

English Language Learning Magazine

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August 2020

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Disrupting the English-only status quo: Using home language as a vital resource in the classroom **PLUS** Using explicit instruction in genre-based pedagogy in L2 writing: A personal insight **AND MORE...**

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Bertolazzi, I. Neon signage [Image]. Retrieved from <https://www.pexels.com/photo/neon-signage-2681319/>

Calendar of Events

September	October	November
September 25–26: 1st International Conference on ESP, EAP, & AL	October 1–3: The 2020 TESOL Arabia International Conference & Exhibition	November 5–7: TESL Ontario 48th Annual Conference
September 27–30: ACTA Conference	October 3–4: 2nd Language Education and Research Conference	November 12–13: Innovation in Language Learning 13th Edition
	October 8–11: International IATEFL Slovenia Conference	November 20–22: TESOL France Colloquium
	October 9–11: 9th ELT Malta Conference	November 20–23: JALT2020
	October 16–17: ATESL 2020 Conference	
	October 23–24: MEXTESOL 2020	
	October 28–31: GlobELT 2020 Conference	

Access TESL Ontario’s webinars [here](#).



Editor's Note

I guess we could say the last few months have changed all of our lives in some way or form. With some restrictions in place, many of us have adapted to (or adopted) a virtual teaching environment. And while it has not been the easiest of times, I would like to think that we are slowly finding our way through this and getting back on track. Whether you are reading this from the confines of your cozy reading nook in some high condo tower or on a deck in cottage country with the sun shining down and the lake steps away, hopefully this issue brings some pleasant distraction for the time being—maybe a new perspective on teaching language.

This specific issue does not necessarily promote or exclusively help with online teaching and the new normal we face, but it does reflect more on the work of presenters and researchers from the TESL Ontario 47th Annual Conference. Their work hopes to serve as a fresh perspective on ELT while demonstrating tested methods that have worked in the classroom.

Kate Paterson explores home language and how it can benefit students in the classroom and how it can be vital for students' success in language learning. Umme Kulsum provides a personal insightful approach to explicit instruction in genre-based pedagogy. Samantha Banks and Kate Sullivan present highlighting specific information as a learning strategy to help students with WH-questions.

In addition, Genan Hamad looks at lexical lists and bundles (LBs) in EAP/ESP curricula and how the findings may help to improve the presentation of LBs in various disciplines,

such as Computer Science. Kashif Raza discusses the teaching adaptation model proposed by Raza (2018) with explanations, examples, and strategies that can be used in Canadian multilingual, multiethnic, and multi-educational ESL classrooms. Shawn Chattin explains the potential benefits of implementing blockchain technology in connection to English instruction and resources. Finally, Augusto Ferreira da Silva Neto presents classroom action research that was personally conducted to investigate the effects of the explicit teaching of pronunciation on learners' listening skills.

Thank you for reading. Take care.

Nicola Carozza

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CONTACT

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Disrupting the English-only status quo: Using home language as a vital resource in the classroom

By Kate Paterson, Western University, Canada

Abstract

An extensive and growing body of research affirms the value of using students' home language (L1) in both second language (L2) and content learning in the classroom. In spite of this, instructional policy and practice continue to operate as though English-only approaches are axiomatic and essentially common sense. This article appeals for action at the classroom and program levels to close the gap between research and practice in relation to the use of home language in learning. This shift aligns with a move toward rejecting deficit narratives that focus on what students are lacking rather than what they bring to the classroom. If we recognize that our students possess rich cultural and experiential funds of knowledge, we must also begin to value the language(s) in which that knowledge is encoded. If we acknowledge the importance of making connections between classroom learning and students' homes and communities, we must also start to connect the language practices they engage in outside of the classroom with those taking place inside of it. This article gives a brief history of the role of L1 in language pedagogy to provide a better understanding of why monolingual classrooms have become the norm, uses current research to critically examine three central assumptions underlying monolingual language teaching, and considers implications for instructional practice.



Introduction

As language teachers, we strive to orchestrate culturally and linguistically responsive instruction, often in settings of broad diversity. To teach effectively, we must respond to variations in competency across the four skill areas at the individual level, as well as variations in proficiency across a given student group. We play an integral part in motivating students and helping them gain confidence in their emerging language skills. A crucial component of our work as educators is reflection on practice. A commitment to life-long learning means that we have a responsibility to keep our teaching practices aligned with the most current evidence-based understandings about how students learn and process languages.

This article addresses a troubling research to practice gap between (a) a large and growing base of research indicating that monolingual (English-only) teaching is counterintuitive to the realities of how we learn and process languages, and (b) the normalized practice of excluding students' home language (L1) from the classroom. Avoidance of the L1 is generally taken for granted as a basic tenet of sound instructional practice in English language teaching and learning and, as such, has been largely absent from professional discourse. However, it is important that we begin to problematize English-only policies and practice because what we know based on the most current research and theory contradicts a persistent belief that the L1 is an impediment to English language development and content learning rather than a valuable resource. As Cummins (2007) points out: "L1 is not the enemy in promoting high levels of L2 proficiency; rather, when students' L1 is invoked as a cognitive and linguistic resource through bilingual instructional strategies, it can function as a stepping stone to scaffold more accomplished performance in the L2" (p. 238).

Re-conceptualizing the role of L1 in the classroom from a "regrettable fact of life that has to be endured" (Cook, 2001, p. 410) into a powerful resource for learning has the potential to be transformational in the field of language pedagogy. This requires a fundamental shift in how teachers view and respond to students' L1. "Classroom communication often appears to be viewed as a straight zero-sum game, in which more L1 use means less L2 use. From this perspective, any pedagogy that advocates for the use of the L1 as a sanctioned, explicit part of classroom communication would be dismissed by teachers, and possibly by many students" (Levine, 2013, p. 423). Is this perception based in reality? Should we continue to let it guide our teaching? In order to enact effective, evidence-based instruction, we need to be informed by history, debunk false assumptions with the help of reliable research, and then reflect on what it all means for instructional practice. I address these three components below and end with some thoughts on moving forward.

A Brief History on L1 in Language Pedagogy

The exclusion of L1 from teaching and learning is reflective of the fact that several central assumptions arising out of the direct method, a movement in language teaching which gained popularity over a century



ago, are still held, in one form or another, by many in the teaching profession today (Cook, 2001; Howatt, 1984; Levine, 2013; Yu, 2001). The direct method emerged when the grammar translation method that dominated much of early language pedagogy began to be criticized for its over-reliance on grammatical accuracy, translation, and reading. The direct method was a reaction to the lack of attention on developing communicative ability among learners. Accordingly, the role of grammar was de-emphasized, translation was discouraged, and the focus shifted to developing oral competency for the purposes of meaningful communication. This approach focused on maximizing L2 input which, it was believed, necessitated an avoidance of the L1 whenever possible.

Based on behaviourist theory, the audiolingual method emerged during the 1960s and 70s. It was characterized by memorization and drill-type exercises with a focus on habit formation. Language learning most commonly took place in language labs where students would hear and repeat words and phrases in the target language until they were able to produce them spontaneously. Like the direct method, spoken language was the focus, instruction took place exclusively in the target language, and L1 use was avoided. Students were viewed as *tabula rasas* or *blank slates* and, as such, their prior experiences and knowledge (including knowledge of other languages) were disregarded.

Current communicative and task-based approaches reject the imitation and rote learning of the audiolingual method and prioritize developing communicative ability to accomplish real-life tasks. The treatment of students' L1 is aptly described by Cook (2001) below:

Recent methods do not so much forbid the L1 as ignore its existence altogether. Communicative language teaching and task-based learning methods have no necessary relationship with the L1, yet...the only times the L1 is mentioned is when advice is given on how to minimize its use. The main theoretical treatments of task-based learning do not, for example, have any locatable mentions of the classroom use of the L1...Most descriptions of methods portray the ideal classroom as having as little of the L1 as possible, essentially by omitting reference to it (p. 404).

The practice of banishing the L1 from the language classroom is a common thread that has persisted through the rise and fall of different movements in language pedagogy since the early 19th century. To this day, the influence of the direct method remains strong and L1 use remains stigmatized in language classrooms (Cook, 2001; Yu, 2001).

Deconstructing Assumptions

“There is more to L1 use than the static and traditional impression that the term *grammar translation* portrays, an image which has served to stereotype and marginalise non-monolingual teaching practices



around the world” (Hall & Cook, 2012, p. 276). Unfortunately, the negative perception of L1 has prevented ESL/EAP educators as well as mainstream K-12 teachers from critically reflecting on normalized English-only policies. The consequence is that students’ L1 is rarely recognized for its potential as a crucial resource for L2 and content learning. For many of us, there is a latent fear that if we permit students explicit access to their L1, we risk losing control and creating an environment where students idly substitute L1 any time they find it too challenging to use English. It is important to distinguish the positive potential for the L1 to activate connections in the target language versus L1 being used as an avoidance strategy when using English requires too much effort. The task at hand is, first, to recognize students’ L1 as a legitimate resource for learning, and, second, to incorporate L1 alongside extensive communicative interaction in English.

Out of the historical movements in language teaching evolved some core assumptions that form the basis of a monolingual approach. “Though these assumptions have affected many generations of students and teachers, they are rarely discussed or presented ...but are taken for granted as the foundation of language teaching” (Cook, 2001, pp. 403-404). Next, I outline three interrelated assumptions posited by Cummins (2007) and compare them with current research. Implications for practice are discussed throughout.

The Direct Method Assumption

An aim of the direct method is to imitate first language acquisition, emphasizing L2 use as the exclusive medium of instruction, avoiding translation, and focusing on listening comprehension and speaking ability (Yu, 2001). However, Cook (2001) points out that this is a “doubtful analogy” as there are obvious and significant differences between children learning their L1 and older students learning an additional language—among them, cognitive ability, time restrictions, and amount of exposure. Older L2 learners have more mature minds, greater social development, and a larger short-term memory capacity (Cook & Singleton, 2014; Singleton, 1989). Additionally, the absence of an L1 is one situation that could never be replicated in a language classroom. “Whether we like it or not, the new language is learnt on the basis of a previous language” (Stern, 1992, p. 282). The direct method assumption ignores this basic principle thereby eliminating any possibility for using L1 as a cognitive tool in the classroom.

Bilingual Dictionaries

How do you teach new vocabulary? Do you allow students to use bilingual dictionaries? Why or why not?

Cummins (2007) notes that any strong version of the direct method assumption is discredited by numerous studies that support the use of bilingual dictionaries for vocabulary learning as more effective than either monolingual dictionary use or learning from context alone (see for examples Ahmad & Hafeez, 2011; Bruton, 2007; Laufer & Kimmel, 1997; Luppescu and Day, 1993; Mandalios, 2013; Nation, 1997, 2003; Prince, 1996). In a climate where monolingual teaching is taken for granted as best practice, a ban on bilingual dictionaries logically follows. This contradicts neuroscience, which affirms that the initial acquisition of new

words in a foreign language depends on the association of these items with corresponding first language items in the learner's memory (Sousa & Tomlinson, 2011).

What do you do when you want to use a word in a foreign language and you don't know how to say it? What do you do when your students are in the same position?

The questions above were part of a study by Mandalios (2013) that explored native-speaker English language teachers' beliefs and practices regarding bilingual dictionaries. Results found a significant disconnect between what teacher respondents preferred as language learners themselves and what they practiced as language teachers. Although teachers felt the use of bilingual dictionaries to be indispensable in their own L2 learning, they restricted their students' use of them in the classroom, predominantly because they felt bilingual dictionary use is negatively perceived in the English language teaching (ELT) community. Some teachers reported that these negative perceptions forced them to sometimes employ practices in the classroom that went against their own personal beliefs and intuitions.

"A student's use of a [bilingual] dictionary is often considered tantamount to cheating; students are usually expected to tolerate partial understanding and to deduce meaning from context" (Kerr, 2014, p. 93). Numerous studies confirm that the insertion of a single word from the L1 is an effective way of introducing new vocabulary (for examples, see: Bruton 2007; Laufer & Girsai 2008; Nation 1997, 2003; Prince 1996). Allowing students to use translation for vocabulary learning is vastly more efficient than trying to figure out meaning from context alone or insisting they use English-only dictionaries which often requires them to use considerable time looking up unknown words that constitute part of the definition. Such approaches require a lot of time-consuming effort with no guarantee that students will gain a solid grasp of the vocabulary. This is arguably time that could be better spent on L2 activities that more effectively promote learning. It is not to say that deducing meaning from context or learning how to use new English vocabulary in pragmatic ways is not important. Bilingual dictionaries can be used alongside these other valuable strategies.

The No Translation Assumption

As Cummins (2007) points out, the no translation assumption in L2 classrooms is a logical extension of the direct method assumption. A classroom that bans L1 completely necessarily precludes any activities that would involve translating between the L1 and L2. The backlash against the grammar translation method is still felt today, and translation continues to be a "bad word" in the majority of ESL classrooms.

The «T» Word

Our negative perceptions of translation may be a byproduct of our teacher training, prevailing attitudes in communities of practice, or based on our own personal experiences in the classroom. Most of us have had the



displeasure of reading work from students who have attempted to directly translate from their L1 to English—often using an online tool like Google Translate or Babelfish. Despite advances in online translation tools, the results are still generally error-riddled for more advanced writing that contains nuances and idiomatic languages or alternatively, clearly beyond the written proficiency levels of a beginner/low intermediate level student. It is important, therefore, to clarify that the kind of translation being advocated for here is not word-for-word translation of texts. In fact, carefully planned translation activities (like delayed reverse translations mentioned below) explicitly draw students' attention to the pitfalls of attempting to translate without regard for communicative meaning. Just as allowing L1 back into the classroom does not necessitate an environment of chaos in which L2 learning is sacrificed, translation does not have to be an all-or-nothing proposition in which all other learning objectives are negated in favour of developing written translation skills. The point here is to encourage you to consider that there may be a role for judicious use of translation in the classroom—whether it be for the sake of learning efficiency (e.g. use of bilingual dictionaries for vocabulary acquisition) or a recognition of translation as a valuable skill in its own right.

