadays and we must put into perspective that technology has overpowered people of all ages and walks of life. Consequently, including this new perspective of apps into the English language learning provided by UNIT classes may deploy the institution at the forefront of T.A.L.L. users in Northeast Brazil and, we believe, this is unprecedented in any higher education institution in Sergipe.

Learning a foreign language in an online community reinforces L2 as we could see in Lan et al (2007) who asserts that “language learning is no longer limited to one-way individual learning, but can be expanded to a two-or multi-way collaborative learning”. As a Professor at the English Department, I stated my scientific problem as being the responsible for the implementation of m-learning to the English Graduation course syllabus during the 1st and 2nd semesters of it. There is an understanding that this new pedagogical procedure will prepare “future teachers of the idiom to the reality of their audience in post-modern educational times” (Campos, 2008).

As mentioned earlier, the majority of the university students we have in our classrooms nowadays are digital natives (Prensky, 2001) and according to this author, the reality is that,

“Today’s average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.” (Prensky, 2001)

In our English Department, we are preparing educators for a different language teaching and learning perspectives as they will be the teachers of the kids in high schools today who use computers, tablets and smartphones in a more organic model (Downes, 2012) way than their instructors. About the theory for Linguistics, the students will perform the Second Language Acquisition mostly based on the principles of Krashen’s (1981) language acquisition theory of *i+1*, being *i* – the background knowledge and *+1*, the new knowledge. They will also make use of Vygostky’s (2002) Zone of Proximal Development as well as Thorne and Payne’s (2005) use of podcasts theory here.

Green and Hannon (2007) also share some ideas

into the necessity of a new horizon in teaching as “children and young adults are establishing a relationship to knowledge gathering nowadays which is alien to their parents and teachers”. This knowledge has been gathered by surfing a multitude of platforms that bring access to information through a perspective made of audio, texts, videos, chats, photos and hyperlinks altogether (Papert, 1996). They learn everywhere (Anderson, 2008) and in a new dimension through these electronic gadgets. If we bring into this reality the application of VLE language apps as a routine, L2 learning may be rewarded. As some studies dealing with the use of apps in Asia are showing, “it was concluded that the combination of formal and informal learning fosters contextualized learning, productive outputs, and a socio-constructivist acquisition of the target language.” (Chen, 2013). Our target in this doctoral research is to verify the length of this concept when you implement tablets/smartphones apps aimed at L2 acquisition in a university course syllabus planned to language learning.

On this attempt of implementing an app as a mandatory content for a university degree, I have to analyse their HCI with an academic and thorough schema and therefore we are using some elements of the ergonomic criteria of Bastien and Scapin (2003) defined as Immediate Feedback, Information Density, User Control, Consistency and Compatibility. We are also investigating how these apps define language progression, how the vocabulary, themes, dialogues evolve and finally, the “schooling” approach that is aimed on language learning that these tablet and smartphones’ versions bring. The future implementation to the course syllabus takes into account the approach of *learning needs* that focus on Proficiency by Nation (2010) associated with the ideas of assessing needs in a framework for a course development from Graves (2000) and the reconceptualization tendencies seen in Slattery (2006).

I also have to take into full perspective Rogers’ Diffusion of Innovations theory seen here through the Technology Adopter Category Index (TACI). Rogers (2003) apud Sahin (2006) establishes that innovations and, in special Technology, follows a procedure of being adopted by people according to attributes such as Relative Advantage, Compatibility, and Observability among others. The pace of adoption takes a length of time that varies in relation to the adopters which are labeled as Innovators (2.5%), Early adopters (13,5%) Early majority (34%), Late majority (34%) and Laggards (16 %). We also include Dugas (2005) flexibility

perception to T.A.C.I.. The Figure 1 exemplifies how these rates are distributed through time.

