

Comparing autonomous and class-based learners in Brazil: Evidence for the present-day advantages of informal, out-of-class learning

Abstract

For over three decades SLA research has focused on the instructed learning context, with samples of classroom learners and with assessments often relying on classroom-based tasks. However, in the last ten years, there has been a steady increase in reported cases of successful high level acquisition by out-of-classroom, informal learners through the affordances of the Internet. In this respect, mainstream research has been slow to recognize the shifting role of English in the lives of second and foreign language learners and the new out-of-classroom learning and use contexts that have emerged. We report a study comparing high level, well-motivated Central Brazilian classroom-trained learners (CTLs) with fully autonomous self-instructed learners (FASILs). Thirty-four FASILs and fifty CTLs, carefully matched for socio-economic status, age, educational level and years of English learning, took a battery of tests comparing seven distinct but related aspects of language proficiency, completed a questionnaire and were interviewed to gather data on behaviour, beliefs and attitudes. FASILs scored significantly higher than CTLs on all linguistic tests while the questionnaires and interviews revealed key differences with regard to attitudes and motivational development. Mode of learning correlated significantly with grammatical and lexical knowledge and range, with detailed analysis indicating that fossilized errors in high-frequency structures were significantly more common among CTLs than FASILs. The results reveal the extent to which new affordances for naturalistic learning through the Internet have transformed the scene for informal language learning, enabling significant numbers of independent, informal learners in foreign language contexts to achieve high levels of proficiency, often to the point of C2, or mastery, on the Common European Framework of Reference for languages (CEFR) scale.

Responses top reviewers.

We are grateful to the two reviewers for their very helpful and constructive comments.

Reviewer #2: Review: The superiority of second language acquisition over second language learning

Congratulations! This is an important paper reporting on research that makes an invaluable contribution to the field. Well done!

I found the sections in which you review the relevant literature a bit long, but I understand that given the possible contentious nature of your topic and findings that it's important to establish a firm base.

You provide very detailed descriptions of your measures. However, again, given your topic and findings, I feel it's very important that readers be able to see exactly what you did.

I wonder if you would like to reflect on your title (or not). It's long and at first glance I found it a bit ambiguous.

We have changed the title of the article to reflect this comment and the comments of reviewer 3.

Although the paper is exceptionally well-written, it could benefit from a careful proofreading.

We hope it is now error-free!

The following are some things I noted...

P. 3, l. 44, is 'dialect' the best term here?

Changed to 'variety'

Just a note: P. 5, Postovsky also advocated combining the reading and listening skills. Today's technology provides many more opportunities to do this. I believe that use of the strategy of reading and listening at the same time needs to be looked at more closely.

Yes, we agree. Minor changes to this section.

P. 6, ll. 43-48. This one sentence paragraph needs to be rephrased for clarity - especially the later part. *Now re-written.*

P. 8, ll. 16-18, rephrase for clarity. *Now re-written.*

P. 10, ll. 1-2: 'participants came, not only from similar educational and economic backgrounds'. Why not 'came from similar....' *Yes, we agree. Now changed.*

P. 10, l. 18: Delete: confirms. *Done.*

P. 27, ll. 1-16: This paragraph is basically one sentence [!] in which 'for example' is used twice. I think it would help the readers if this sentence were broken up into several. *Now re-written.*

P. 27, last paragraph: there exists a body of research that has explored bringing out-of-class learning into the classroom. For example, see Hafner & Young in Miller, 2007, in the Authenik series on learner autonomy, and Cotterall & Murray, 2009, System.

We are grateful for this comment and have included the authors in our paragraph on the implications for classroom-based teaching in our conclusion.

Although the paper is lengthy, I would suggest adding a section, 'Conclusion', no more than one paragraph in which the author(s) pulls all the strands together by making a strong statement regarding the contribution this research makes to the field. I find concluding with a section on future research gives the paper 'a not-quite-finished feel', which does not do it justice.

We agree. We have re-written the concluding section to take on board this comment and that of reviewer 3.

I look forward to reading the published version.

Reviewer #3: This is a very important study with potentially great contributions. While I enthusiastically recommend it for publication, I would like to invite the authors to consider undertaking the following revisions to further improve the appeal of their work:

1. The abstract: the authors may need to reorganize the writing a bit. It does not have enough information on the study itself (such as its methodological design, participants, data collection and analysis). If there is sufficient space, the authors need to provide such information. If not, the authors may consider cutting down a bit the first paragraph.

We agree. We have included the information suggested and have cut down the first paragraph.

2. I am sort of old fashioned. I would like to see a shorter introductory section outlining the significant knowledge gap that is supposed to be addressed by the study and the objectives that the authors wanted to achieve in their study before they elaborate these key issues in the literature review. I think that the authors need to explain why there is a need to prove that second language acquisition is better than second language learning. In fact, I am not too sure of such distinction (acquisition vs. learning). I will not call it 'acquisition' and believe that out-of-class learning is a more appropriate label. I have serious doubts whether it is necessary to elaborate such distinction in section 1.3. I think that it is desirable for the authors to focus on out-of-class learning or informal learning (they may refer to the old ideas of acquisition vs. learning). For this reason, I think that the manuscript needs to be retitled. It is too strong for the authors to argue for 'superiority' and I do not think that 'acquisition vs. learning' is relevant here. I suggest that the authors use terms such as 'advantages' or 'benefits' of out-of-class learning instead. Likewise, the authors need to reconsider the writing in section 4.2
3. May I also invite the authors to reconsider the way they use direct quotes such as 'In 1995, Cynthia White wrote that...' or 'Phil Benson has stated more recently...'? Section heading numbers need to be organized. The first section is too long with so many subsections. The last one (1.4) should really go to a reorganized methodology section.

We found these comments very helpful and have taken just about all into account:

- *The title of the article has been changed in line with the comments.*
- *We have outlined the context and knowledge gap.*
- *We have downplayed the acquisition vs learning distinction to a degree, in favour of 'informal, out-of-class learning' and 'advantages'.*

- *Use of direct quotes has been modified.*
 - *Other sections have been re-ordered or modified as suggested.*
3. I would like to see a separate conclusion, probably converting Section 4.3 into a concluding section. May I also invite the authors to reflect on potential limitations of the study? The findings could be used to argue that language teachers are no longer needed. It is a very big claim and I recommend that the authors be careful when making such claims directly or indirectly.

We have provided a new concluding section taking these comments into account.

1. Introduction

1.1 The changing world of language learning

In recent years, there has been a growing interest in learning beyond the classroom (e.g., Benson and Reinders, 2011), largely as a result of the popularity and affordances of new technology that Benson (2011a) has stated provide for the first time “opportunities for language learners ... to bypass classrooms and go directly to TL texts and users” (p. 17). In fact, at least with respect to English, the classroom may no longer even be the dominant language learning context (Sokkett, 2014). With the emergence of the Internet and the concomitant rise of English as a *lingua franca*, the language has come to have a new functional role in the everyday lives of non-native English users all over the world.