Translation as a Learning Tool: How & Why?

Translation can be used positively in several ways; its role in vocabulary learning is just one potential application. Metalinguistic awareness (the ability to consciously reflect on language and its use) is another benefit of targeted translation tasks. Contrastive analysis (explicitly comparing and contrasting two languages), which often happens in the course of translation activities, can positively support metalinguistic awareness for everyone in the classroom. Students who engage in explicit comparison of the languages within their repertoire may be better able to pinpoint the source of common language problems. A belief that the main problems in L2 learning come from the L1 has been a central rationale behind attempts to eliminate it as much as possible from the classroom (Cook, 2001). However, as Cummins (2007) points out: “Learning efficiencies can be achieved if teachers explicitly draw students’ attention to similarities and differences between their languages and reinforce effective learning strategies in a coordinated way across languages” (p. 233). Rather than trying to ‘eliminate’ the L1 (a futile exercise anyway), a translation activity like delayed reverse translations where students translate from English to their L1, then back again in a later class, comparing their translations with the original, take advantage of the interconnectedness of languages in the mind by explicitly making comparisons between them. Students experience enhanced metalinguistic awareness and benefit from having access to their L1 as a valuable cognitive tool. Furthermore, translation activities can reinforce the idea that word-for-word translation often does not work and instead translation should be a communicative exercise where the focus is on accurately conveying meaning.



In addition to increasing metalinguistic awareness, translation has a number of other benefits for learning:

- Empirical evidence is consistent with claims that translation promotes acquisition, bi-literacy development, and identities of competence (Cook, 2001; Cummins, 2007).
- Elorza (2008), House (2009) and Stiefel (2009) suggest that in addition to a focus on linguistic accuracy, in-class translation activities can bring to learners' attention cross-cultural differences in the ways speakers communicate.
- Manyak (2008) points to classroom studies documenting the vibrant nature of instruction that recognizes bilingualism "as an emblem of academic competence and fosters students' biliteracy development" (p. 451). He cites such classrooms as examples of the power and value in engaging in acts of translation during literacy activities; the result being opportunities for students to showcase their unique linguistic potential while simultaneously developing bi-literacy skills in both the L1 and English. (For examples, see Manyak, 2004; Moll & Dworin, 1996; Moll et al., 1993).
- Claypole (2010) and Malmkjær (1998) go so far as to designate translation as a fifth skill, vital in negotiating between two languages. They argue that since translation depends on and includes the other four skills (reading, writing, listening, speaking), any activity involving translation necessarily exercises the other skills as well.

The Two Solitudes Assumption

The central flaw of the two solitudes assumption, which asserts that languages should be kept firmly separate in language teaching and learning, is the fact that languages are not separate entities in a bilingual person's mind, but rather are inextricably interwoven in vocabulary, syntax, phonology, and pragmatics (Cook, 2001). As Baker (2011) points out in a discussion of Spanish-English bilingual students: "When school lessons are through the medium of Spanish, they do not solely feed a Spanish part of the brain. Or when other lessons are in English, they do not only feed the English part of the brain. Rather concepts learnt in one language can readily transfer into the other language" (p. 165). The problematic conception of L1 and L2 as separate, bounded entities whereby bi-/ multilingualism is defined as the mastery of two (or more) autonomous, bounded language systems rather than as a single unified linguistic repertoire within which languages readily flow and interact has damaging implications for policy and pedagogical practice. Subtractive notions of bilingualism that conceptualize L2 learning as taking place at the expense of students' L1 and culture are at the base of English-only practices. When we tell students to leave their L1 at the classroom door, a large part of who they are is left there as well. English-only policies implicitly devalue students' identities and disregard crucial connections between classroom learning and students' homes, communities, and cultures.



Moving Forward

Our students do not come to us as blank slates. Even those with limited or interrupted formal education bring to the classroom a wealth of culturally-based knowledge and experience. People use what they know to construct new understanding, so using students' prior knowledge (including their L1) is a crucial starting point for teachers and an essential part of promoting more effective and meaningful learning. If we open up our classrooms to students' L1 and all the valuable cultural and experiential knowledge encoded within, the variety of teaching strategies we can utilize and hence students' opportunities for learning grow exponentially. In the process, we affirm students' identities as competent and talented language users—emerging bi/multilinguals who are achieving things that are out of reach of monolinguals. As Ladson-Billings (1994) points out: “When students are treated as competent, they are likely to demonstrate competence” (p. 123). The monolingual teaching of English has acted as a barrier to the development of bilingual and bicultural identities and skills that are critically needed by most learners. The task that lies ahead is to overcome the disconnect between research and practice so that what we know (an extensive research base that attests to the value of students' L1 in L2 and content learning) can start to inform what we do.

Making space for L1 in your classroom does not necessitate a complete overhaul of lesson plans and instructional strategies, nor does it relegate your classroom to chaos. Adding L1 in situations where it is advantageous for learning can enhance activities already in your teaching repertoire. It means you can engage your students in more cognitively appropriate learning rather than having their English proficiency be the central determinant to the complexity of classroom tasks. Incorporating L1 develops metalinguistic awareness for everyone in class, increases engagement in learning, and scaffolds more proficient performance in English. As recognition of the interdependent nature of languages in the mind grows and as L2 learners start to be perceived as successful multicompetent language users in their own right, it is hoped that practice and policy will begin to more accurately reflect both the empirical evidence and the realities of the interconnected, plurilingual world we live in.



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Author Bio

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Using explicit instruction in genre-based pedagogy in L2 writing: A personal insight

By Umme Kulsum, Toronto Catholic District School Board and Seneca College, Canada

Abstract

Explicit instruction technique helps to facilitate genre-based pedagogy in tertiary level L2 writing courses. This paper will focus more on pedagogical experiences rather than research and assessment perspectives. In the case of L2 teaching, explicit and implicit instruction techniques are not ‘either-or’ options, instead ‘but-also’ techniques for developing writing skills in L2. However, the decision of the focus on either of the method depends on the course context and the level of the students. This article will elaborate on how direct instruction helped in-course planning and student’s L2 writing strategy building. This paper will also highlight how using models minimized students’ knowing-doing gap, and finally, how teacher mediation and scaffolding created an opportunity for dialogue through feedback. Olson and Land (2007) and To and Carless’ (2015) pedagogical research findings support the author’s insights.

According to the National Institute for Direct Instruction (2015), direct instruction is “an explicit, carefully sequenced and scripted model of instruction”. It focuses on the theory that explicit instruction can significantly improve and accelerate learning. Its creators Siegfried Engelmann and Dr. Wesley Becker believe that adequately implemented explicit instruction can enhance student’s learning. After more than 16 years of active teaching, I cannot think of any teaching without direct/explicit instruction. The



debate between explicit and implicit instruction started since Reber's (1976) seminal work on cognitive learning (Rod, 1997). Based on research and my teaching experience, I can say that effective teaching of L2 incorporates a balance between both explicit and implicit instruction. However, depending on the course context, student's level, age, course objective, and outcome of the course, the teacher's focus on either of the instructional approaches may bring better results.

Before going to the main discussion, I would like to share a little background of my student group. They are undergraduate level diploma and certificate students. All of my students are international students who came to Toronto from all over the world. They also fulfilled their English Language Proficiency (ELP) requirement for admission, a 5.5 band score in Academic IELTS. The course I teach focuses on transferability skills in L2 writing across the genres. The content of the course includes summary writing, argumentative essay writing, APA formatting, blog writing, e-mail writing, and mind mapping. I followed the same pattern in teaching for most of the items; however, I will share how I used explicit instruction to teach argumentative essay writing. I will also share how I incorporated strategies and models to enhance student abilities and performances. An explicit instruction approach creates a scope for me to build a repertoire on the topic that I could use depending on the students' needs. I think the success of any course depends on proper planning and scaffolded implementation from a teacher's point of view. Rosenshine (1986) divides the explicit instruction model into 3 distinctive and successive phases: modeling, guided practice, and independent practice. Later on, Dubé and et al. (2013) express the explicit instruction in 7 stages: identify the activity goal, identify background knowledge, model demonstration, pose questions to students, guided practice, assessment and feedback, and autonomous practice. Notably, in many academic institutions today, time-bound, result-oriented L2 courses do not allow teachers to do much experimental and thinking outside of the box.

One of the most rewarding benefits of explicit instruction is, it creates an opportunity to build L2 writing strategies, primarily cognitive, metacognitive, and social (Oxford, 1990). Olson and Land's (2007) research also proved that "students receiving cognitive strategy instructions significantly outgained peers on holistically scored assessments of academic writing for seven consecutive years" (p. 267). For checking their prior knowledge, I asked the students to brainstorm with their peers and write down points that they already knew about the argumentative essay. I found almost all of my students had an idea that it either supports or opposes any statement or argument. However, many of them did not have any idea about proper outlining, for instance, how to write a thesis statement, topic sentences, supporting details, and examples. The notion of logos, pathos, and ethos was entirely new for them. From my prepared lesson plan, I explained all the details of the writing process of an argumentative essay. Initially, for some of them, all these steps were quite overwhelming, but eventually, when we practiced in class, they agreed it helped



them to plan how to proceed. As an English L2 learner myself, I cannot remember any of the courses I took that taught me how to write an essay. Of course, I had to write compositions for passing my coursework, but those included descriptive writing with prewriting and editing. They were very general and did not focus on any of the strategies. I could feel many of my students from China, Ukraine, India, Bangladesh, and the Philippines had the same kind of background experience. The sense of solidarity with my students helped me to figure out their challenges in understanding.

The next step of my explicit instruction was introducing annotated modeling. We, together in class, shared an ideal argumentative essay that contained all the criteria that we had discussed. I showed the outline, thesis statement, supporting details, and how the writer chose examples following logos, pathos, and ethos. Critiques of explicit instruction might argue I was spoon-feeding my students, but research suggests that “teachers need to provide systematic and explicit instruction in strategies used by mature readers and writers and help students develop declarative, procedural, and conditional knowledge of these cognitive strategies, thereby building students’ metacognitive control of specific strategies” (Baker & Brown, 1984; Paris et al., 1983; Pressley 2000; cited in Olson & Land, 2007, p. 274). To and Carless (2015) also argued that “a useful teaching strategy is to help students understand the nature and characteristics of quality through discussing and analyzing exemplars of student work before tackling their own related task” (p. 746). Exemplars, or student writing samples, can be from the group I am teaching, and producing while learning or exemplars can be taken as samples from a previous student’s group who enrolled in the same course. While illustrating different steps of an argumentative essay and setting the rubric criteria for a high achieving score, students sometimes do not understand how those are incorporated in writing. According to Price et al. (2012), “criteria can seem highly abstract to students, whereas exemplars represent the concrete embodiment of standards and accordingly can support students in developing their assessment literacy” (as cited in To and Carless, p. 747).

I divided my class into five groups and provided them five different argumentative essays. I asked each group to read their given essays and locate the thesis statement, main arguments, and examples with supporting details. I found modeling helped my students to make a connection between what they already knew and what they had learned newly. After the group discussion, they exchanged their annotated readings across the groups. Before ending the class, I asked them to read all the argumentative sample essays uploaded on their course reading (through the learning management system) and annotate them individually. By doing this activity as homework, students were allowed to internalize all the strategies they had learned.

The next day when they were in class, after reinforcing their background knowledge, I gave five topics to five different groups. They analyzed the questions, researched on the internet, and came up with an outline,



including a thesis statement. Through this activity, they were already in the process of their writing, in the process of applying their knowledge about argumentative essays. While they were working, I went to each group and observed how they were supporting each other: making points, writing, rewriting, and editing their inputs. They were co-creating a text using their background knowledge and the current discourse pattern of an argumentative essay. I saw how an advanced student in a group was helping struggling students to take control of learning. The activity was a successful example of the Applebee and Langer's (1983) proposed model; they argued: "the novice reader or writer learns new skills in contexts where more skilled language users provide the support necessary to carry through unfamiliar tasks" (p. 168). Peer discussion is also highly recommended by To and Carless (2014); according to their research findings, "peer discussion and teacher guidance play a complementary role in engineering a supportive learning environment for positive transfer of insights. Peer discussion is useful in allowing students to generate ideas and negotiate meanings" (p. 746). I also consider this as the second stage of their taking the responsibility of writing. On the very first day, when they listened to the lecture, they identified the gap between their knowledge and the task's expectations. After teacher mediation and peer group discussion, they were collectively implementing the strategies they had learned.

After a specific time, I noticed they had understood the general outline, thesis statement, and connection with the examples and supporting sentences. To scaffold their higher-order thinking, I then introduced PAIBOC strategy (P=Purpose, A=Audience, I=Information, B=Benefit, O=Objection, and C=Context). After my explanation and modeling on PAIBOC, I asked them to discuss PAIBOC analysis of their essays in the group. This activity allowed them to figure out the overall tone and context of the writing.