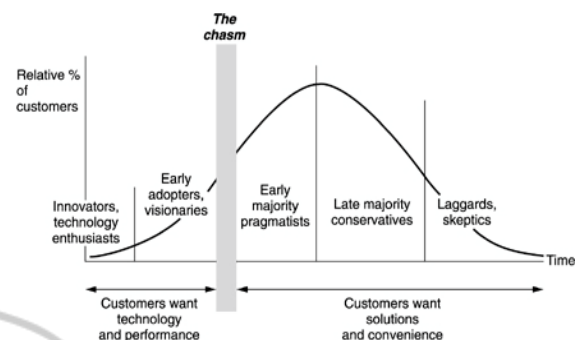


Figure 1: T.A.C.I. – Technology Adopter Category Index.

4 METHODOLOGY

As a methodological approach to this project, focused on the implementation of a new paradigm in instruction and pedagogical studies – learning through mobile apps – my Advisor (Prof. Dr. João Correia de Freitas) suggested performing a Design-Based Research (DBR) due to the essence of our doctoral research dwelling with the empirical nature of this unorthodox way of learning. Adopting new learning methods in a teaching environment is not an easy task, hence we use here the concepts of Herrington (2007) and Barab and Squire (2004) since we are “producing new theories, artifacts, and practices that account for and potentially impact learning and teaching in naturalistic settings”.

Checking other authors who suggest performing a Qualitative Research as a Design Based Research, it is mandatory to consider van den Akker, Gravemeijer, McKenney and Nieveen (2006) who specify that “design-based research holds great promise for enhancing both the theoretical contributions and public value of educational technology research.” Nevertheless, we have to pay attention to the fact that DBR is a work-in-progress and we cannot forget the ways the research goes through and the reasons for its existence. As Herrington (2007) puts it “...typically the research has sought to demonstrate the achievement gains of technology – facilitated learning over conventional methods of teaching with little regard for an understanding of *how or why* the gains might have been realized.”

Looking further into authors that contributed to the definition of DBR when developing qualitative investigations in technology and education, we bring the ideas of the pioneer Collins (1992) who

acknowledges that this methodology addresses the complexity of the problems in real classroom context when

“integrating known and hypothetical design principles with technological affordances to render plausible solutions to these complex problems and conducting rigorous and reflective inquiry to test and refine innovative learning environments as well as to define new design principles.” (Collins, 1992)

To Herrington (2007), “a research proposal for a doctoral study using a design-based approach must include a practitioner-oriented focus as well as degrees of collaboration that are not necessarily required for more traditional predictive research designs”. Another author, Reeves (2006), divided a DBR in 4 main steps (Analysis of Problems > Development of Solutions > Iterative Cycles of Testing > Reflection to enhance Solutions) as seen on Figure 2.

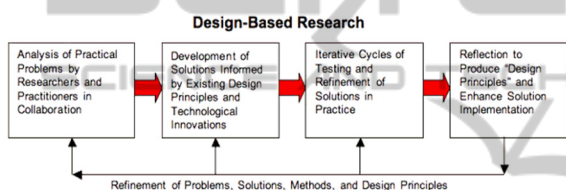


Figure 2: 4 Steps to a Design-Based Research.

It is also a fact that through this methodology, the research comprises a strong connection between researcher and students that is “derived from the definition of the research problem in close collaboration with practitioners, and fine tuned through literature that serves to (a) help flesh out what is already known about the problem and (b) to guide the development of potential solutions (Herrington, 2007).” We sum up the methodological approach with the conceptual idea of Barab and Squire (2004) reflected in the affirmation that a “design-based research suggests a pragmatic philosophical underpinning, one in which the value of a theory lies in its ability to produce changes in the world.”

After these four steps of DBR in our methodological procedures, after the collection of data through questionnaires, interviews and performance tests to be applied to the 100 subjects (50 at UNIT and 50 at UNL) involved at this study and its thorough analysis to verify the efficacy of those apps in language progression; we may probably take this doctoral research to its final part – the choice of the (most adequate) application for the Implementation at the Graduation course. As said before, this research project aims at assessing which

app represents a better platform to learning a L2 through T.A.L.L. or M.A.L.L and we had to take into our prism the ideas of an evaluative research whose qualitative data collection will be made through the use of the applications by the students. An evaluative study starts with the assumption that the research topic must be understood “holistically” (McKay, 2006).