However, as Cynthia White wrote some 20 years ago, “Our understanding of the varied means learners use to learn a second or foreign language has been artificially limited by an almost exclusive focus on learners in conventional classroom environments” (White, 1995:218). In our view, this continues to be the case. In Benson’s terms, little has changed over the intervening years, “the overwhelming dominance of classroom-based studies in the field of language education creates the impression that foreign languages are mainly learned in classrooms” (Benson, 2011b: 77). In this respect, there is an obvious mismatch between the volume of classroom-based research in SLA, even with regard to teacher-guided, autonomous learning, and the present-day

realities of informal, out-of-class foreign language learning and use in foreign language contexts. The present study, comparing the performances of fully autonomous English language learners (FASILs) with a matched group of classroom-based learners (CTLs) on a battery of seven English language tests, together with their attitudes, beliefs and motivational development, attempts to show the current potential of naturalistic learning, without formal support and occurring outside of a native-speaking country, to bring adult users to native-like proficiency.

In our view, it is important to provide evidence indicating that ‘acquisition’, or informal, out-of-class-learning in the present day context, might produce better outcomes for learners than ‘learning’ in traditional classroom-based environments? We know that many learners face substantial hurdles including fossilized error-laden forms in their interlanguages at higher levels of proficiency, even after many years of formal instruction. Through examining carefully the data from and practices of proficient autonomous learners in comparison to highly-trained classroom learners, we may be better able to put what happens in the classroom in perspective by identifying constraints unique to the classroom as well as unique benefits of other learning contexts. In this way, we may be able to revise classroom-based language learning models to reflect key aspects of informal learning which lead to improved proficiency at higher levels without fossilization of key forms.

1.2 Current evidence from the literature

An important affordance of Internet use contexts is that they allow access to target language (TL) communities of relevance to the learner, a fact that several SLA researchers have noted can lead to huge jumps in acquisition. Eva Lam, for instance, conducted a number of case studies (2000, 2004, 2006) on Chinese immigrant teenagers in America who were de-motivated in school but who discovered the language to great effect using English within virtual communities of TL users with shared interests. Black (2006) reported on a similar case in which unsuccessful classroom learners

experienced great improvements in their English as they became valued members in the online fan-fiction community.

There have been similar findings with respect to foreign language learning. Murray (2008) reported on Japanese informal English learners who were driven to learn English by their emotional connection to English language pop-culture despite a lack of interest in English as a school subject. Benson and Chik (2010) reported on two different formal Hong Kong learners, who, as self-professed English language users, credited their high level proficiency to interaction with their favored media and with other members of the virtual community.

Within the European context, Leppänen et al. (2009) describe how four young Finns gained complex multi-lingual identities by connecting to online speaking communities. A case study by Kuure (2011), detailed the English user behaviour of a Finnish teenager who was exposed to a huge amount of specialized vocabulary as his online video game world expanded to a complex web of TL user communities.

Other researchers have pointed out the widespread nature of learning through informal sources today. In a European commission report, Stevens and Shield (2010) conclude that there is a substantial and growing number of students operating in personalised learning/use environments (PLEs) who often surpass their teachers in their informal linguistic knowledge. Several studies report on acquisition through exposure to ubiquitous English language pop-culture. Housen, Janssens, and Pierrard (2001), for example, found that despite studying French for significantly more hours than English, Belgian students had acquired significantly better English proficiency. More recently, Rindal (2010) found that though standard British English was the instructed variety in Norwegian schools, American English phonological variants dominated the speech patterns of Norwegian secondary school students. He concluded, "It is difficult to avoid the impression that learners' pronunciation is influenced by spoken media ..." (p. 256).

In a recent book, Geoffrey Sockett (2014) elaborates on studies that he and his colleagues at the University of Strasbourg conducted on what he terms “the online informal learning of English (OILE)”. The studies empirically document the widespread nature of informal learning and its potential to lead to acquisition. For example, a survey of 208 Strasbourg students found that all of them listened to English language music, with 30% (41) listening for at least three hours a day, and 33% (42) affirming that they only listened to English language music. In a separate study, Kusk and Sockett (2012) found that 50% of Information Technology (IT) students watched English television weekly (Kusk and Sockett, 2012: 51).

The findings of the Kusk and Sockett (2012) study revealed the advantages for vocabulary acquisition enjoyed by frequent television viewers over non-frequent viewers. Results indicated that frequent viewers were significantly more likely to have acquired common 4 word chunks from a corpus of television scripts than infrequent viewers, despite having gone through equivalent formal training. A follow-up study revealed a statistically significant relationship between frequency of television viewing and written use of the 50 most common chunks.

1.3 Theories of second language acquisition, present and past, and their relationship to modern, naturalistic acquisition outside the classroom

Almost certainly the most influential theoretical position with respect to the constraints of formal learning is found in Stephen Krashen’s five hypotheses and, specifically, the distinction drawn between what he terms “learning” and “acquisition” (1981). For Krashen, “acquisition” is the sub-conscious process that occurs through exposure to massive amounts of input and spontaneous use of it in meaning-making situations, while “learning” occurs when a learner consciously uses logic to study the rules of the grammar and vocabulary of a second language. According to Krashen, only “acquisition” results in intake of knowledge that is later available for spontaneous language use.

A key aspect of Krashen’s (1981) theory is his concept of the affective filter (p. 22), which proposes that learners who are very self-conscious (and therefore have a high affective filter) may be so

preoccupied by their conception of language as a rules-based system that they become discouraged from attending to linguistic input encountered spontaneously, thereby fossilizing in their progress (p. 77). Learners with low affective filters, on the other hand, feel more comfortable in their interactions with comprehensible input and are, therefore, more likely to seek out new language, acquire it and advance in proficiency.

Conditions that Krashen claims are essential for successful “acquisition” are more available today than they were when he first introduced his hypotheses. For example, highlighted by Sockett (2014), Lam (2006) and others, online use environments can lead to a lower affective filter by giving users unprecedented control, both in terms of choosing input relevant to their interests and in the ability to manipulate the speed of their interaction with that input. Furthermore, informal exposure to massive amounts of personally relevant comprehensible input is a much more practicable possibility now than at any time in the past.