After group discussion and scaffolding, it was time for them to write their argumentative essay. Students chose their topics from the option they were provided depending on their areas of interest. They practiced writing a thesis statement and outline in class as a teacher-guided individual practice. I asked them to submit their first draft online. I checked their essays and wrote feedback based on the criteria and rubric. The next day, we spent almost 2.5 hours discussing feedback. In my observation, students learned most from this activity. There were lively discussions about all the strengths and areas of improvement. It created an opportunity to open a personalized dialogue between students and me. Hendry et al. (2011) mentions that "it is the quality of the dialogue which seems to be a key factor in mediating students' engagement and development of ownership of usable insights from exemplars" (as cited in To and Carless, 2016, p. 748). Unfortunately, none of my students felt comfortable to share their writing as exemplars with the whole class; however, I used other examples to model with the class that they could read them later to see how students from former groups wrote argumentative essays. I also remembered the implementation of the same idea when I did an L2 learning course. Our professor uploaded previous students' writing samples/

exemplars/models on our course module. Our professor used those as implicit instruction, but I am using the samples following the explicit instruction approach. I think the student background and context of the course prompted us to take two different methods. It also establishes the fact that using the models is a tested strategy for developing L2 learning. Olson and Land (2007) argue that “regardless of the program used, instruction should include modeling, scaffolding, guided practice, and independent use of strategies so that students develop the ability to select and implement appropriate strategies independently and to monitor and regulate their use” (p. 274).

Explicit instruction undoubtedly is helpful and unavoidable for any teacher, but it has its limitations too. Despite using all kinds of strategies and modeling, an explicit instruction approach for L2 writing is dependent on much input. There is little scope for teachers for improvisation and creativity. Moreover, for new teachers, this approach might be too demanding. Student skill development and learning depend on the quality input of a teacher. In my class, I found some of my students felt overwhelmed, and they also struggled to transfer all these strategies in such a short period. The course was quite intensive, aiming to learn all the popular genres of writing. It was a 14-week, 72-hour course, 6 hours per week, excluding the midterm and final examination.

From my other teaching experience, I also found implicit instruction works better for both beginner level writers and even for creative writing for expert learners. Beginner level writers do not have to worry too much about the writing genre; instead, writing fluency and grammatical accuracy is expected from them. On the other hand, in high school and college-level writing courses, the focus is on genre-based L2 writing. In the Ontario Ministry of Education guidelines (2007) for teaching English writing, it is mentioned:

At the secondary level, teachers continue to teach and model effective strategies and skills, as well as provide appropriate scaffolding for students who are building skills and working towards independence. Students need opportunities to apply these skills and to write daily, in many forms and genres, for a variety of purposes and audiences, and within different time constraints (p. 17).

I closely observed (as my children are doing ENG3U and ENG4U) how English teachers of the Toronto District School Board follow direct instruction approach, modeling, and scaffolding for teaching writing essays. When I worked as a private high school teacher in Toronto, my colleagues and I also used a direct/explicit instruction approach to teach ESL and compulsory English. Implicit instruction theoretically sounds very useful, but in real-life classroom implementation, it is not practical. However, I think a combination of both methods would be more effective in developing students writing in L2.



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Highlighting highlighters: A simple but effective ESL literacy teaching technique

By Samantha Banks & Kate Sullivan, Hamilton-Wentworth Catholic District School Board, Canada

Abstract

This Ministry of Children, Community and Social Services (MCCSS) funded adult ESL Literacy Project of the Hamilton-Wentworth Catholic District School Board is in the midst of piloting a new delivery model of adult ESL Literacy instruction based on the 2016 *ESL for Adult Literacy Learners* (ESL for ALL) document. The Literacy Researcher guided four team members through intensive ESL Literacy training in the first year of the project. Now, these instructors are running specialized classes that target specific learning strategies ESL Literacy learners need in order to be successful participants in their classes, with PBLA and in their daily lives.

Our TESL Ontario Conference poster presented the learning strategy of highlighting specific information required to answer WH-questions. This article describes the process that the instructors went through in identifying the need for this strategy as well as the steps taken in teaching it. It underscores the importance for instructors to question their assumptions in order to address their learners' needs; in particular, explicitly walking ESL Literacy learners through a strategy that instructors may have assumed to be self-evident. These observations and methods can be used to teach a variety of learning strategies that can empower ESL Literacy learners and break through barriers caused by their literacy challenges, both in the ESL classroom and the real world.



A New Approach to ESL Literacy Project - Background

In 2018, St. Charles Adult and Continuing Education Centre at Hamilton-Wentworth Catholic District School Board received grant funding from the Ministry of Children, Community and Social Services (MCCSS) to research and develop alternative and innovative ESL Literacy programming.

This three-year project is based on the *ESL for ALL* document, published by the Centre for Canadian Language Benchmarks (CCLB). Our team of four instructors, working together with our ESL Literacy Project Researcher, explore best practices in ESL Literacy instruction, teacher training, and program delivery models. Our goal is to operationalize the guidelines given in the *ESL for ALL*, within the parameters of PBLA, to make ESL Literacy instruction more explicit with improved, tangible outcomes for learners, ESL instructors, and programs.

The project takes a multi-phased approach: In the initial phase, the four ESL Instructors were trained in targeted ESL Literacy instruction techniques. The ESL Literacy Researcher adapted and expanded the CCLB online *ESL for ALL* training course with supplementary face-to-face workshops to allow for an intensive engagement with the issues and challenges of ESL Literacy. We are currently in the second phase of the project; the now-trained instructors practice their newly gained ESL Literacy expertise in two separate instructional environments. The first model is dedicated ESL Literacy classes with learners from Pre-Foundation Literacy (PFL) to CLB 2 Literacy (CLB 2L). These classes contain 8-10 learners from 18-80+ years of age with a variety of cultural backgrounds. The other model is a weekly, one-hour one-on-one tutoring session. Literacy learners who participate in these sessions come from classes that are not dedicated Literacy. These learners have CLB 2L to 4L and are recommended for tutoring by their instructors.

The teaching experience of these seasoned ESL instructors ranges from 10 to 30 years. All of them have previously taught ESL Literacy learners. The ESL Literacy training they received through the project challenged them to re-think their traditional instructional practices and engage new ideas with open hearts and minds. Early on in the training phase, each had an epiphany, an *Aha! Moment*, and became acutely aware of how their past teaching practice often did not support ESL Literacy learners and learning. The instructors were also sometimes skeptical that suggested new techniques would work or were necessary. This combination of epiphany and skepticism led the team to realize that they had to push beyond their previous beliefs and expectations about ESL Literacy learners and instruction. As a result, they chose to adopt a motto, which has guided the project to this day: *Make no assumptions, leave nothing to chance*. The team continually reflect on their training in journals and at their weekly meetings. They ask themselves and each other two key questions: *Am I taking my instruction for granted? What is the missing piece to*



the puzzle? In effect, they ask themselves: *Do my assumptions interfere with my ability to address my learners' needs?* Defaulting to our motto helps the instructors identify and address their learners' needs in a pro-active and concrete way that cuts through confusion, dispels misconceptions, improves instruction, and moves ESL Literacy learners forward with dignity and effect.

Through the application of our motto, the team have become aware that literate learners, including themselves, can decode text by accessing simple strategies by rote, without explicit attention or thought. These strategies are often completely foreign to an ESL Literacy learner. The *ESL for ALL* states that ESL Literacy learners “may need explicit guidance [...] to locate specific features of text” (p. 112), but it is up to the instructor to operationalize exactly which strategy to teach and how to teach it. Such strategies need to be presented, modelled, and rehearsed with ESL Literacy learners through a variety of activities and are crucial to ESL Literacy learners' success. One such strategy is using highlighters. We have unpacked this seemingly simple and straight forward tool to operationalize it as an effective learning strategy, one that has empowered our ESL Literacy learners and provided them with a way forward that they can use in all their learning.

Why We Need to Teach Highlighting

ESL for ALL presents the use of colour-coding and highlighting in a general way as effective ESL Literacy learning strategies. Teaching highlighter-use helps learners:

- Stay on task and focus on what is important
- Build their vocabulary
- Recognize language components, such as question words and instructions
- Decode text and recognize spelling patterns
- Understand forms and schedules
- Build reading comprehension and other strategic competencies like skimming and scanning

When the team started teaching after their training, they began to use this strategy consistently with their students. However, they soon had two *Aha! Moments*. The instructors initially assumed that the technique was self-evident and a simple demonstration would suffice. They quickly realized the extent to which their ESL Literacy learners had difficulty isolating the targeted information. Watching their learners struggle with the task, the instructors realized that guidance needed to be much more granular than they had assumed. The learners needed repeated, explicit step-by-step modelling and demonstration in *how*



to make connections between key words, *how* to focus in on the appropriate information. Second, the instructors discovered that many learners did not know how to *use* highlighters. Highlighters, familiar to literate writers, were unknown to our ESL Literacy learners. Some learners commented that they had seen peers in their other classes use them, but they did not know what they were or why to use them. We had assumed that the learners would know what highlighters are and this led to our second *Aha! Moment*: we had to teach how to manipulate highlighters.

Here we can see how fraught and confusing a classroom environment can be for ESL Literacy learners. In many ESL programs, these learners are combined in classes with literate learners. In addition, instructors are not trained in explicit ESL Literacy diagnosis and techniques. ESL Literacy learners can be lost in their class. Their instructor can be unaware of the nature of their confusion and consequently be unable to adequately address the problem. The project instructors understood, as a result of their training, that they needed to make no assumptions and leave nothing to chance about their learners. They came to understand that, for their ESL Literacy learners, the task of highlighting is itself daunting, and the tool needed to perform the task is unfamiliar. The instructors realized that their learners not only needed instruction on how to isolate targeted information with highlighters but also needed explicit instruction in how to actually use the highlighters themselves. This was a great opportunity to focus on a deceptively simple strategy that would help make ESL Literacy learners more independent and aware of their learning.

Teaching the Strategy

For the poster, we chose as our example a 2L class where the instructor had observed that her learners were having difficulty answering WH-questions. The task was a Skill-Using activity with the Real-World Goal of reading an invitation to a party. During the oral run-through of the activity, the instructor saw that, in spite of her guidance, the learners were not able to connect *where* to location, *when* to time, etc. She took a step back from her instruction and remembered our motto: *Make no assumptions, leave nothing to chance*. She understood that she could not assume that her learners could easily isolate answers to WH-questions. Although she had slowed down her instruction and broken down the task of identifying the corresponding answer to the WH-question, her learners were still struggling. She thought the task was relatively straightforward and that she had been clear and explicit, but her learners' confused faces told her otherwise. She had an *Aha! Moment* and saw that her approach, which assumed her learners were easily able to identify the referent of the WH-question word, was not going to work in this situation. She needed to dig down and revisit the Skill-building phase of her lesson plan. Using her knowledge of the *ESL for All's* recommendations for the use of highlighting and colour-coding, she decided to use highlighters to help her ESL Literacy learners process visual information.



For a PBLA lesson, the learners each had a copy of an invitation to a housewarming party with a separate sheet of WH-questions. The instructor put a flip chart sheet on the board with the WH-question words: *WHAT? WHERE? WHEN?* She then highlighted each WH-question word in a different colour; for example, *WHAT?* in blue, *WHERE?* in red etc. She elicited the meaning of each WH-question word by asking the class to explain what they meant using the invitation. On the flip chart sheet, beside *WHAT?* she wrote: *Party* and highlighted the phrase in blue to show its connection to *WHAT?*. She did the same for the other two WH-question words. Next, she ensured everyone had the same three colours of highlighters. She asked them to pick up the highlighter whose colour corresponded to the WH-question word, *WHAT?*. On their worksheet, she had them highlight the *WHAT* question word in that colour. The instructor went through all WH-questions words in the same way. Each time she brought their attention back to the flip chart sheet on the board as an example of what to do. In this way, the learners could build the connection between two separate pieces of paper, worksheet, and invitation, and understand the purpose of the task. The instructor went slowly, only moving on to the next WH-question word when each learner had highlighted the correct answer. This seemingly simple task proved daunting for some learners and the instructor had to repeatedly model for them. When her learners understood the task, their *Aha! Moment* was palpable: they exclaimed with pleasure at the connections they had made and how the highlighters had helped them. They saw that the process of understanding how to complete the task was in itself a skill to be learned and one that advanced their reading skills.

It was at this point the instructor realized that many of her learners struggled to use the highlighters effectively. Some could not angle the nib to get a strong highlighting line and failed to put the cap back on securely. She had another *Aha! Moment*: She realized that she had assumed that her learners could effectively manipulate a highlighter. Remembering our motto, she interrupted her teaching to give a mini lesson on highlighters. It was illuminating to our instructor just how much time it took to teach the learners how to hold the highlighter at the correct angle. This ability of the instructor to reflect on her assumptions and adjust her teaching had the result of greatly reducing the students' frustration as well as her own.

As many ESL Literacy instructors can attest, their learners often lack basic tools such as pencils, erasers and notepads. However, excited by this new strategy and encouraged by their instructor, many learners took the initiative and went to purchase their own highlighters. Even when you think you have made no assumptions and have left nothing to chance, there is often an aspect you cannot foresee. Unfortunately, instead of buying highlighters, they bought white board or regular markers. The instructor realized yet another layer of assumptions she had to cut through: It was not enough for her to tell her learners that they could buy highlighters in a dollar store. She had to consider many possible scenarios and anticipate her



learners' potential difficulties. This is an example of washback, where the instructor realized she needed to revise her lesson plan and include teaching the difference between different kinds of markers.

By practicing this task together as a group, the instructor could ensure everyone had a chance to be successful. Some learners helped their peers with this strategy, which provided a benefit for both involved. Having the learners practice on their own created autonomy and ensured that this is a strategy they will use in different learning situations. With regards to the PBLA lesson, the learners were able to complete the party invitation activity using this new strategy. This successful skill-building exercise, which developed as a result of making no assumptions, contributed to the completion of the PBLA Assessment Task: all achieved success. The affective consequences of this learning strategy cannot be underestimated. The learners not only gained confidence and awareness of their learning, but they were also proud of themselves and really felt they had made immense progress in their learning. Indeed, one ESL Literacy learner brought his highlighters to his mainstream class. He demonstrated the technique to his classmates and proudly told his ESL Literacy instructor: "I used to ask others for help. Now students come to me".