This is done by assessing a variety of factors that might affect the final result. As we understood from our references, “the main goal of the evaluation report is to inform and/or influence decision makers and the relative emphasis of the two activities must be different” (Jamieson, 1984). Summing up, the evaluative research to be performed here will promote an analysis of both apps in a simulation of studies taking all the pedagogical steps proposed by the aforementioned applications.

4.1 Data Collection and Analysis

After the installation and use of the applications Busuu and Babbel by the purposeful chosen 100 subjects for six months, we will perform a series of questionnaires, semi-structured interviews, observations and oral conversations that will record this information on protocols designed to organize what was granted by the participants. This Qualitative data will be explored, coded, described in themes and segmented (Creswell, 2012). After that, we will summarize the findings and compare them to the literature. Of course, we bear in mind that this qualitative research has to validate the accuracy of the findings through the linguistic progression of the subjects, bringing or not the concept of Efficacy to the use of apps.

5 APPLICATIONS OVERVIEW

5.1 Busuu

The initial screen brings the registration, selection of language, then your level and courses. Through the selection of courses, students reach eight (08) levels based on CEFR (Common European Framework of Reference for Languages): Beginners A1 (Parts 1 and 2), Basics A2 (Parts 1 and 2), Intermediate B1 (Parts 1 and 2) and Intermediate Advanced B2 (Parts 1 and 2) and a subsequent section entitled Travel Courses.

All levels put through a series of “learning units” consisting of linguistic situational elements presented by images. It starts with some sentences

for listening and reading (matching), followed by a dialogue performed by natives (listening skill also in use here) with the possibility of reading it in English or at an automatic translation to your mother tongue. Continuing you find a “fill in the blanks” exercise with the items learned. The pedagogical approach here is mostly communicative and it aims at bringing the student to an “on the street” linguistic experience. Taking as an excerpt we will analyse the Level Intermediate B1 Part 2/ “Holidays”. After downloading the content you come across 3 sections: Vocabulary (expressions that are related to the theme followed by more complex linguistic structures), Dialogue (a “real-life” dialogue containing the aforementioned structures in a daily context) and Writing where you can answer a question (related to the same theme) that will be corrected by a native speaker afterwards. After completion of every Section or Part and when answers are mostly correct, the app awards you with a number of “berries” that count as a reward to your learning process.

Those corrections scaled in berries count as Immediate Feedback (Bastien and Scapin, 2003) to the student that sees his/her work valued. Moving on, you have a series of sentences to put words in order and finally the unit gets a “medal” for being finished. We may point out here that it has an interesting approach to beginners due to the fact that it goes from teaching how to introduce yourself – Part 1 exercise 1 - to stretches of some more developed structures for certain social situations. The User Control (Bastien and Scapin, 2003) at this stage is 100%. At the moment of this writing, the app does it in a more well-structured, reliable and educational manner. Statistically, according to Alexa (alexa.com), a website that registers application users per country, Brazil is the number two user of the Busuu platform with 8,3%; Russia is the leader country with 12,1%. The following Figures 3, 4 and 5 illustrate a HCI of a lesson by Busuu

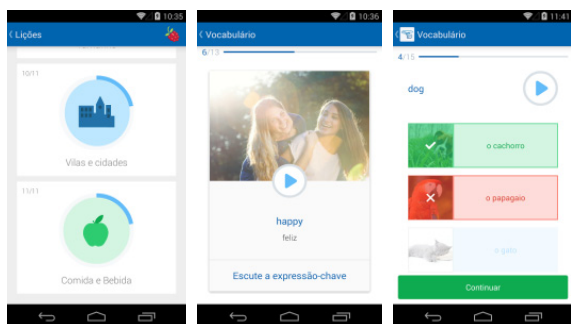


Figure 3.