Research in the 1970s by Valerian Postovsky (1974) provides a credible explanation for advantages of online naturalistic learning that takes place in the sort of personalized learning environments reported by Kuure (2011), Sockett (2014), Stevens and Shield (2010) and others, through solitary immersion in authentic, rich aural media input, supported by text (e.g., captions) and video, often accompanied by the viewer’s written productions (e.g. social media posts). In a series of studies, Postovsky found that learners who went through an initial silent period, in which speaking activities were replaced by written dictation activities, acquired significantly better listening skills and spoken grammatical accuracy than learners who began their studies with heavy speaking and listening practice. Postovsky argued that obliging students to use structures in speech before they have acquired them commonly results in the acquisition of a “classroom dialect” rich with all the distortions that are peculiar to the beginning students’ speech output”(p. 231). On the other hand, not requiring learners to speak before they are ready frees their minds to attend to the details of authentic native-like production, resulting in greater long-term proficiency.

A final theory that strongly supports the advantages of acquisition in naturalistic online contexts is Lave and Wenger's (1991) theory of situated learning and legitimate peripheral participation. The authors describe how in real world communities of practice, learners slowly become experts through increasingly difficult practice, scaffolded by motivation to perform everyday tasks within contexts where experts predominate.

While prominent theories of the past support and are supported by effective informal acquisition today, key aspects of present-day influential approaches to SLA are also highly relevant to naturalistic learning under today's technologized conditions. However, proponents of these approaches continue to be firmly classroom-oriented.

Task-based learning, for example, is theorized to be effective thanks to its emphasis on interaction and collaboration for real purposes. Nevertheless, as depicted in the literature (e.g., Pica, 2005; Keck et al. 2006), learners engage in communication that is planned and controlled. All too often, learners make meaning in tasks which are not relevant to their real lives and while interaction between class members may result in acquisition scaffolded by peers, collaborative learners would seem just as likely to model the type of "learner dialect" that Postovsky refers to. As Menezes (2013) has found in analyses of learner histories, "the classroom is ... an arena where some students must struggle to protect their needs ... against the impositions of their teachers and partners." (p. 72).

Connectionist theories (Ellis, 2006, Larsen-Freeman and Cameron, 2008), which emphasize learning through frequent exposure to salient, contextualized chunks of language, are highly relevant to second language acquisition in today's naturalistic contexts. As noted by Sockett (2014), who uses Dynamic Systems Theory (DST) as the main theoretical basis for his Online Informal Learning of English (OILE), this relevance is apparent in Nick Ellis's Associative-Cognitive CREED (Construction-based, Rational, Exemplar-driven, Emergent, and Dialectic) (2006), a DST-type model. This model portrays the human brain as a perfectly calibrated machine, which sorts

through massive quantities of unpredictable linguistic data to construct, based on the probability of co-occurring structures, a “remarkably native-like competence” (p. 108) in the L1. The system establishes patterns based on exemplars of structure order that are prioritized based on frequency and then sub-consciously applied as rules to guide original language production.

Online naturalistic contexts also consist of many different players that interconnect in unique and unpredictable ways to produce rich, differentiated data. The classroom, however, where learners are necessarily exposed to systematized and impoverished language, cannot possibly offer input necessary to prime the processing system that Ellis describes. Furthermore, copious amounts of flawed “learner dialect” would almost certainly produce non-native like exemplars. Rather than acknowledge these limitations when discussing obstacles to second language acquisition, Ellis asserts that while second language naturalistic usage is likely to “fall far short” of a native-like end state principally due to L1 interference (p. 110), L2 explicit instruction, through proceduralization (DeKeyser, 2001) is the best way of overcoming inherent constraints caused by the entrenched L1 processing system.

Benson and Chik (2010), in a discussion of the affordances of today’s “self-directed naturalistic learning”, offer a different point of view:

“It is possible that people who are intensely involved in FL communities or the pursuit of some interest through an FL may neither need nor benefit from FL instruction. This remains a researchable question but if it proves to be the case, FL education systems may need to switch to more responsive roles supporting learners’ autonomous forays into globalized online spaces” (p. 75).

The present study shares this perspective and focuses on the thesis that if we could identify a substantial group of autonomous English language learners who had reached advanced proficiency levels, including grammatical range and accuracy, bypassing what have been seen as common

acquisition problems for learners both inside and outside the classroom, it would not only demand a re-evaluation of naturalistic learning and perhaps a closer look at inherent constraints of the classroom, but it would also imply possible advantages of informal learning today over the classroom context.

The study focused on the following research questions:

1. Do there exist very successful FASILs who have attained levels of proficiency at least as high as self-motivated, highly experienced CTLs?
2. In what aspects of English acquisition do FASILs show an advantage over CTLs?

2. Method

2.1 The chance discovery of FASILs

The research presented below arose from observations made while analyzing the spontaneous chat threads of a group of Brazilian learners who were fluent in English. It was observed that, despite high motivation, advanced training and, often, experience living abroad, the great majority of advanced classroom learners rarely progressed past a one-to-one form-meaning mapping of English to Portuguese, with elementary mistakes persisting in their interlanguages. For example, the modal verb “will” was used indiscriminately regardless of future use contexts while all other variants including “going to” were almost never used.

An exploratory study was then carried out in Goiânia, Brazil, which found that the great majority of participants, who had been trained in private language schools, indiscriminately used the form “will” in all future use contexts. The study, however, had the unexpected result of uncovering a group of English users who we would go on to label “fully autonomous self-instructed learners” or FASILs. This group, despite little to no formal training in English and no experience living abroad, used future forms in patterns that closely resembled those of native-speaker pilot participants. Furthermore, the linguistic details of their discourse suggested that many of them had acquired a high level of overall linguistic proficiency.

Examination of FASIL interviews revealed the following shared characteristics:

- Their acquisition had begun as by-product of committed engagement with informal sources of English such as television and music which they accessed online.
- They enjoyed using English in their spare time and participated in activities in which English was the shared language, especially in online environments.

In the following sections, we report a mixed-methods study that employed a battery of linguistic tests to compare the English knowledge and skills of two types of learners: fully autonomous self-instructed learners (FASILs), who had acquired the majority of their English through informal contact with the language and who had had very limited formal instruction; and classroom-trained learners (CTLs), who were current, long-term students at leading private English schools in Brazil.

2.2 Participants

The study's sample was taken from a population of upper-intermediate to advanced English language learners between ages 18-24 in two large Central Brazilian state capitals, Goiânia and Belo Horizonte.

In total, 84 participants (43 female and 41 male) took part in the study. These were studying at five institutions of higher learning, including three universities, and two post-secondary schools (elite Brazilian university entrance examination preparation schools, called "pre-vestibulares") in Goiânia. Participants were non-language specialists who volunteered to participate in a study of Brazilian intermediate-advanced speakers of English.

Participants were selected from highly competitive universities and "pre-vestibulares" in order to establish a reasonable uniformity of backgrounds between the participants with regard to demographic variables: age, economic status, education and professional goals. The universities that participated in this study had the most competitive entry in their respective states and students who enter elite pre-vestibular schools are, in most cases, attempting to pass the most difficult university entrance exams in the country. From this, it could be reasonably supposed that

all participants were academically oriented in that they had the goal of gaining professional degrees. Participants were also required to have attended private primary and secondary schools without supporting scholarships to ensure that participants came from similar educational and economic backgrounds.