Another Highlighting Strategy

The team has since broadened the use of highlighters to a wide variety of activities. Understanding instructions, a key Real-World Competency, can be a challenge even in one's first language. How many of us have handed out a worksheet to learners who quickly proceed to complete it without reading the instructions? Albeit, in some cases, ESL literacy learners do not understand the purpose of the words and sentences above an exercise. In our project, before beginning any worksheet activity, Foundation Literacy (FL) learners have been taught to write their name and the date, highlight the instructions, and put their pencils down. The instructor then elicits the instructions from the learners. She does not ask them if they understand the instructions; she has them show her what they are to do. By using highlighters to focus their attention, the learners notice the purpose of the words: They are there to tell them what to do. This allows learners to proceed to the task from a place of understanding. This routine of highlighting instructions builds Textual Knowledge by helping ESL Literacy learners understand that there is a format and an order to reading a text (CLB 2012).

This strategy will benefit our ESL Literacy learners greatly outside school. They know how to seek out key words, locate references in a text, and understand format. They will be able to navigate doctor's appointments, visits to government offices, and any other place they need to go that has instructions on how to proceed, take a number, or present identification. Ultimately, this is our goal. We need to provide our learners not only with the language to navigate their new life but the strategies how to do so in a community that may be very different from the one they lived in before coming to Canada. There are endless possibilities



for the use of highlighting as a learning strategy: finding information on a graph or schedule, isolating prices on grocery store flyers, and understanding prescription or nutrition labels, to name a few.

Conclusion

The activities that led to our poster presentation were significant for causing *Aha! Moments* for both our ESL Literacy Team and their learners. ESL Literacy learners can often operate in the dark without the baseline strategies and knowledge sets that literate learners can take for granted. We discovered that we cannot assume that ESL Literacy learners understand our instructional techniques however clear or slow we may think they are. We cannot assume that making the connections between words and their meanings (WH-question words or instructions) is a linear process for our ESL Literacy learners. It is not enough to ask, instruct, or even show these learners how to make connections; we must build the connections with them, through the explicit teaching of learning strategies, repeated modelling, and mindful exploration of our assumptions. Even a small detail like explicitly telling learners to snap the cap back on the highlighter tightly needs to be verbalized, modelled, and reminded. As a result of our focused use of highlighters, our learners have discovered that there are explicit strategies they can use to make sense of a text and feel empowered in their own learning. All four instructors have introduced this strategy to their mainstream classes. It has been surprising to see how many literate learners appreciate this strategy as a new tool in their learning.

To underscore the significance of our motto, and the importance of drilling down into a learning strategy such as highlighting, we would like to share some *Aha! Moments* from visitors to our Poster Presentation:

- *I never thought about the need to teach highlighting but it makes sense. I will try this with my class.*
- *Wow, I now realize there are many strategies I take for granted. I need to slow down my teaching.*
- *I am going to share this with the other Literacy instructors. What other strategies should we be teaching?*



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Lexical list for EAP/ESP programs: Multiword sequences in computer science textbooks

By Genan Hamad, Carleton University, Canada

Abstract

Lexical Bundles (LBs)—defined by Wood (2015) as “combinations of three or more words which are identified in a corpus of natural language” (p. 45)—play a key role in the comprehension and construction of academic language (Biber & Barbieri, 2007). Despite their importance, LBs are weakly presented in second language (L2) materials (Wood & Appel, 2014). Studies show that L2 learners may misuse LBs in their production (Pérez-Llantada, 2014). With the aim of informing L2 pedagogy in the university context, this corpus study uses WordSmith Tools 6.0 (Scott, 2007) to identify 59 items that represent the most frequently occurring LBs in eight Computer Science introductory textbooks. Utilizing the functional taxonomy, suggested in Biber et al. (2004), the analysis highlights important distributional and functional patterns of LBs use in this register. Of the total bundles, two-thirds are referential, and only one-third are stance bundles and discourse organizers. Within the referential types, specification of attributes is the most common subcategory. The emergence of code reference bundles as a new subcategory is a pattern that reflects discipline specificity. Considering that “the most frequently occurring words are also the most useful items to teach” (Wood & Appel, 2014, p. 1), bundles identified by this study, may be good candidates for selecting and designing teaching content by EAP/ESP instructors. The findings may also help curriculum developers to improve the presentation of the most frequent LBs in various disciplines, such as Computer Science, in their teaching materials.



Introduction

A growing body of research has highlighted the formulaic nature of language as it is observed that native speakers prefer certain formulaic sequences over others in their oral and written production (Ellis, 1996; Erman & Warren, 2000; Wray, 1999). These sequences are defined by Wood (2006) as “fixed combinations of words that have a range of functions and uses in speech production and communication, and seems to be cognitively stored and retrieved by speakers as if they were single words” (p. 1).

Unlike creatively generated language, formulaic sequences can be processed with less time and cognitive effort because they are stored and retrieved as whole units rather than single words (Wood, 2006; Wood, 2015; Wray & Fitzpatrick, 2008). Based on this characteristic, many researchers suggest that formulaic sequences may lead to better fluency and language competence, and therefore, they can be good candidates for language instruction in English for Academic Purposes (EAP) or English for Specific Purposes (ESP) programs (Wood, 2006; Wood, 2010a; Wood, 2010b).

Lexical Bundles or multiword sequences represent a major category of formulaic language that has been the focus of much recent research. Wood (2015) defines LBs as “combinations of three or more words which are identified in a corpus of natural language by means of corpus analysis software programs” (p. 45). Examples of these bundles include *I don't know what* in spoken language, and *on the other hand* in academic writing. LBs are considered important building blocks in discourse as they serve important pragmatic functions.

Biber, Conrad, and Cortes (2004) developed a functional taxonomy in which LBs are grouped based on their pragmatic functions in discourse under three major categories; with each category having some subcategories that serve more specific functions. The main categories include: stance expressions, discourse organizers, and referential expressions. According to Biber et al. (2004), stance bundles (e.g., *can be used to*) can be personal or impersonal, and they are often used to «express attitudes or assessments of certainty that frame some other proposition» (p. 384). Discourse organizing bundles (e.g., *in this example the*) «reflect relationships between prior and coming discourse» (p. 384), and they include two subcategories: topic introduction and topic elaboration bundles. Referential expressions (e.g., *the value of the*) “identify an entity or single out some particular attribute of an entity as especially important” (p. 393). Under this category, four subcategories are included: identification referential bundles, imprecision bundles, attribute specifying bundles, and time/place/text/ multifunctional reference bundles. Bundles specifying attributes are divided into three specific types: quantity specification, tangible framing attributes, and intangible framing attributes.



The Value of Lexical Bundles

LBs not only constitute important building blocks in academic discourse, but they are also characterized by their pervasiveness and variation across a wide range of written and spoken academic discourse (Biber & Barbieri, 2007; Hyland, 2008a, 2012). For these reasons, LBs play a key role in the comprehension and construction of written and spoken language (Biber & Barbieri, 2007). Gaining control of common LBs in a particular register can improve reading skills as they affect a reader's ability to understand and recall the main ideas provided by a text (Martinez, 2002). Nesi and Basturkmen (2006) also found that LBs aid listeners by signaling how an idea is connected to another and "help the listener predict the nature of upcoming ideas", and thus reduce the "cognitive processing demands" (p. 17). Furthermore, the mastery of LBs may facilitate successful linguistic production, as they offer ready-made sets of words to use in academic writing (Byrd & Coxhead, 2010; Schmitt, 2004). In contrast, the absence of such bundles indicates the lack of fluency of a newcomer to a particular community (Hyland, 2012).

Lexical Bundles and L2 Learners

Second language writing is characterised by the underuse, overuse, and misuse of LBs (Bychkovska & Lee, 2017; Pérez-Llantada, 2014). Therefore, the use of LBs can be a good predictor of the writer's level of proficiency in the language. Researchers who analysed LBs produced by L1 and L2 English writers found major differences across various proficiency levels in the use of these items in terms of their proportion, diversity, structures, and functions (Adel & Erman, 2012; Chen & Baker, 2010; Staples et al., 2013). According to Ping (2009), non-native learners not only underuse LBs but may also overuse them by relying on a restricted set of bundles, which they use repeatedly, due to their limited repertoire. In addition, Staples et al. (2013) reported that L2 learners may find it difficult to use LBs appropriately in their writing as a result of confusing the written register with the spoken one.

EAP/ESP Materials and University Textbooks

Proficiency levels of L2 learners can be improved by learning the most frequent LBs of their disciplines (Hyland, 2008a). Despite the fact that introductory university textbooks from each academic discipline represent an important register that novice students will frequently encounter in academia, some EAP and ESP materials are not providing L2 learners in these programs with the appropriate repertoire of LBs that they may encounter in their textbooks of introductory courses in the first year of their studies (Chen, 2010; Wood & Appel, 2014). This gap may highlight the great pedagogic value in focusing on LBs in this genre across disciplines. As such, the present study aims to bridge this gap by identifying and analyzing the most frequent LBs in introductory university textbooks from Computer Science.



Methodology

Eight university textbooks that were used as main references for two introductory courses (which focus on teaching coding using Python and Java languages) in Computer Science were selected in order to compile the Computer Science introductory textbooks corpus (CSITC) which consisted of 1.3 million words. The data then was analysed using WordSmith Tools 6.0 (Scott, 2007). Drawing on previous studies (Biber & Barbieri, 2007; Biber et al., 2004; Wood, 2015) the cluster size was set to 4-8 words and a minimum frequency cut-off of 30 times per million words was selected. Following Wood and Appel (2014), a minimum range of 2 textbooks was chosen. The analytical framework used in this study is the functional taxonomy developed by Biber et al. (2004). It was applied to classify LBs into the three main categories: stance bundles, discourse organizing bundles, and referential bundles, as well as the sub-categories of these groups based on the functions they serve in discourse.

Results and Analysis

Overview of the CSITC Bundles List

In the CSITC of 1.3 million words, a total of 59 different 4-5 word LBs (the CSITC Bundles List) meet the identification criteria (frequency and range) set by the present study, with the most frequent bundle, *(at/to) the end of the*, occurring 260 times across all the eight textbooks in the CSITC. In addition, each of the least frequent strings, *the elements of the* and *the total of the* in the list, appear 40 times across 4 texts in the corpus.

As can be seen in Table 1, two common structures of bundles (Biber et al., 1999) are found in the list: noun phrase + post modifier fragments (e.g., *the value of the*, *the contents of the*) and preposition + of phrase fragments (e.g., *in the body of the*, *at the beginning of the*). These structures are common in other academic discourse as they are often used to “identify quantity, place or size” as well as “to mark existence, or highlight qualities” (Hyland, 2008a, p. 10).



Table 1: Examples of LBs from the CSITC Bundles List according to their functions

Lexical Bundle	RF	NF	Texts
1. Stance LBs			
A. Attitudinal/ Modality			
A1. Desire			
if you want to	52	39	8
A2. Intention			
I am going to	57	43	3
A3. Ability			
(that) can be used to	179	134	8
to be able to	47	35	8
2. Discourse Organizing LBs			
A. Topic Elaboration/ Clarification			
here is an example (of)	105	79	5
as an argument to (the)	60	45	6
B. Topic Introduction/ Focus			
the statement in line	111	83	3
3. Referential LBs			
A. Identification / Focus			
a reference to the	80	60	7
B. Specification of Attributes			
B1. Quantity Specification			
(greater/less) than or equal to	97	73	7
the sum of the	72	54	7
returns the number of	62	47	7
in the range of	54	40	3
the total of the	40	30	4
B2. Tangible Framing			
the name of the	231	172	8
the value of the	145	108	6
the contents of the	95	71	6
the elements of the	40	30	6
B3. Intangible Framing			
the order in which	83	62	6
the execution of the	41	31	6
C. Time/ Place/ Text/ Code/ Reference			
C1. Time Reference			
at the same time	44	33	8
C2. Text/ Code Reference			
(at/to) the end of the	260	194	8
each of the following	124	93	7
(at) the beginning of the	97	73	8
(in) the body of the	77	58	6

RF= Raw frequency: indicates how many times a sequence appears in the whole corpus.

NF= Normalized frequency: represents the number of occurrences of a bundle per one million words in the corpus.



Functions and Distribution of the Items in the CSITC Bundles List

Using the functional taxonomy developed by Biber et al. (2004) as an analytical framework, strings in the CSITC Bundles List can be classified under three main types based on their general functions in discourse: stance bundles, discourse organizers, and referential expressions (Biber et al., 2004). However, the distributional analysis, as presented in the pie chart in Figure 1 below, shows that referential bundles are by far the most common type. While referential bundles account for more than two-thirds of all the identified bundle types, stance expressions represent only 14%, and discourse organizers represent 15% of the total bundles in the list. Similarly, previous research on university register found that referential expressions are used more widely in textbooks and academic prose (Biber & Barbieri, 2007; Biber et al., 2004). Bundles of each main category were also grouped under different sub-categories according to their specific meanings and functions. This classification allows us to recognize the patterns of use of different bundle types in the CSITC.