Figure 4.

Figure 5.

5.2 Babel

The initial screen also brings the registration step and after that you go straight to the idiom downloaded. Then, you have to choose where you would like to start (Beginner or Advanced) and here we find the first setback – no Intermediate status. The user then goes through an association of language used for introductions and daily use such as “hello”, “please”, “goodbye”, “how are you?” followed by a matching exercise that presents no challenge even to “real” beginners. A matching exercise works as a unit review. In the sequence you find the “voice recording” exercise which is, in my view, the best element of Babel.

After you listened to the linguistic item spoken by a native you have to repeat and the app will accept the pronunciation as correct or not. Following through, you then write in a spelling exercise the items just learned which come presented in a dialogue to fill. After completing two sets of them you come across a writing exercise of the language previously learned where you type/spell the same words.

Unfortunately, only Part I is free and after completion it charges you 9,95 Euros for a month. Nevertheless, going to the Menu of the app you can choose from a series of (free) thematic vocabulary such as First Words and Sentences, Eating and Drinking, Vacation, Human Relationships, Transportation and Travel, Public Services, At Home, and many others.

Taking one for a deeper analysis, we selected Transportation and Travel due to its allure to learning the idiom. It develops the segment into isolated vocabulary for public transportation, for cars, planes, boats, etc. Choosing one of them will put the learner into an association of vocabulary to pictures and to the listening of that word in L2. After that, we come across a spelling exercise and completion sentences where a British accent voice reads the sentence for you after completion.

We have noticed great Compatibility and Consistency (Bastien and Scapin, 2003) on this reading + writing + listening activities; as they fulfill real life communication settings. The HCI is designed to take learners into the theme however I found the illustration to be small and the fonts could be bigger; taking into account that our research was promoted in a 7-inch Samsung tablet or at the Samsung S4 mini smartphone.

In app statistics, according to Alexa, Brazilian users represent 8,7% of the downloads – 4th position.

An example of the HCI of Babel is presented on Figures 6, 7 and 8.



Figure 6

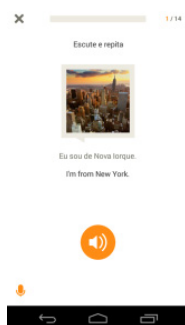


Figure 7



Figure 8

6 EXPECTED OUTCOME

The expected outcome will be presented in two steps:

- a) After a thorough qualitative analysis of the data created from observations, interviews and oral conversation in English with the participants and the researcher own perception of the Virtual Learning Environment apps, we will establish if there is efficacy (through language progression) on using the apps to improve English language learning.
- b) Subsequently to this efficacy confirmation, I will design a curriculum modification to include the implementation of the most adequate app on the syllabus of the Graduation Course subjects entitled English Language I and English Language II at UNIT.

We remind our audience that most subject students to be involved on this research (UNIT and UNL) will not be fluent on the English language – we aim for A1, A2 and B1 C.E.F.R. levels here and therefore they might demonstrate a higher necessity of a more guided or grammatical approach to learning sometimes. As we said before, tablets and smartphones are a reality nowadays as they can be found in almost every household, classroom and educational institution in both countries. Brazilians (UNIT) as well as Portuguese students (UNL) will certainly improve their overall knowledge learning a *lingua franca* through some apps that can bring you real learning possibilities for free or for some Reais or Euros. Concluding with the reason why these countries should learn English as soon as possible, according to EF's English Proficiency Global Index - Brazil still stands at the 46th position (Low Proficiency) while Portugal is doing a better work

but stands at the 19th position (Moderate Proficiency), what it is not so adequate when comparing to other European countries.

7 STAGE OF THE RESEARCH

The research is at its initial stages as the Doctoral Program I attend just started last October 2014. Up to this date, I have covered the mandatory Curricular Units of the first semester, we are on semester #2 and the deeper literature review and field research with the participants will start in February 2016. The paper presented here brings the latest work of our doctoral research.

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