Brazil offered an especially favourable context to recruit participants who could be distinguished as formal vs. informal learners. Within the country, it is common knowledge that English, even at competitive, private primary and secondary schools, is a fringe subject, which does not bring students past basic levels of proficiency. This is confirmed in a report sponsored by the British Council (Data Popular Institute, 2014: 12). Consequently, many young Brazilians attend well-funded private language schools, a major industry in Brazil, in order to acquire the language (p. 17). If a competent Brazilian English user has not lived abroad or gone to private language school, it can be reasonably assumed that s/he has acquired the majority of his non-basic English knowledge, independently, out-of-class.

A screening form and subsequent interview questions were used to assign participants to the correct group or to exclude them from the study. To qualify as a FASIL, a participant could not have had more than a total of one full year of formal instruction, through a combination of classroom study, private tuition, and independent study with online or packaged self-teaching materials. Furthermore, FASILs were not allowed to have lived abroad or to have lived in Brazil with an advanced or native speaker of English. In order to qualify as a CTL, a participant must have been a current learner in a private language school for a minimum of four years. Unlike FASILs, CTLs were allowed to have lived with an advanced or native speaker of English and to have lived/studied abroad for up to 3 months. CTLs could also have had unlimited contact with informal sources of English. CTLs who had extensive contact with informal sources of English (self-reported contact of two or more hours per day) are referred to in this study as Hybrid CTLs. Both FASILs and

CTLs had to have access to a personal computer with internet access as well as a television with satellite or cable access.

2.3 Procedure

Participant recruitment followed the same procedure at each institution. At initial meetings, the proficiency of volunteers was checked through a self-report protocol of skills (Brantmeier, Vanderplank and Strube, 2011) associated with each level. From the initial volunteer groups, a smaller group, who believed themselves qualified based on the initial meeting, returned at a later date to complete the written part of the study. This phase consisted of the CTL/FASIL screening form, a 7-point Likert scale attitudes and beliefs questionnaire, and written linguistic tests. The second phase of testing consisted of a structured interview plus a 90 second oral production test of the grammatical structure “there is”. In this article, we report the findings of the written tests and the oral test together with limited findings from the interviews.

2.4 Instruments

Linguistic Tests

The linguistic tests aimed to measure participants’ knowledge of grammatical and lexical structures when used in reading and writing activities. Lexical and grammatical automaticity were built into tests using strict time limits that were arrived at during piloting.

The first test was a paired reading comprehension assessment of literal and figurative language taken (with permission) from Martinez and Murphy (2011). The test was originally designed to test knowledge of formulaic expressions of private language school students in Brazil, students with training similar to the CTLs who participated in the present study. The literal and figurative texts were made up of the same words, the difference being that the passages in the first set of

passages consisted of words used with their literal meanings while words in the second set were combined into figurative multi-word expressions.

The test of literal meaning provided insights into whether the FASILs were able to compensate for their lack of explicit vocabulary instruction as well as their inexperience with academic-style comprehension tests. The test of formulaic language contained deceptively transparent vocabulary items, such as multi-word expressions, which have been repeatedly shown to present difficulties for learners as they progress through intermediate levels (e.g., Laufer, 1989; Martinez and Murphy, 2011) due to fossilization of learned one-to-one translations. A crucial question in the study was whether this form of fossilization is an inevitable consequence of the ingrained L1, or whether it is dependent on the context of learning.

The next test assessed knowledge of grammar and vocabulary available for spontaneous use. Participants were shown a 90-second Charlie Chaplin film clip twice in succession and instructed to write a full description of everything that happened on the screen. They were asked to take notes in any language as they watched. A strict time limit was set to give test takers enough time to finish the task by relying on their automatic and intuitive knowledge of language structures, but not enough time to plan or revise.

The test simulated the skill of accurate and coherent spontaneous communication. As has been shown in previous studies (Klein and Perdue, 1997), Chaplin's physical comedies are ideal for this, as they can elicit full, rich descriptions. This allowed the test to elicit a variety of grammatical and vocabulary structures that went beyond simple picture recognition tasks or grammatical exercises. By requiring participants to describe everything they saw, the test aimed to differentiate between those participants with a sufficiently sophisticated knowledge of structures to describe what they saw accurately and fully, and those who had too many gaps in their linguistic knowledge to report the details of the scene spontaneously.

For marking purposes, the International English Language Testing System (IELTS) test band descriptors for the general writing test categories were used: 1. grammatical range and accuracy, and 2. lexical resource. For the purposes of the study, the mean ratings for the grammatical range

and accuracy category and the mean rating for the lexical resource category counted as two separate tests. The descriptions were marked by two experienced assessors with IELTS marking experience.

The following test examined participants' productive knowledge of "there is", a basic English structure with both grammatical and lexical properties, which is taught explicitly multiple times from early levels in the top English schools in Brazil. Preliminary observations had revealed that it was often used incorrectly by highly-experienced Brazilian English learners. Participants were given 90 seconds to respond to the prompt: "What is in your house? Use complete sentences to answer." The prompt had been piloted on 40 native speakers of English of various and had elicited the target structure, "there is", an average of 7 times per 90 seconds.

Participants were given every possible opportunity to use the correct structure. If participants persisted in using subject + "have", which piloting showed was a possible, though relatively rare, variant response by native speakers,¹ they were asked to continue answering the question without using sentences with subject + "have". If, after 90 seconds the participants had not used the structure and had used at least one incorrect grammatical variant of "there is" (e.g., "have" without a subject – "have no game today") in a required context of use, they were judged not to have acquired productive knowledge of "there is".

The above test was followed by one which measured knowledge of deceptive lexico-grammatical items, requiring learners to go beyond one-to-one mapping of the L1 onto the L2. Participants were instructed to read a passage, choosing, at various points in the passage, which of two words or phrases was correct given the context. The items in the test were chosen because though they were basic, everyday English structures, they presented difficulties to Brazilians owing to disconnects between Brazilian Portuguese and English. The items included the following types of structures:

¹ Every native speaker pilot participant used "there is" multiple times. A small percentage also used subject + have.

- Verb + preposition combinations (e.g., *call to* versus *call up*)
- Commonly confused words (e.g., *lend* versus *borrow*)
- Surface grammar mistakes (e.g., *other* versus *another*)
- Words that express subtle differences (e.g., *get* versus *take*)
- Countable/uncountable/plural (e.g. *a new* versus *news*)
- Parts of speech mistakes (e.g., *truth* versus *true*)
- Immediate versus stative verbs (e.g., *find out* versus *know*)

The test was also piloted with 40 native speakers of English. All native speakers answered all items on the final version of the test correctly.