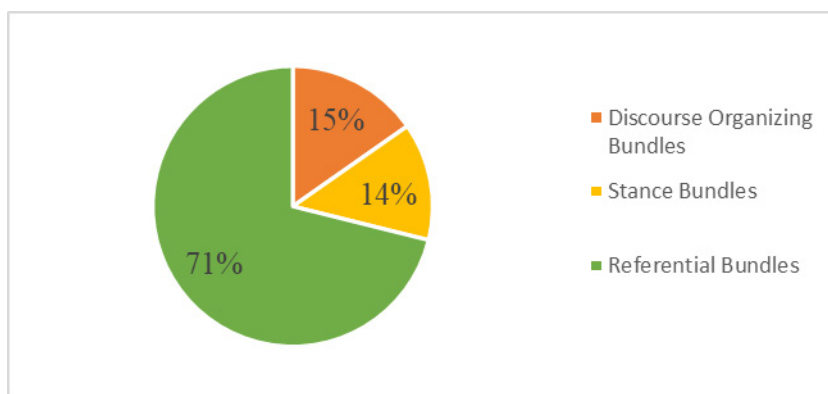


Figure 1 Distribution of LBs in the CSITC across the functional categories

Referential bundles in the CSITC

According to Biber et al. (2004), referential bundles include four sub-categories: “identification/focus, imprecision indicators, specification of attributes, and time/place/text reference” (p. 394). However, types of referential expressions, in the CSITC Bundles List, are represented in a different pattern. While imprecision indicators and place reference are completely absent from the list, code reference emerges as a new functional sub-category of time/place/text reference. Interestingly, the majority of bundles that are commonly used, in other disciplines (Biber et al., 2004), to refer to times, places or texts written by a human language (e.g., *at the end of the* and *at the beginning of the*) do not serve these functions in our

corpus. Rather, their use is associated with the referral to a code constructed by a computer language (e.g., Python or Java). In this study, the term code reference is used to refer to this new function or subcategory. The following concordance lines of *at/to the end of the*, the bundle with the highest frequency in the list, illustrate the new function served by code reference bundles:

1. Notice that *at the end of the algorithm*, you delete the original file.
2. When the user specifies the request *at the end of the program*, we just need to consult the proper variable for the response.
3. During the loop, *total* is the running total, and ***at the end of the loop***, *total* is the overall total of all the values in the list.
4. Sometimes complications are caused by the \n that appears ***at the end of the strings*** that are returned from the *readline* method.

Multi-functional reference is the subcategory under which the bundle *at the end of the* is placed in previous studies on LBs in university textbooks (Biber et al., 2004; Chen, 2010), as it is used in their corpora to refer to particular places, times, or locations in the text. However, it is clear from the prior examples that this sequence serves another specific function in our corpus. This is in line with Hyland and Tse (2007) who find that LBs behave in different ways across disciplines. The examination of the underlined words (*algorithm*, *program*, *loop* and *strings*) which follow the bundle directly in the examples above, as well as the context surrounding these words indicates that *at the end of the* is usually used when the author needs to refer to a piece of code or some parts of the programming process. For this reason, we assign this bundle to code reference as a new subcategory.

With regard to the number of bundles (types) in the functional sub-categories within the referential bundles in the list, specification of attributes is the dominant subcategory. Among specification of attributes, tangible framing records the highest number of bundles, whereas code/text reference is the dominant type across time/place/code/text reference bundles. On the other hand, the analysis of the overall frequency of specific bundle types within referential bundles suggests that while tangible framing and code/text reference are by far the most frequent bundles in the CSITC Bundles List, time reference sequences are rare and place reference bundles are absent. Accordingly, ESP instructors may need to give more attention to the most common sub-categories within the referential bundles in their classrooms.

Stance and discourse organizing bundles in the CSITC Bundles List

The pie chart in Figure 1 above demonstrates that stance bundles (e.g., *can be used to*) and discourse organizers (e.g. *here is an example of*) account for less than one-third of all the 59 bundles in the list.



This indicates that these types of LBs are less common in this register, and therefore, novice students in Computer Science may need to use them less frequently. The analysis also shows that some sub-categories of stance bundles, such as epistemic stance bundles, which are used to evaluate the level of certainty of the following information (e.g., *I do not know if*), did not occur in the CSITC Bundles List. This may suggest that epistemic bundles are less important for students in Computer Science.

Conclusion

Findings

The investigation of the Computer Science introductory university textbook corpus led to the creation of a list of 59 items, which represent the most frequent LBs that undergraduate students may encounter in their first year in Computer Science. Utilizing the functional taxonomy, suggested in Biber et al. (2004), the analysis highlights important distributional and functional patterns of LBs use in this register. The study shows that academic texts in this specialized corpus are dominated by the use of referential bundles.

The CSITC is also characterized by the dominance of bundles from two distinct subcategories: tangible framing and code/text reference. The emergence of code reference bundles as a new subcategory of time/space/text/code reference is a pattern that reflects discipline specificity. Based on the prior findings, the study concludes that the use of LBs in the CSITC is influenced by the communicative purpose of this register, namely, communicating instructions and procedures that students need to follow in order to write code that enable the computer to perform a particular task.

Implications and Future Avenues

The findings yielded by the present corpus study may have interesting pedagogical implications. Considering that “the most frequently occurring words are also the most useful items to teach” (Wood & Appel, 2014, p. 1), strings in the CSITC Bundles List may be good candidates for “selecting, sequencing, and structuring of teaching content” (Hyland, 2008b, p. 60) in EAP/ESP programs. While instructors in these courses are expected to give priority to teaching expressions that are more relevant to the academic fields of their students, those teachers do not have adequate knowledge of discourses in various disciplines. Therefore, the list developed in this study can be an important source for designing their instructional materials.

In addition, the items in the CSITC Bundles List and their functions can be invaluable for novice students planning to enroll in the Computer Science program. Familiarity with these building blocks and frames of discourse may facilitate the comprehension of and the engagement with the required textbooks for introductory courses in Computer Science. Moreover, the findings may also help curriculum developers to



bridge the gaps in their teaching materials by improving the presentation of the most frequent LBs and their functions in various disciplines, such as Computer Science.

Despite the importance of the current findings, they only provide little information about LBs in a large academic genre (i.e., introductory university textbooks). As such, the present study suggests that research on LBs in introductory university textbooks from other disciplines, including nursing, health sciences, neuroscience, and other fields of hard and soft sciences, needs more attention. A comprehensive analysis of LBs in such disciplines can provide EAP/ESP programs with a complete picture about LBs in this genre which plays a key role in students' academic success.

Finally, although creating lists of the most frequent LBs in different academic registers and disciplines provides a rich source for EAP programs, these lists are available only in research articles or academic books. Instructors and learners alike may find it difficult to reach these lists and make use of them. Developing websites and software, in which learning activities are designed based on these lists, can make these important bundles more accessible and useful.

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Differentiated instruction in English language teaching: Insights into the implementation of Raza's teaching adaptation model in Canadian ESL

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Abstract

The purpose of this article is to discuss the teaching adaptation model proposed by Raza (2018). This will be done with the support of fresh explanations and examples that show how different strategies suggested by the model can be utilized to develop and implement materials that can assist in adapting teaching strategies to English language learners' needs in Canadian ESL classrooms. Driving their roots from significant language teaching and learning theories, the strategies included in the model are specifically relevant to language classrooms that comprise students from multilingual, multiethnic and multi-educational backgrounds. Starting with a brief introduction to the model, the article discusses the strategies in detail with the support of tasks and activities that can be used in Canadian ESL contexts to facilitate the language learning experience of diverse student population.

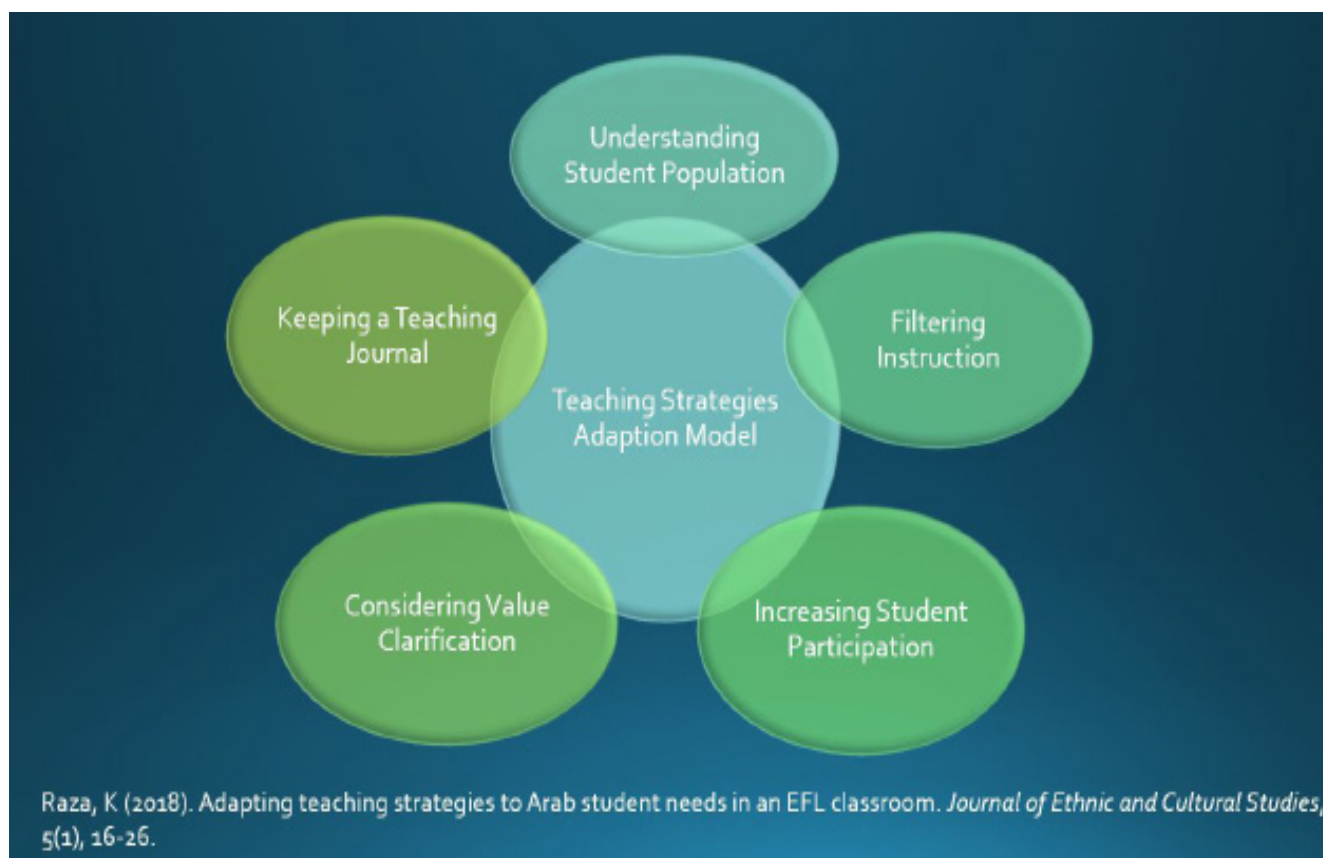
Introduction

With the advancement of English as a lingua franca, increase in the number of non-native speakers of English, recognition attempts for different versions of English, known as World Englishes, and surge in migration and globalization, the field of English language teaching (ELT) has become highly diverse. Today,



English language classrooms comprise students with multiple linguistic, educational, socio-economic, and ethnic backgrounds. In addition to growing diversity in the classroom, factors like these also challenge language teachers on daily basis to delineate teaching strategies that can continuously help them facilitate language-learning experiences of diverse student populations effectively. This culminates the one-size-fits-all approach that is often followed in the development of textbooks, supplementary materials, and educational technologies that aim to cover broader markets.

Instead, we are in need of principles and guidelines that are informed by the theories of language teaching and learning and can assist in adapting teaching strategies to specific student populations and their language needs. The teaching adaptation model (TAM) proposed by Raza (2018) is an attempt to provide guiding principles for English language teachers to modify instructional strategies to the needs of their students in particular contexts. In the next part of this article, we will discuss the TAM, its characteristics and fresh examples and tasks informed by one or more of the strategies suggested by the model.



An Overview of the Teaching Adaptation Model

The TAM comprises five adaptation strategies: understanding student population, keeping a teaching journal, increasing student participation, considering value clarification, and filtering instruction. There are two points that are necessary to understand about these strategies: First, the five strategies do not follow any recommended sequence; a teacher can decide to start with any of the strategies in the model and then work on the next one. Secondly, although the five strategies share common principles of adaptation, are inter-connected in multiple ways, and can produce better results when used all together, they are not a tied set of rules that are inseparable. Like sequence, the number of strategies will also depend upon the needs of learners and teachers.

Three principles inform the construction of the TAM. The first principle is based upon the argument that the needs of one group of students differ from others (Harper & Jong, 2004; Tomlinson, 2001) and efforts need to be made to address these differing needs through specifically designed instructional techniques (Raza, 2018). Ellis' (2004) discussion on individual differences in second language learning confutes the claim that all learners are the same and clarifies that learner differences not only exist in L1 but also in L2, and even the nature of these differences within L1 or L2 is not always the same. The second principle, differences in learning, derives its roots from the work of Harper and Jong (2004) that disapprove the conception that the learning process of every language learner follows the same pattern and pace. This is because the socio-cultural differences and L1 interference differentiate the language development processes of learners. The last principle is informed by the findings of Raza (2019) that the expectations of teachers and students about their roles in a language classroom do not always align. In order to ensure a successful learning process, there is a need to cultivate mutual understanding between teachers and learners so that both are aware of each other's expectations about their roles. This can help design productive literacy instruction, develop academic and non-academic coordination, and assist in the modification of teaching strategies.

1. Keeping a teaching journal

Reflective teaching theory gives a lot of importance to self-reflection. The main assumptions associated with reflective teaching are that it allows teachers to refine their practices based upon the self-evaluation of their instruction, materials and strategies. The experience reflective teachers gain during this process is far more effective and useful than other sources of professional development. One of the ways teachers can reflect upon the usefulness and effectiveness of their teaching is through keeping a reflective teaching journal. It allows them to self-observe their teaching styles, material creation and usage, lecture delivery, and success in student engagement and collaboration (Raza, 2018).



There are multiple ways teachers can create and manage a teaching journal and use it for self-evaluation. According to Pollard (2014), the four skills that can be helpful in this process are consulting existing literature, collecting fresh information, examining available data, and evaluating outcomes. A review of the existing research allows teachers to learn from the relevant research in the field and see if their teaching practices align with the findings of others. Gathering new information involves a critical observation of the classroom atmosphere to collect objective and subjective data. While objective data allows teachers to observe student performance, subjective data helps understand perceptions and feelings about a teacher's teaching. Raza's (2018) suggestion of collecting information about the repeated errors of learners in a second language writing (SLW) course and converting them into a lesson for the entire class is a practical example of this skill. Teachers can also have their classes observed by a peer or a supervisor for professional development and continuous improvement (Raza, 2019a). Similarly, data analysis assists in the interpretation of classroom challenges and evaluation involves understanding the outcomes of activities and tasks and delineating future policies and practices.

2. Understanding student population

One of the outcomes of globalization and increasing migration is that today's English language classes, like others, have become highly diverse (Dudley, 2019) and thus comparatively more challenging. This is true for many countries like Canada where immigrants are welcomed at government as well as social levels, and efforts are being made to integrate them into Canadian socio-academic contexts. Van Viegen et al., (2019) highlight the sociolinguistic landscape of Canadian institutions and observe that the Canadian classrooms are no longer monolingual (English or French only) or bilingual (English and French), but multilingual. This requires a reconceptualization of teaching strategies and practices to see how they can shift their focus from addressing the language needs of monolingual or bilingual student populations to diverse and multilingual learners. Since students come with different language resources and socio-cultural backgrounds to the classroom, teachers can collect information about these resources and utilize them to make use of a student's prior language knowledge, increase student interest in the language learning process, and promote a sense of belonging among students.

Similar understanding can be developed about the challenges of learners in the language learning process. This allows a teacher to identify the difficulties their students are facing, understand the reasons or causes behind these difficulties, and then brainstorm strategies to address these challenges. For instance, Raza (2017) observed that his Arab students were facing some recurring challenges in EAP classes. Using a reflective approach, he decided to develop an understanding of these challenges and delineate possible solutions through individual conferences and classroom discussions with students.



Table 1 lists these challenges and the potential reasons behind them. It also shows the solutions that were used to solve these challenges.

Table 1: Recurring challenges in EAP classrooms

#	Challenge	Potential Reason	Solution
1	Understanding the curriculum and remembering upcoming deadlines	Too much information shared in week 1	<ul style="list-style-type: none"> - Breaking down the information into smaller parts - Using L1 for low proficiency students
2	Spelling issues	Different alphabets in English and Arabic	<ul style="list-style-type: none"> - Highlighting the differences between English and Arabic alphabets - Emphasizing letters of the alphabets that are frequently misused, e.g., difference between p, b and d
3	Google translation	Lack of confidence and previous habits of relying too much on translation	<ul style="list-style-type: none"> - Encouraging students to try using the target language instead of jumping to other sources - Involving students in activities that require spontaneous thinking and language production - Encouraging translanguaging
4	Lack of motivation in writing tasks	Culture and orality: Arab culture is an oral culture (Ong, 2002)	<ul style="list-style-type: none"> - Including integrated tasks that encourage writing and speaking - Choosing topics that are of interest for the majority of students
5	Errors in language use	Performance errors vs. competence errors (Touchie, 1986)	<ul style="list-style-type: none"> - Treating errors as a part of learning - Drawing student attention towards recurring errors

3. Increasing student participation

The third strategy in the TAM asks for involving students as active participants. Driving its roots from Paulo Freire's participatory teaching approach (1968; 2005), this strategy views teaching beyond sharing information and controlling student behavior. Rather it argues for student inclusion in decision-making at a micro level, such as deciding the types of activities to be used, the amount of emphasis on a specific language topic, setting deadlines for assignments and homework, as well as at macro level like assessment, curriculum design, teaching styles, and classroom management issues. According to Richard-Amato (2003), when teachers and students share powers, it "enables students to reach academic goals and enables both students and teachers to explore together issues that affect their lives" (p. 71).



There are multiple ways teachers can involve students in classroom administration and content development and delivery. Tomlinson (2000) suggests five strategies, which are “conversations with individuals, classroom discussions, student work, observation, and formal assessment” (p. 5). I have been using these sources to promote participatory teaching and learning but with a different approach. The first two are combined together to formulate an informal survey that is given to students three times in a semester. The questionnaire typically comprises items about the aims and objective(s) of learning English, their bigger and smaller challenges in language development, what they would like the teacher to pay more attention to, and the types of activities that they find entertaining and effective. After collecting baseline data from individual students, the results are discussed in class to understand the responses, clarify strategies, and prioritize actions to address students’ needs through collective efforts. This not only helps understand students’ perspectives but also gives me the opportunity to share my expectations of the course and the students, and thus develop a mutual understanding from the onset of the semester that Raza (2019a) calls a teacher-student learning contract. This activity is repeated in the middle and towards the end of the semester to revisit strategies and possibly reprioritize course content and teaching practices.

For the remaining three sources on Tomlinson’s (2000) list, students are given a diagnostic test (e.g., a writing task, a discussion activity, or a mini-monologue prompt) to assess their proficiency in English. Additionally, student performance during in-class practice, homework, and formative assessments is observed to collect information about their learning challenges and use this objective data to create supporting materials and tasks to facilitate their language development.

4. Considering value clarification in teaching

Value clarification theory, distancing itself from traditional moral education that focuses on the inculcation of moral values through modelling, emphasizes on the awareness and correction of values that students hold. Unlike traditional methods, the focus here is the *clarification* of values through reasoning, explanation, and analysis (Kirschenbaum, 1992) that involves enhancing critical thinking skills, learner independence, use of authentic language, problem solving skills, and motivation (Raza, 2018). By providing an explanation and rationale for holding specific moral values, students develop confidence in their values, especially when they are compared to others.

4.1 Sample project promoting value clarification

[Appendix 1](#) is a peer project that involves two students where they work as “Young Future Leaders” and select a social or educational issue of significance, develop an understanding of the issue and its causes, and then brainstorm possible solutions to solve the issue. With the objective of clarifying students’ values



about socio-educational challenges that they may encounter in the future, the project also aims to develop leadership skills and encourages students to be involved in communicative, critical thinking, problem solving, and public speaking activities. [Appendix 2](#) is a lesson plan.

5. Filtering instruction

This strategy is based upon culturally responsive teaching and differentiated instruction approaches (Tomlinson, 2001) and argues that the instructional strategy that works for one group/type of students may not work for others. Language classrooms that comprise students from diverse cultural, linguistic, and educational backgrounds, like most Canadian ESL classrooms, would require teachers to consider the differences of learners before deciding an instructional method for effective learning to happen.

Harper and Jong (2004) highlighted four misconceptions about English language learners that promote a one-size-fits-all approach:

1. Exposure and interaction will result in English-language learning.
2. All ELLs learn English in the same way and at the same rate.
3. Good teaching for native English speakers is good teaching for ELLs.
4. Effective instruction means nonverbal support.

They contend that these misconceptions are based upon two assumptions, which argue that “the needs of ELLs do not differ significantly from those of other diverse learners” and the field of ESL “is primarily a menu for pedagogical adaptations appropriate for a variety of diverse learners” (p. 152).

Based upon my teaching experience, there are three successful differentiation techniques that English language teachers can adapt to address the diverse needs of their learners. The first technique asks for identifying learner differences, categorizing them into groups based upon their commonality, significance, and severity, and then delineating strategies to address them through common lessons and/or individual lesson plans. As discussed earlier, teachers can use subjective and objective data collection methods to gather such information or conduct classroom-based action research. An example of this is Raza’s (2019b) study that investigated learner preference for teacher corrective feedback in a Second Language Writing (SLW) course to see what type and amount of feedback students find useful and effective. The study found that Arab students prefer handwritten feedback over computer and oral feedback and are motivated when their errors are identified and explained to them. A forthcoming study will investigate how the provision of student-preferred teacher corrective feedback—handwritten feedback—may enhance their motivation and



performance in SLW tasks. Raza's study also discussed the usefulness of group tasks in addressing diverse student needs through common lessons. Students are asked to work on a writing portfolio where they first write an essay, which is reviewed by a peer to identify major issues with meaning, structure, and language. Reflecting upon peer feedback, students revise their essay and produce the second draft, which is reviewed by the classroom teacher for providing extensive feedback and is revised by the student to develop a final draft. This activity allows students to not only learn from their peers but also receive feedback from their teachers.

The second technique asks for developing a culturally responsive curriculum that includes topics which are culturally appropriate, interesting, and motivating. It is important for teachers to be neutral on these topics and play the role of an interviewer who mainly concentrates on asking clarification questions rather than sharing their point of view.

The final technique is linking learning to students' practical lives. Students feel motivated when the task they are working on will help them develop language that they can use beyond a classroom setting. In addition to extrinsic motivation to learn English for grades and task completion, students feel intrinsically motivated to participate in activities and exercises. This can be done through multiple ways such as asking students to use a semi-structured survey questionnaire to interview someone in the family about a topic and then share the interview results with the entire class. This helps them practice their language skills outside the classroom and often utilize L1 if they choose to interview someone who does not speak English. A use of multiple language resources, called translinguaging, in discourse allows students to create a connection between their previous and future language experiences as well as enhance their ability to make meaning by connecting "the social, cultural, community and linguistic domains of their lives" (Creese & Blackledge, 2010, p. 112).

Conclusion

Globalization and immigration have transformed contemporary Canadian ESL classrooms from mainly monolingual or bilingual to multilingual and multicultural. This requires a reconceptualization of teaching strategies, curriculum, assessment, and classroom management policies that were designed specifically for student population with similar linguistic and socio-cultural experiences. This shift will allow us to accommodate student needs that are diverse and dissimilar. However, as we revise these areas, we need to develop strategies and frameworks, instead of materials and textbooks, which can work as guiding principles for language teachers when they decide to adapt their teaching practices to their diverse learner needs. The TAM discussed here is a similar endeavor. It includes five strategies that can assist language teachers in understanding their student population, collaborating with them to identify challenges and



devise solutions, enhancing student motivation in language learning by increasing relevance of materials to their socio-politico-economic lives, and reflecting upon their teaching practices for improvement and betterment. The sample activities discussed under each strategy are ideas for how teachers can implement them for material development, manipulation, and revision as they attempt to differentiate instruction for multilingual and multicultural student population in their language classrooms.

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Short-term applications for blockchain technology within an ESL context

By Shawn Chattin, ESL Coin Co-op, USA

Abstract

This paper aims to help educate English as a Second Language (ESL) members on the potential benefits of implementing blockchain technology. As academic record transfer and digital publishing represent two of the simplest transformations the industry can undertake in the short-term, they represent the focus of this article, but additional, longer-term use cases are also briefly mentioned. This technological step is one that could become mainstream across global economies within the next five years, and the ESL industry is primed to be one of its major beneficiaries. With an immense demand for English instruction and resources, blockchain will help meet the world's English needs in a transparent and accountable manner.

Introduction

The ability for organizations and individuals to confidently share data with one another, regardless of location or level of familiarity, has become a reality through blockchain technology. As a response to the 2008 global financial crisis, Satoshi Nakamoto (2009) introduced the world to Bitcoin, the first practical use



case of blockchain technology. To define it as simply as possible, “a blockchain is a distributed ledger that provides a way for information to be recorded and shared by a community” (Grech & Camilleri, 2017, p. 16). Data on a blockchain cannot be copied, manipulated, or deleted, allowing users to trust that what they view on the ledger must be true. Bitcoin addresses the issue of transparent accountability regarding financial transactions, and other sectors of the economy have quickly followed suit. Some of the earliest adopters have been the supply chains of agri-food, pharmaceuticals, and high-value goods (Saberri, et al., 2019), whose level of trust in blockchain should indicate to other sectors just how trustworthy the technology is: Public health and extreme private wealth are two areas where trust is of utmost importance.

The ramifications of this social leap to absolute digital trust are exhaustive and far-reaching. By limiting the scope to the lowest hanging fruit of the English as a Second Language (ESL) industry, the power of blockchain to assist in uniting global, fragmented networks becomes clear. *Academic record transfer* and *digital publishing* contain points of friction that get to the heart of what blockchain can do across many industries.

Literature Review

As ESL-specific literature develops in its own right, literature on how blockchain will affect education as a whole has established a solid foundation. The European Union’s Joint Research Commission has published one of the most widely cited papers at the moment, *Blockchain in Education* (Grech & Camilleri, 2017), an accessible and thorough introduction that presents the logic of the technology along with descriptive use cases that go far beyond the scope of this paper. Nizamuddin et al. (2018) address how blockchain addresses reliable digital content authentication through an InterPlanetary File System (IPFS) in combination with blockchain smart contracts (Panescu, 2018). This advancement can lead to an indefinite lifespan for material through peer-to-peer distribution networks, as discussed by Rinaldi (2018). With the launch of such programs such as MIT Media Lab’s Blockcerts (Schmidt, 2016), the topic of certification and academic record transfer is discussed by Jirgensons and Kapenieks (2018). Ocheja et al. (2018) explore the possibility of individuals developing and professionally leveraging a blockchain lifelong learning record. *Blockchain and its Potential in Education* (Turcu, 2018) presents a much more extensive literature review of this topic, delving into specific international projects, both private and state-funded.