The final test was a grammatical judgment task. Participants were given ten minutes to find ten instances of what they judged to be grammatically incorrect writing within a text and to edit these in grammatically correct English, preserving the author's intended meaning. The test thus tested both receptive and productive knowledge. The text was made up of structures, used correctly and incorrectly, that preliminary research had shown to be problematic for intermediate-advanced Brazilian learners. The incorrect structures featured on the test were the following:

- Subject/verb word order in embedded questions
- Verb + preposition combination
- The past tense versus present perfect to refer to an occurrence at a specified time in the past.
- *Was going to* or any other acceptable variant to refer to future plans in the past
- Phrasal verb that require gerund complement
- Multi-word verb + preposition combination
- *It*, as a dummy subject pronoun
- *It*, as a dummy object pronoun
- One set of frequently confused lexical items ("*stay*" / "*ficar*")

The test provided a practical, communicative task that required participants to have enough working knowledge of high-level grammar to allow them to edit instances of incorrect use within a linguistically complex text. It measured active linguistic knowledge, as opposed to more typical grammaticality judgment tests that examine more passive knowledge, for example, requiring test takers to indicate which items on a list are correct.

Other Instruments

In addition to the linguistic tests, two other instruments were used in the larger study. Structured, systematic interviews were given to obtain broad and accurate information about participants' learning histories, backgrounds, beliefs, and motivations. Additionally, a 7-point Likert scale learner attitudes and beliefs questionnaire was used as a quantitative measure and support for the interview. The bulk of the findings from these sources are beyond the scope of this article.

Some quantitative and qualitative data from the interviews relevant to the RQs stated above are reported: number of years spent learning, hours per day spent with informal sources (estimate). Other data from the structured interviews will be referred to in cases where it clarifies the findings.

3. Results

For the six numerical tests in the battery, Mann-Whitney U tests were carried out to analyse the scores of the FASILs and CTLs, as the data were not normally distributed. A chi-squared test was used for the seventh test, the productive knowledge of grammatical structure, "there is", as it was scored dichotomously (yes/no). Table 1 shows the descriptive statistics for the two groups, including number of participants, means and standard deviation.

Table 1. Group statistics for the six linguistic tests

	Learning Mode	N	Mean	SD	SEM
Literal Reading	FASIL	34	26.06	1.434	.246
	CTL	50	24.52	2.468	.349
Figurative Reading	FASIL	34	20.38	4.008	.687
	CTL	49	14.08	3.746	.535
Lexical Resource²	FASIL	34	6.69	1.492	.256
	CTL	48	4.77	1.448	.209
Grammatical Accuracy³	FASIL	34	6.54	1.662	.285
	CTL	48	4.83	1.335	.193
Vocabulary/ Grammar	FASIL	34	18.71	2.887	.056
	CTL	50	15.10	4.042	.071
Grammatical Judgment	FASIL	28	4.25	2.187	.413
	CTL	40	1.37	1.580	.249

The results of the Mann-Whitney U test are shown below. For all linguistic tests there was a highly significant difference between group scores, with the FASILs scoring higher on all tests ($p < .01$).

²mean score for Timed Narrative Writing (Lexical Resource)

³mean score for Timed Narrative Writing (Grammatical Range and Accuracy)

Table 2. Mann-Whitney U Test Summary

	Literal Reading	Figurative Reading	Lexical Resource	Grammatical Accuracy	Lexico- Grammatical	Grammatical Judgment
Mann-Whitney U	493.500	223.500	256.500	310.500	396	163
Standardized Test Statistic – z	-3.304	-5.662	-5.287	-4.787	-4.162	-5.015
Asymptotic Sig. (2-sided test)	.001	.000	.000	.000	.000	.000

The Chaplin Retelling Test

The Chaplin test was perhaps the key test in the battery since the essays provided scores based on the well-known, validated IELTS rating rubric. Furthermore, the task arguably presented more difficulty for participants in terms of lexical and grammatical performance than a typical IELTS essay topic since time limits did not allow for planning or revision and the nature of the test did not permit participants to avoid structures that they did not feel comfortable with.

Inter-rater reliability for both the lexical resource category and the grammatical accuracy category was evaluated using the Intraclass Correlation Coefficient (ICC). For the lexical resource ratings, the ICC was .913 and for the grammatical accuracy ratings it was .875. These results indicate a high degree of consistency between the two raters and thus a high degree of reliability for the final data.

FASILs performed significantly better than CTLs ($p < .001$) on both the lexical resource band and the grammatical range and accuracy band. The mean scores of the FASILs were impressively high, 6.7 on the lexical category and 6.5 on the grammar category, and correspond to between high upper intermediate and advanced level on the Common European Framework of Reference for Languages (CEFR) scale (based on Cambridge language assessment equivalences). 44% of FASILs (15 of 34) achieved averages on the lexical resource and grammatical accuracy bands of at least 7.5 and 29%

achieved averages of at least 8.0. Translating those scores to the CEFR scale, 29% of FASILs achieved C2 level, or “mastery”, whereas 44% were at the high end of the C1 level, or above, signifying “advanced” proficiency.

On average, CTLs scored 4.8 on both grammatical accuracy and lexical range. These scores correspond to the low end of the B2, advanced-intermediate level, in terms of CEFR standards. Therefore, under stringent time limits, CTLs obtained scores that confirmed the study’s earlier judgment, based on a variety of criteria detailed in the methodology section, that CTL participants had advanced-intermediate level English proficiency.

FASILs also significantly outperformed CTLs on the grammaticality judgment test (see Table 2), a result that complements the findings of the Chaplin test by providing evidence that sophisticated grammatical knowledge can accrue through informal, naturalistic use of English. On the test, the difference between groups can be seen not only by the very low p-value (<.001) but also by descriptive statistics. The mean difference in scores between groups was substantial, with FASILs, on average, finding and correcting three times as many errors: 4.3 (FASILs) compared to 1.4 (CTLs). This difference is striking in that while no FASIL had been instructed in any but the most basic grammatical structures, every CTL had been taught sophisticated grammar that was included in the grammaticality judgment test, for example, mixed conditionals, the present perfect, the future past.

Automatic productive knowledge of “there is”

The “there is” test was analysed using a chi-squared test. Table 3 (see below) shows the results, which were determined by the standard Yates’ Correction for Continuity number rather than the Pearson coefficient, since the test produced a 2 by 2 table (Pallant, 2010). The proportion of FASILs who obtained positive results for the “there is” test was significantly greater than the proportion of CTLs with positive results, thereby indicating a relationship between mode of learning and productive knowledge of the grammatical structure, “there is”.