Academic Record Transfer

A learner’s academic history passes through numerous hands. The stages of primary school, high school, university, and career each involve numerous parties who obtain, manage, and pass on academic achievements. Each time the individual passes on to a new school, academic data needs to change hands,



all the way to the university stage where it finds a dead end, forcing human resource departments and university administrators into time-consuming correspondence. This process becomes even more complex and expensive if you are an international student whose academic records not only must be sent across borders but must also be reliably interpreted and evaluated (Grech & Camilleri, 2017). Professional agencies offer this service, but it often takes weeks for such evaluations to arrive with costs in the hundreds of dollars.

MIT Media Lab's Blockcerts (Schmidt, 2016) presents a solution with a blockchain-based credential repository where any issuing institution can upload digital certificates, transcripts, credits, degrees, or exam scores onto a shared network. Any participating verifying body can access the credentials by asking for permission access directly from the owner. Limiting or even eliminating 3rd party correspondence and administrative duties saves a significant amount of time while also minimizing financial costs. The direct ownership of instantly distributable and trusted digital credentials empowers the owner and increases the value of the credentials themselves.

Additionally, blockchain challenges the presiding conception of what an academic record can be. Currently, the most reliable, and hence valuable, data is linked to a student's GPA, standardized exam scores, and overarching degrees. However, admissions officers and employers also collectively value all the smaller experiences and accomplishments between these traditional credentials (Williams, 2019). The problem has always been how to add them all together in a manner that accurately reflects an individual's knowledge, skills, and character. The digital learning badges provided by blockchain certification repositories will allow for experiences such as academic fairs, formal presentations, and volunteer work, to carry more weight in admissions and employment decisions. As an example, a shared database would allow an MIT admissions officer to properly value one high school science fair in Japan over another.

These microcredentials have the potential to facilitate continuous learning across an individual's lifetime (Ocheja et al., 2019). A single 2-week certificate lacks satisfactory value by itself, but as part of decades of certificates, it helps contribute to a collective evaluation of the owner. This validation of certification programs increases competition and, consequently, the overall process. Regarding the ESL industry, there is a clear opportunity for testing and assessment services to partner more directly with institutes who issue English learning certificates to their students. For these certificates to carry weight, they must prove that the English language learner can successfully fulfill their linguistic expectations, albeit for school or work; blockchain's ability to contextualize data assists greatly with this. Like a blockchain-supported supply chain, an English language learner's academic history, including each of their schools, instructors, and exams, can be verified and accounted for with confidence.



Publishing

Although the job descriptions of those who work in ESL publishing differ greatly from those who work with academic records, their use of blockchain is quite similar, and therefore also currently feasible. Whereas digital academic records benefit from being directly linked to issuing institutions, digital content benefits from being directly linked to their creators or owners. Content such as books, worksheets, or videos that are uploaded to a blockchain start generating an immutable history. Each transaction is verified and put into the blockchain, allowing the creator or owner to receive a precise picture of who is using their content, why they are using it, and how it helps with target language acquisition.

This immutability starts with a timestamp that marks its origin. This timestamp can be used as evidence of copyright if the owner believes their content has been either plagiarized or pirated (Finck & Moscon, 2019). If a content owner's timestamp has an earlier date than that of another's, the lawsuit or claim should find a quick and relatively cheap conclusion barring any other evidence. The value of knowing who is using published content extends beyond issues of legality as the quantity of use can lead to an increase in revenue generated, and the demographics of use can lead to content creators finding their valuable niche. As a piece of content continues to amass usage statistics, that content can start proving its academic worth if linked to its users' academic assessment performance.

Blockchain publishing also allows for secure peer-to-peer (P2P) file sharing. Without blockchain, P2P sharing holds inherent risk as one peer does not know if the other peer is sending them the target file or not. Now that blockchains can reliably verify the authenticity and complete transaction history of a file, content can live outside of a single server, ensuring that it will not be lost to a targeted cyberattack or a website shutdown (Rinaldi, 2018). P2P sharing can also accelerate the circulation of content through incentives. If, for instance, Person A shares content with Person B, the owner of the content can automatically reward Person A in the form of a microcommission. With this ability to incentivize a global network of sharing, blockchain content could spread much more quickly than content guarded by centralized servers.

ESL content is produced by both formal publishing houses as well as independent teachers and/or graphic designers. The demand for quality content from English language learners is extremely high, but often they have difficulty finding content that meets their expectations. The mutually shared data and ease of payment will help direct and motivate content creators to publish what the English learners desire. An additional benefit of blockchain for publishing is the ability to split revenue in an automatic and precise way (Grech & Camilleri, 2017). Each time content is purchased, the payment is split per the stipulations set in the agreed upon smart contract. This level of trust will help individual creators find publishing teams that complement their skills and not worry about being deceived financially.



Other Potential Uses

Academic record transfer and digital content publishing represent two foundational pieces of a blockchain ESL ecosystem because of the simple task they demand: verifying the origin and history of documents and files. However, the potential of digital smart contracts, such as those on the Ethereum blockchain (Panescu, 2018), will allow for a wide array of creative applications. A few more:

Messaging Platforms

Conversational texts and calls are an excellent low-stress way to further language development. However, two of the biggest barriers have been trust and ease of payment. Trust can instantly be established through secure digital IDs (Grech & Camilleri, 2017), while the power and flexibility of cryptocurrencies provides incentives to converse with English language learners (Sharples & Domingue, 2016). These fees can be priced to the second without any cross-border fees and minimal intermediary fees. A ten-minute wait at a bus stop in Seoul could result in a retiree in Toronto receiving a monetary reward, reputation increase, and a short, pleasant intercultural conversation.

Community English

Despite the sharp increase of learners learning online, the community where the learner lives arguably presents their greatest learning opportunity. Restaurants, cafes, markets, art studios, and gyms can all become verifiable ESL-friendly locations, incentivized by rewards and reputation. English learners coming into a new area could benefit greatly knowing that there is a cafe nearby that makes non-native speakers feel comfortable. These community locations could even introduce learning activities or challenges, making the English learning experience communally interactive.

Research

One of the long-term benefits with which blockchain will help the ESL industry is the massive amount of data it will offer language acquisition researchers. By being able to track the material, activities and the environment English language learners engage in will illuminate the effects of methodologies and learning paths. The key to second language acquisition has been an infuriating puzzle for so long because it is one made up of numerous, difficult to record experiences, habits, and routines. Blockchain data will likely not give definitive answers to second language acquisition, but the amount of analysis should bear some interesting fruits.



Limitations

The biggest hurdle blockchain has faced is that of widespread adoption. As government regulators and major financial institutions figure out how to manage cryptocurrencies, the mainstream has started to think about the technology, but not yet apply it. Along with improving and streamlining the user experience, blockchain also requires an educated public, especially when it comes to maintaining a secure digital identity. Blockchain is being leveraged at the large institutional level (such as large multinationals, banks, and universities), but it will likely be three to five years before it starts to proliferate within the general population. Until mass adoption begins in earnest, blockchain credentials will be limited in their power as potential academic records verifiers could resist committing to the technology if the number of blockchain credential issuers is low. Likewise, until much more digital content is uploaded to blockchains, their utility in claiming a copyright will be limited as it is not currently expected for content creators to protect their work on a blockchain (Finck & Moscon, 2019). Judges might be curious about blockchain as potential evidence in copyright cases, but they cannot be expected to base their decision solely on an earlier timestamp.

Conclusion

Within the area of education, the ESL industry stands at the forefront of potential blockchain beneficiaries. The amount of time and work required to transfer an academic profile or prove content origin is a burden on the amount of resources that could be spent developing curriculum, improving the quality of instruction, or purchasing valuable materials. The various other use cases could help in forming a harmonious ecosystem built around shared data. As more individuals and businesses buy into what blockchain offers, the industry can gradually become more decentralized.

ESL Coin aims to be a completely decentralized and autonomous organization that is governed by those who use it. The ESL Coin database will pay and reward participants using the cryptocurrency ESL Coin, resulting in an efficient and democratic industry-wide infrastructure. Such an organization will allow anyone to join and participate as their identities are verified via blockchain digital IDs. Large institutions and individuals alike can thrive in this high-demand, low-supply industry as blockchain technology addresses two of the biggest impediments to growth: trust and ease of payment.



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Classroom action research on the effects of pronunciation teaching on listening skills

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Abstract

The twentieth century was marked by the publication of a plethora of books on new methods and approaches to teaching English as a second or foreign language, few of which were based on empirically tested claims (Richards & Rodgers, 2001). Pronunciation instruction is perhaps the area of ELT that is most lacking in empirical studies to support its practices, with calls for research to investigate its effects and efficacy constantly made by ELT and second language acquisition specialists (Derwing & Munro, 2005). The recent resurgence in the interest for pronunciation has led to a small increase in the number of experimental studies being conducted on the subject. However, research is still limited to how teaching pronunciation affects learners' spoken production, with few studies focusing on the potential benefits explicit pronunciation instruction may have on students' listening comprehension skills. The study described here aimed to investigate whether teaching pronunciation has any spillover effects on learners' listening skills. The findings presented here imply that teacher training may need to rethink its current approach to the teaching of pronunciation if it is to accommodate for empirically tested evidence.



Literature review

Current practice

Most ELT professionals and institutions in the current communicative approaches and post-methods era have distanced themselves a great deal from the practices associated with audiolingualism. However, when it comes to the teaching of pronunciation, they tend to fall back on listen and repeat, a relic from the audiolingual years (Sweeting, 2015). Despite the fact that it is easy to administer for teachers, listen and repeat often gives disappointing results and is based on the questionable assumption that speech sounds can be learned by imitation (Messum, 2012). This reliance on imitation may be the result of a combination of a widespread lack of knowledge of the benefits of the explicit teaching of pronunciation and its effects on learners' listening skills and insufficient or ineffective pronunciation teaching strategies taught to new and experienced teachers in training courses (Kanellou, 2011).

Successful understanding of natural speech entails a combination of top-down and bottom-up processing (Buck, 1995; Rost, 2002). However, since its inception, communicative language teaching has made teachers concentrate on and favour top-down listening skills practices and procedures which improve the learner's ability to guess what they are hearing. The rationale for these practices is that there is frequently sufficient contextual information to help listeners to infer what is being said, provided they are able to identify parts of the incoming speech they are trying to process (Brown, 1990).

Aural perception

The listening comprehension of spoken language comprises three overlapping phases: perception, parsing, and utilization (Anderson, 2010). Relating words listeners know to the sounds they hear is the first of the three stages proposed. Parsing refers to words being analyzed in units according to grammatical or lexical cues. During utilization, phonological, grammatical, and lexical information in the incoming speech are matched to the listener's prior knowledge to interpret the meaning and functions of utterances.

The Cohort model of auditory word recognition (Davis, 2007) helps to explain how oral input is processed in the brain. It argues that speech comprehension takes place by continuously processing incoming spoken text as it is heard. At all times, the system processes the best interpretation of presently available input, matching information in the speech signal to prior lexical and grammatical context.

Identification is achieved by comparing incoming speech with known lexical items. Google's autocomplete search feature serves as an analogy of how this works. As we type letters into the search box, Google's algorithm predicts and displays search queries based on frequent search activities, linking these results



to previous searches and content viewed by users. Much like Google's autocomplete function, the brain instantly analyses, discards, and matches incoming speech, or queries, according to visual, contextual, grammatical, lexical, and acoustic signals (Silva Neto, 2016).

The Cohort model implies that a learner's own mispronunciation can potentially act as a barrier to impede listening comprehension. This potential breakdown in communication can be explained in view of the auditory feedback loop (Reed & Michaud, 2011), which suggests that clearer production, i.e. pronunciation on the part of the speaker, helps to facilitate their own perception. The model proposed in the feedback loop posits that speakers use their own output – their own pronunciation and acoustic representation of a sound— as input for their reception and perception. Therefore, learners' increasingly target-like pronunciation may ease and reinforce their perception during listening comprehension tasks and spontaneous unscripted conversations.

The acoustic representation of a concept is what de Saussure called the signifier (Bibeau, 1983), which would generate a concept, the signified, in the minds of interlocutors upon successful identification of the received acoustic signal; this matching cycle, or speech circuit proposed by de Saussure, includes simultaneous production and reception phases on the part of speakers and hearers. The production phase consists of three sub-stages as follows:

Speaker

1. A concept evokes a linguistic acoustic image in the brain, a psychological process.
2. The brain transmits an impulse corresponding to the image to the articulators, i.e. the entire vocal tract, a physiological process.
3. Sound waves produced by articulators travel from the speaker's mouth to the ears of listeners, a physical process.

The receptive phase is subdivided into the following stages:

Hearer

1. An incoming speech signal is picked up by the ear, a physical process.
2. Air vibrations physically act on the parts of the inner ear so as to produce activations of the sensory nerves, which then arrive at the brain and create a perceptual sensation, a physiological process.
3. The sound image evokes its associated concept, a psychological process.

Neuroscience

De Saussure's speech circuit anticipated modern neurology in establishing a close link between perception and the motor cortex (Kemmer, 2009), the area of the brain responsible for planning, controlling, and



executing voluntary movements. The role of the motor cortex is clearly identified when activity during speech perception is localized in regions of the ventral sensorimotor cortex. This is the area of the brain involved in highly coordinated movements of human speech production (Cheung et al., 2016). The Ventral sensorimotor reflects phonological information during speech perception and exerts a causal influence on language understanding (Schomers & Pulvermüller, 2016). Specific motor circuits that reflect distinctive phonetic features of speech sounds picked up by the hearer's ear are engaged during speech perception experiments. The results of these experiments provide direct neuroimaging support for links between phonological mechanisms for speech perception and production (Pulvermüller et al., 2006).