Table 3. The relationship between FASILs/CTLs and their results on the “there is” test (chi-squared test)

	Value	Df	Asymp. Sig. (2-sided)
Pearson chi-squared	10.243	1	.001
Continuity Correction	8.761	1	.003

The scale of the differences between the two groups is again striking. Table 4 shows that the great majority of FASILs (88.2%) obtained positive results, with only 11.8% showing lack of productive knowledge of the structure. For the CTLs, percentages were more balanced at 55.1% and 44.9%.

Table 4. Comparison of the results of FASILs and CTLs on the “there is” test

		“There is” oral test		
		Acquired	Unacquired	Total
Group	FASIL	88.2%	11.8%	100%
	CTL	55.1%	44.9%	100%

Overall, the results of the linguistic tests indicate that for a range of skills and knowledge, both formal and informal, FASILs had a clear advantage in acquisition over CTLs, and were able to demonstrate high levels of proficiency.

Language Proficiency

An overall score for language proficiency was determined using factor analysis, which reduced the test data for the six numerical assessments to one factor. The “there is” test could not be included since it defines a categorical variable rather than a numerical one.

The issue of multicollinearity was addressed by examining the values of the correlation coefficients of the tests. All values were between .3 and .8 as recommended by Field (2013), which indicated that the variables were not affected by multicollinearity, providing a degree of validation that the individual tests measured distinct but related aspects of language proficiency. The value of the KMO coefficient was .847 ($p > .5$), and the value of χ^2 calculated by Bartlett’s test of Sphericity was 430.051 ($p < .05$). Both these tests measure sample adequacy, indicating that the responses collected were valid and the data were factorizable. The Kaiser criterion was used for determining the number of factors that would be retained (Eigenvalue > 1). One single factor (later designated “language proficiency”) was extracted, which accounted for 71% of the total variance.

Influences of specific factors on language proficiency

Several factors were examined to see how they correlated with language proficiency for the entire group of participants. Mode of learning stood out as having a highly significant correlation with language proficiency (see Table 5.).

Table 5. Correlations between language ability and the variables that influence this score

Variable name	Pearson's <i>r</i>	Pearson's <i>r</i> – for FASILs	Pearson's <i>r</i> – for CTLs
Mode of learning	.518**	–	–
Time spent/ week with informal sources	.385**	.182	.289*
Time spent learning English	.067	.447**	.061

*Correlation is significant at the .05 level (2-tailed)

** Correlation is significant at the .01 level (2-tailed)

For the purposes of the present article, there were two other crucial factors to consider, which are included in Table 5, above. These are the number of years spent learning English and time spent per week with informal sources (see also detail in Table 7).

“Years spent learning English” correlated with language proficiency for FASILs but not for CTLs. When considered along with the linguistic tests, this finding suggests that CTLs might face a barrier in their progress, despite continued formal and informal contact with the language as opposed to FASILs, who improve through advanced-intermediate level as they continue to have contact with the language.

Another important variable was time spent per week with informal sources, since it is possible that advantages for FASILs over CTLs were a condition solely owing to extensive contact with informal sources as opposed to perhaps a variety of aspects that make up the FASIL learning experience. A chi-squared test showed, as would be expected, that there was a significant relationship between mode of learning and contact per week with informal sources ($p < .05$). Nevertheless, there was a clear overlap between groups.

Table 6. Time spent with informal sources by FASIL and CTLs

		Hours/day with informal sources				
		< 1	1-3.5	3.5-7	More than 1, > 2	
		hour/ week	hours/ week	hours/ week	less than 2 hours/ day	hours/ day
Group	FASIL	0.0%	0.0%	19.4%	25.8%	54.8%
	CTL	5.0%	17.5%	35.0%	17.5%	25%
		Total (%)				
		100%				

As shown above in Table 5, though for CTLs there was a significant correlation between time spent learning per week with informal sources and language proficiency, there was no significant correlation for the FASIL group. This suggests that language proficiency for FASILs was not simply a product of time spent with informal sources, but that mode of learning in itself was a factor. The proficiency of the ten Hybrid CTLs, who had two + hours of daily contact with informal sources in addition to extensive formal language training, but who, in no case, reached the proficiency level of the top 28% of FASIL participants, further suggests that FASIL advantages in acquisition are due to more complex factors than simply hours of contact with informal sources.

The results of a multiple regression analysis (Table 7, below) revealed three variables which made a statistically significant unique contribution : internal extrinsic motivation ($\beta=.380$), mode of learning ($\beta=.365$) and the number of years spent learning English ($\beta=.192$) ($p<.05$). Time spent per week with informal sources did not make a statistically significant contribution.

Table 7. Summary of Multiple Regression Analysis

<i>Variable name</i>	<i>B</i>	<i>SE_B</i>	<i>B</i>	<i>Sig.</i>
Mode of learning	.739	.251	.365	.004
IntExt Motivation	.769	.223	.380	.001
Time spent learning English	.083	.039	.192	.038

B – unstandardized regression coefficient, *SE_B* – standard error of the coefficient, *B* – standardized coefficient

As shown above, mode of learning was a very strong, unique independent predictor of language acquisition success. The other key predictor in the regression, internal extrinsic motivation, refers to self-determined, instrumental motivation as defined in Self-determination Theory (Deci and Ryan, 1985) and will be the focus of a later article on out-of-classroom learning in Brazil⁴.

4. Discussion

4.1 The evidence for the advantages of naturalistic learning

Arguably, the most important finding of this study is that adult learners can and do achieve high levels of English language proficiency without formal training. This finding, along with the details of linguistic test outcomes, challenges several aspects of mainstream SLA research and offers new insights into present-day second language acquisition. Firstly, the idea that naturalistic learners, especially in foreign language contexts, typically achieve only low levels of proficiency has for decades been an essential pillar of the case for the necessity of instruction within the SLA research community. Nick Ellis (2008), for example, writes:

“Where language is predominately learned naturalistically by adults without any form focus, a typical result is a basic variety of interlanguage, low in grammatical complexity, but communicatively

⁴ The other non-contributing factors involved in the regression go beyond the scope of this paper, and we will not address them here.

effective. Because usage leads to change, maximum contact learned naturalistically can thus simplify and lose grammatical intricacies.” (p. 232).

A later section of the article has the straightforward heading: “Naturalistic L2 use causes language simplifications” (p. 238). The suggestion by Ellis and others that fossilization and simplification are inevitable aspects of naturalistic learning clearly must be re-evaluated based on the evidence presented here.

Secondly, the results of the present study challenge the generally accepted notion that L2 deficiencies are principally the result of the ingrained L1 processing system and can only be overcome with formal instruction. Indeed, they rather imply the contrary: that limitations on adult second language acquisition due to L1 interference and simplification could be partially the result of the formal context of learning.