Teacher training

Speech production and pronunciation, its external representation, are primarily a physical and muscular activity. Therefore, conscious attention must be paid to work on the muscles and articulatory systems involved in producing target sounds both on segmental and suprasegmental levels (Underhill, 2013). Explicit phonetics instruction on the prosodic features of language such as suprasegmental practice, as well as stress, rhythm, intonation, and features of connected speech, has demonstrated beneficial results in learners' production (Gordon et al., 2012). In addition, explicit pronunciation instruction has also demonstrated improvements in students' listening comprehension in language tests (Ahangari et al., 2015; Khaghaninejad & Maleki, 2015; Levis, 1999; Lord, 2005).

However, although pronunciation instruction is considered important by teachers and researchers alike, it is often relegated to the sidelines of the ESL/EFL curriculum and at times completely ignored altogether (Derwing, 2009). Target language input alone is not sufficient to create changes in learners' performance across the four language skills (Flege & Hillenbrand, 1984; Strange, 1995). Learners may need to receive appropriate pronunciation instruction if they are to make progress in the intelligibility of their speech in ways that can positively aid their own listening skills (Khaghaninejad & Maleki, 2015). However, teacher training does not currently provide teachers with a sufficient basis to work from (Fraser, 2000), with additional training needed to develop teachers' ability to embed pronunciation practices in an established curriculum (Darcy et al., 2012).

The current study

The literature review suggests that improved pronunciation can lead to enhanced perception, i.e. listening skills by learners of a language. The present study attempts to observe such assumptions by analyzing the effects of explicit instruction of pronunciation on learners' listening skills. To this end, the following research question was investigated: To what extent does the explicit teaching of pronunciation have an effect on learners' scores in the listening component of an internationally recognized English proficiency test?



Participants

The participants were a group of 21 Brazilian students working towards the Common European Framework of Reference (CEFR) A2 level. Their ages ranged between 16 and 54 ($M = 28.8$; $SD = 10.66$); there were 10 females and 11 males. All participants were volunteers who had had 100-150 hours of general English lessons over three terms of 50 hours of instruction within an 18-month period. The general English course participants were enrolled in offered two 100-minute lessons a week. The participants' history of English language learning was taken before the study began to ensure none of the volunteers had studied English prior to their entry in the general English course. Participants were then split into two different groups. The treatment group was comprised of 11 students and the control group 10.

Procedures

The study followed a pretest-posttest quasi-experimental design. All participants sat a randomly selected Key English Test (KET) listening component from Cambridge English Language Assessment. The KET exam is part of Cambridge's exam suite and is at CEFR's A2 level. The test consists of 25 multiple-choice listening comprehension questions. After the first data collection phase, volunteers were ready to start their programme.

The treatment group was given six pronunciation lessons of 60 minutes over a period of six weeks in addition to their regular general English course. Meanwhile, the control group had their regular general English lessons over the same period of time, i.e., treatment as usual.

Instruction

The pronunciation lessons were designed based on a combination of activities suggested in *Sound Foundations* (Underhill, 2005) and *Teaching Pronunciation, a course book and reference guide* (Celce-Murcia et al., 2010). As all participants were Brazilian speakers of Portuguese, *Learner English* (Swan & Smith, 2001) was used to make sure the specific difficulties faced by Brazilians were addressed.

The six weeks of treatment were divided into three focus blocks. The first block had a focus on individual sounds and segmental work, with special attention being paid to the sounds which do not occur in Brazilian Portuguese, and therefore tend to present a bigger challenge for learners. For the second focus block, the treatment consisted of work on suprasegmental practice and aspects of connected speech, such as assimilation, elision, vowel reduction, strong and weak forms, and liaison.

The final two weeks were dedicated to work on intonation, stress, and rhythm.



All the lessons had a presentation–practice–production design. Instruction aimed to explicitly present volunteers with rules about pronunciation. In the segmental phase of the programme, students worked with articulatory diagrams, videos, and animations that demonstrate how individual sounds are produced. Volunteers made use of *The Sounds of Speech*, a web-based tool for the presentation and practice of individual sounds created by the University of Iowa (see Figure 1). A series of videos by the *BBC Learning English* website on how individual sounds are produced was also used during this phase (see Figure 2). *Sounds: Pronunciation App* by Macmillan Education was introduced in lessons to cater for students who felt they needed more individual practice on segmental features (see Figure 3). Connected speech, intonation, rhythm, and stress were dealt with using rules prescribed in *Sound Foundations* and *Teaching Pronunciation, a course book and reference guide*.

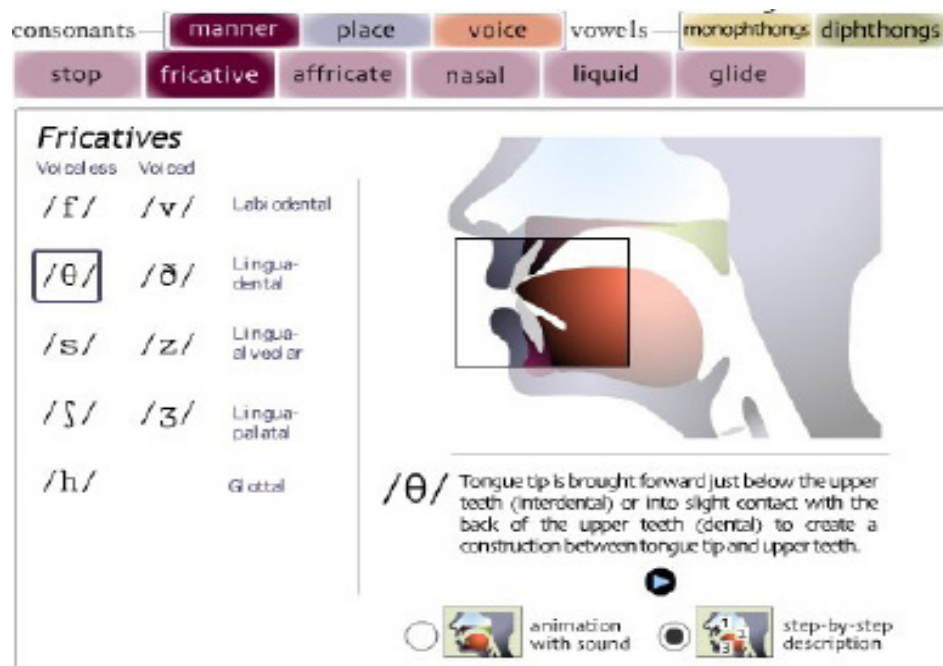


Figure 1. Interactive sagittal section animation demonstrating manner of articulation of /θ/.

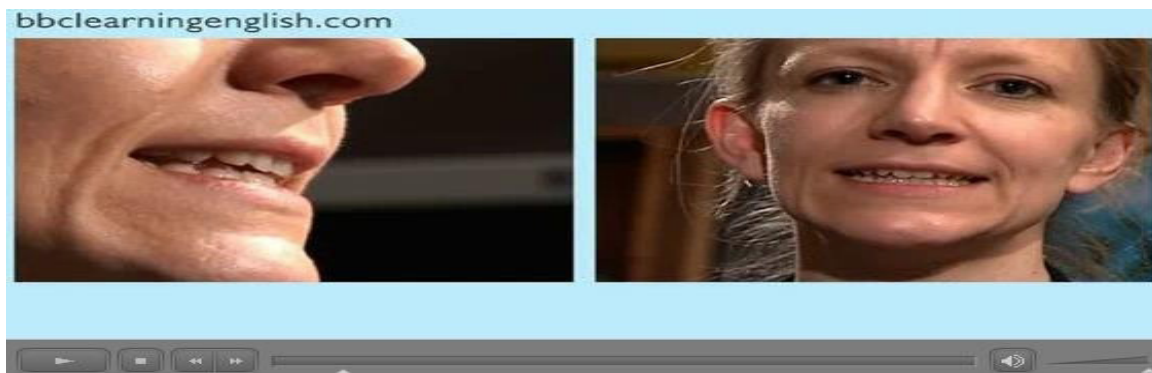


Figure 2. Still image of BBC video showing how the sound /i:/ is produced.



Figure 3. Different practices available on *Sounds: The Pronunciation App*.

Upon completion of the pronunciation programme, both the treatment and the control group sat another randomly selected Cambridge KET listening test in order to have their results analyzed and compared.

Results

Group	Participants	Pretest Mean score	Standard Deviation	Posttest Mean score	Standard Deviation
Control	10	64.00	14.85	55.20	15.53
Treatment	11	70.55	22.22	77.46	19.46
Total	21	67.43	18.90	66.86	20.67

Table 1. Descriptive statistics on the pretest and posttest for both groups.



Table 1 shows that the means for the control group were 64 and 55.2 on the pretest and posttest respectively, while the treatment group scored 70.55 on the pretest and 77.46 on the posttest. Surprisingly, the mean for the control group on the posttest was lower than on the pretest. This may have been the result of a comparably more difficult KET test. An independent-samples t-test was conducted to establish whether the difference between the scores of the groups in the pretest was significant. A significant result would indicate that the groups were at different levels of ability. There was no significant difference in scores for the control group ($M = 64, SD = 14.85$) and the treatment group ($M = 70.55, SD = 22.20$) conditions; $t(19) = -0.79, p = .44$. This result indicates that both groups were at comparable levels of ability prior to treatment.

In order to answer the research question posed in this study, a two-way repeated measures ANOVA with treatment as an independent variable and the percentage of correct answers on the pre-test and post-test as dependent variables was performed to investigate whether the interaction between time and group was statistically significant. The interaction effect was significant, $F(1, 19) = 6.15, p = .02, \eta^2 = 2.44$. The analysis demonstrates that the treatment group showed a statistically and significantly greater score on the pre-test versus the post-test than the control group did.

Discussion and Conclusions

The current study investigated the effects of explicit teaching of pronunciation on the performance of learners in the listening component of an internationally recognized proficiency exam, the Cambridge KET. The results of the data analysis revealed a significant effect of instruction on the treatment group, which was given instruction on segmental, suprasegmental, and prosodic features of pronunciation, when compared to the control group. Such findings support research which has shown that explicit phonetics instruction is beneficial for learners.

Moreover, the significant difference in performance between the control and treatment groups supports the view that mere input of target language does not provide sufficient conditions to create meaningful changes in students' performance across language skills and systems. Furthermore, the findings presented here underscore that explicit phonetic instruction seemingly enhances learners' overall performance on listening tasks, which is in line with results of previous studies (Ahangari et al., 2015; Gordon et al., 2012; Khaghaninejad & Maleki, 2015; Levis, 1999; Lord, 2005). In addition, the outcomes of this research are in keeping with recent observations from the field of neuroscience, which demonstrate the engagement of speech production areas of the brain during listening activities, indicating a close link between production and perception (Cheung et al., 2016; Pulvermüller et al., 2006; Schomers & Pulvermüller, 2016).



Pronunciation instruction has, for a long time, been the Cinderella of language teaching, being neglected and disconnected from other language learning activities, while lexis and grammar have been dominant in coursebooks, materials, lesson plans, and teacher training (Underhill, 2013). Many teachers remain skeptical about how practical the teaching of pronunciation can be, and in consequence continue to consider explicit pronunciation instruction of relatively little importance in their practice (Barrera Pardo, 2004). ELT has grown accustomed to the pre-while-post listening framework; slowly guiding students to feeling more comfortable with the auditory input, at the same time it tries to shield them from the frustration of not being able to truly decode incoming speech. Pronunciation has come to be considered as of lesser importance in a communicatively orientated classroom as it has traditionally been viewed as a component of linguistic rather than communicative competence or as an aspect of accuracy rather than conversational fluency (Pennington & Richards, 1986, p. 207).

Teacher training also plays an important role in relegating pronunciation to a secondary level, since available training often does not cover the most essential aspects of knowledge about speech and pronunciation, with some trainers' manuals going as far as stating that trainers should point out to trainees that when teaching they should not rush into pronunciation instruction, given that like other aspects of language learning, it tends to follow its own natural development. This is in direct opposition to Fraser (2000), who suggests that trainee teachers should receive instruction on how to teach pronunciation as part of their TESOL courses and that existing teachers should be able to receive professional development in pronunciation teaching.

Communicative language teaching and the post-methods era have not brought considerable new developments to the teaching of pronunciation, which means listen and repeat is to this day the default practice in most ESL/EFL classrooms around the world. Many teachers and institutions still justify their stance by claiming that imitation is how children learn the speech sounds of their first language, and therefore it makes sense to use the same principle when learning a new language. However, there is mounting evidence that they do not (Messum, 2012).

There are some limitations to the present study. First, the relatively small number of participants, N=21, and the fact that volunteers all come from the same L1 background put restrictions on the extent to which it can be inferred that similar effects will be observed across a larger and more diverse group of learners.

Participants' oral production was not assessed prior to and upon the completion of the programme, rendering it impossible to conclude beyond anecdotal evidence that explicit pronunciation instruction had an effect on their oral production. Thus, limiting the assumption that improved spoken performance leads to superior listening perception. Further research that addresses these issues is necessary. Despite its shortcomings, the present study demonstrates that explicit pronunciation instruction may be beneficial for learners' overall performance on listening tests.



Although ELT has, since the appearance of Communicative Language Teaching and the post-methods years, focused on intelligibility, the most important aspect of all communication (Munro, 2011), research in language teaching and neuroscience supports the theory that it is equally important to help students achieve a level of pronunciation accuracy that would also help to foster inter-intelligibility (Neto, 2016), where learners' speech is understood and serves as a perception model to guarantee their own listening comprehension.

Considering the findings in this and other studies on the effects of pronunciation instruction on learners' listening skills and the contributions from the field of neuroscience, it stands to reason that a shift in teacher training practices and beliefs about pronunciation and its effects on listening comprehension may thus be needed if ELT is to accommodate for recent empirical evidence.

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