The results of the “there is” test are particularly telling in this regard. In every failed test, rather than “there is”, CTL participants used an L1 influenced variant, the overgeneralized “have”, which is learned early on in schools to be a translation of “ter”. “Ter” also happens to be the dominant spoken Brazilian Portuguese structure corresponding to the English “there is”. In this, we have a clear example of what Ellis and, before him Selinker (1972), refer to as “simplification” and L1 interference. The fact that this process very rarely interfered with FASIL acquisition suggests that simplification may have less to do with the ingrained L1 processing system that FASILs and CTLs share than to effects of differing contexts of learning.

Findings from the other linguistic tests add to the evidence. The results of the test of deceptive lexico-grammatical items showed that CTLs, significantly more often than FASILs, had not acquired a nuanced understanding of these structures. For example, significantly more CTLs than FASILs chose “learn with this experience” and “worried with our relationship”, which were literal translations of

Portuguese verb + preposition collocations, “aprender com” and “preocudo com”. Nearly all FASILs chose the correct responses: “learn from” and “worried about”.

The results of these tests hint at the possibility that transfer errors may be develop and be reinforced in classrooms rich with spoken “learner dialect” but low in authentic input, as suggested both by Postovsky (1974) and Belasco (1971). The fact that, according to estimates given in interviews, FASIL development featured a significantly higher ratio of receptive to productive practice than CTL development did, and nearly no spoken practice at beginning stages, supports Postovksy’s (1974) recommendation of an early silent period marked by heavy exposure to authentic input.

Finally, the reading comprehension tests add compelling evidence. FASILs scored significantly better than CTLs on both tests, particularly on the reading comprehension of figurative language test. The findings indicated that FASILs had a more sophisticated understanding of figurative uses of words than did CTLs, who scored almost identically to similar Brazilian formal learners in the Martinez and Murphy study (2011). The results again imply that simplification and inflexibility, which hampers acquisition of multi-word expressions, may not be intrinsic to SLA, but, rather, may result from the formal instructed SLA experience.

Thus, taken together the linguistic tests showed that while FASILs often acquire the nuances of the second language, CTLs frequently persist in deficiencies in acquisition common in Brazilian English learner dialect, seemingly hitting a barrier in terms of development. The possibility that the plateau effect, or fossilization, so frequently referred to in the literature (e.g., Ellis, 2008) is not an unavoidable feature of second language acquisition but rather one brought on by certain aspects of the instructed learning experience is further supported by the lack of correlation for proficiency with years of learning for CTLs, while being present for FASILs. In terms of sustained development from intermediate to advanced levels, we can also refer back to the Chaplin test. Only 1 CTL participant (2%) of all CTLs averaged a 7.5 rating or above on Chaplin lexical resource and grammatical accuracy,

while 44% of FASIL reached this level, suggesting that stalled progress at the advanced-intermediate level is much more applicable to CTLs than to FASILs.

4.2 Theoretical Implications

The data from this study clearly point to acquisition advantages that independent English “acquirers”, immersed from the beginning of their learning arcs in authentic communication for authentic purposes, have over classroom-trained learners even in EFL contexts. FASILs acquired high levels of proficiency without overactive “rule monitors”, reaching high levels of proficiency while exposed to plentiful input which they used in spontaneous, authentic contexts. On the other hand, CTLs were highly conscious of grammatical rules, with several stating in interviews that grammar had to be acquired in the classroom. The groups fit to some extent the learning/acquisition distinction (Krashen, 1981) and their respective results on the tests lend support to Krashen’s contention that use for meaning-making purposes, and not conscious study, leads to the ability to use new language spontaneously. Of course, there are many complex factors that must be considered before judging how distinct “learning” and “acquisition” are. For example, it is likely that in the present context, these hypotheses and distinctions are less relevant than the distinction between informal, out-of-class learning and formal, classroom-based learning. Nevertheless, the fact that affordances of modern technology make naturalistic input more easily accessible and less likely to be constrained by threatening situations that could increase a learner’s “affective filter”, set the stage for a re-appraisal of Krashen’s hypotheses .

Finally, with regard to distinctions between the first and second language acquisition processes traditionally emphasized in the SLA field (e.g., Doughty, 2003), the evidence in this study indicates that neither the processes themselves nor their end results may be as dissimilar as previously thought. This suggests several interesting theoretical possibilities, including the applications of Dynamic Systems Theory and connectionist models of first language acquisition, as a basis for high efficiency, FASIL-type learning.

5. Conclusion

The findings of the present study suggest a number of research paths. For example, future research could investigate to what extent FASIL-type informal, out-of-class learning occurs among different populations. These might have L1s that are more distinct from English than Portuguese or be learning languages other than English. It is our belief that it may, in fact, be common among learners of other languages as well, given that the Internet brings the ability to connect to TL users in all languages, and technology offers many of the same affordances to learners of other second languages as it does to learners of English.

Perhaps the most crucial question for future research is to what extent the benefits of independent online learning can be applied to formal learning. Benson and Chik (2010) suggest a formal classroom that is auxiliary to “independent forays”. Hafner and Young (2007) and Cotterall and Murray (2009), for example, have attempted to develop teachers’ skills to involve out-of-class learning and also to develop learners’ metacognitive and self-direction skills. New research could investigate projects that involve individualised, out-of-classroom use or “forays” in which learners use language independently out-of-class and then report back on their individual experiences to a group of peers. Research studies on approaches like this could address questions regarding the viability of such flipped classrooms and their potential benefits in terms of acquisition, self-reliance, and motivation.

It might be inferred from the findings that language teachers are no longer needed. We would certainly not make such a claim. First of all, our study dealt with learners whose aim was full mastery of the language. In many formal learning contexts focused on more specific or more modest goals, for example, the ability to pass standardized tests or communicate on summer holidays, the present study’s findings may be largely irrelevant. Secondly, our study, inevitably, has a number of

limitations: the number of FASILs, while large enough to enable us to justify meaningful statistical analyses, is still not overly large and a further study with larger numbers would be able to validate our findings. Secondly, the age range and socio-economic background of the participants is quite specific and it may be that we have stumbled on a group of learners whose language learning characteristics and strategies are partly defined by this age range and background. This question can only be answered by further research.

The present study sought to investigate the advantages of naturalistic, informal learning by a group of fully autonomous learners compared with a carefully-matched group of classroom trained learners. The findings indicated that the autonomous learners were not only able to demonstrate significantly higher levels of English language proficiency as demonstrated by results of a large battery of tests but that that classroom-trained learners appeared to retain a number of fossilized L1 errors in their English performances, even after years of instruction, which were not evident in the data from the autonomous learners. Perhaps the most significant conclusion to be drawn from this study concerns the findings that the proficiency levels achieved by FASILs were not simply a matter of hours spent with informal sources but had more to do with mode of learning and self-determined instrumental motivation. Taken together, these findings challenge the current orthodoxy on the limitations of autonomous language learning and highlight the extent to which the affordances of the Internet have transformed the opportunities for informal, independent, high level foreign language acquisition.

References

- Belasco, S. (1971). The feasibility of learning a language in an artificial unicultural situation. In Pimsleur P. & Quinn, T. (Eds.), *The Psychology of second language learning*. Cambridge MA. The University Press.
- Benson, P. (2011a). What's new in autonomy? *The Language Teacher*, 35(4), 15-18.
- Benson, P. (2011b). *Teaching and researching autonomy*. United Kingdom: Pearson Education.

- Benson, P., & Chik, A. (2010). New literacies and autonomy in foreign language learning. In Luzon, M. L., Ruiz-Madrid, M. J., & Villanueva, M. N. (Eds.), *Digital genres, new literacies and autonomy in language learning* (pp. 63–80). Newcastle: Cambridge Scholars.
- Benson, P. & Reinders, H. (2011). *Beyond the Language Classroom*. Basingstoke: Palgrave Macmillan.
- Black, R. (2006). Language, culture, and identity in online fanfiction. *E-learning*, 2(2), 170-184.
- Brantmeier, C., Vanderplank, R., & Strube, M. (2012). What about me? *System*, 40(1), 144–160.
- Cohen, J. (2013). *Statistical power analysis for the behavioural sciences*. New Jersey: Lawrence Erlbaum.
- Data Popular Institute. (2014). *Learning English in Brazil: understanding the aims and expectations of the Brazilian emerging middle class*. Sao Paulo: The British Council.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester: University of Rochester Press.
- Dekeyser, R. (2001). Automaticity and automatization. In Robinson, P. (Ed.), *Cognition and second language instruction* (pp.125-151). New York: Cambridge University Press.
- Doughty, C. J. (2003). Instructed SLA: Constraints, compensation and enhancement. In Doughty, C. J., & Long, M. H. (Eds.), *The handbook of second language acquisition* (pp.256-310). Oxford: Blackwell.
- Ellis, N. C. (2006). Cognitive perspectives on SLA: The associative cognitive CREED. *AILA Review*, 19(1), 100-121.
- Ellis, N.C. (2008). The dynamics of second language emergence: Cycles of language use, language change, and language acquisition. *The Modern Language Journal*, 92 (2), 232-249.
- Field, A. (2013). *Discovering statistics using IBM SPSS Statistics*. London: SAGE Publications.
- Housen, A., Janssens, S., & Pierrard, M. (2001).The development of auditory proficiency in French and English as foreign languages in secondary schools in Flanders. *Círculo de Lingüística Aplicada a la Comunicación*, (6), 3.
- Keck, C. M., Iberri-Shea, G., Ventura, N. T., & Wa-Mbaleka, S. (2006). The empirical link between task-based instruction and acquisition: A meta-analysis. In Norris, J. M., & Ortega, L. (Eds.), *Synthesizing research on language learning and teaching* (pp. 91-129). United States: John Benjamins Publishing Company.
- Klein, W., & Perdue, C. (1997).The basic variety (or: Couldn't natural languages be much simpler?).*Second Language Research*, 13(4), 301-347.
- Krashen, S. D. (1981). *Second language acquisition and second language learning*. Oxford: Pergamon Press.
- Kuure, L. (2011). Places for learning: Technology mediated language learning practices beyond the classroom. In Benson, P., & Reinders, H. (Eds.), *Beyond the language classroom* (pp. 35-46). Basingstoke: Palgrave Macmillan.
- Kusyk, M., & Sockett, G. (2012). From informal resource usage to incidental language acquisition: language uptake from online television viewing in English. *ASp. la Revue du GERAS*, (62), 45–65.
- Lam, W. S. E. (2000). L2 literacy and the design of the self: A case study of a teenager writing on the Internet. *TESOL Quarterly*, 34(3), 457–482.
- Lam, W.S.E. (2004). Second language socialization in a bilingual chat room: Global and local considerations. *Language learning and technology*, 8(3), 44-65.
- Lam, W. S. E. (2006). Pedagogies : An international re-envisioning of language, literacy, and the immigrant subject in new mediascapes. *Pedagogies: An International Journal*, 1(3), 171–195.

- Larsen-Freeman, D. & Cameron, L. (2008). *Complex Systems and Applied Linguistics*. Cambridge: Cambridge University Press.
- Laufer, B. (1989). A factor of difficulty in vocabulary learning: Deceptive transparency. *AILA Review*, 6(1), 10-20.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Leppänen, S., Pitkänen-Huhta, A., Piirainen-Marsh, A., Nikula, T., & Peuronen, S. (2009). Young People's Translocal New Media Uses: A Multiperspective Analysis Of Language Choice And Heteroglossia. *Journal of Computer-Mediated Communication*, 14(4), 1080–1107.
- Martinez, R., & Murphy, V. A. (2011). Effect of frequency and idiomaticity on second language reading comprehension. *TESOL Quarterly*, 45(2), 267-290.
- Menezes, V. (2013). Chaos and the complexity of second language acquisition. In Benson, P., & Cooker, L. (Eds.), *The applied linguistic individual: Sociocultural approaches to identity, agency, and autonomy* (pp. 59-74). UK: Equinox.
- Murray, G. (2008). Pop Culture and Language Learning: Learners' Stories Informing EFL. *Innovation in Language Learning and Teaching*, 2(1), 2–17.
- Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS*. New York, NY: Allen & Unwin.
- Pica, T. (2005). Classroom learning, teaching, and research: A task-based perspective. *The Modern Language Journal*, 89(3), 339–352.
- Postovsky, V. (1974). Effects of delay in oral practice at the beginning of second language learning. *The Modern Language Journal*, 58(5/6), 229–239.
- Rindal, U. (2010). Constructing identity with L2: Pronunciation and attitudes among Norwegian learners of English1. *Journal of Sociolinguistics*, 14(2), 240–261.
- Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, 10, 209–241.
- Sockett, G. (2011). From the cultural hegemony of English to online informal learning: Cluster frequency as an indicator of relevance in authentic documents. *ASp. la Revue du GERAS*, (60), 5-20.
- Sockett, G. (2014). *The online informal learning of English*. UK: Palgrave Macmillan.
- Stevens, A., & Shield, L. (Eds.). (2010). *Study on the impact of information and communications technology (ICT) and new media on language learning*. European Commission. Retrieved from http://eacea.ec.europa.eu/llp/studies/documents/study_impact_ict_new_media_language_learning/final_report_en.pdf
- Sykes, J., Oskoz, A., & Thorne, S. (2008). Web 2.0, synthetic immersive environments, and mobile resources for language education. *Calico Journal*, 25(3), 528–546.
- White, C. (1995). Autonomy and strategy use in distance language learning: Research findings. *System*, 23(2), 207-221.