



UNIVERSIDAD DE BELGRANO

Las tesinas de Belgrano

Facultad de Lenguas y Estudios Extranjeros
Carrera Licenciatura en Lengua Inglesa

Learning lexically with digital tools: An exploratory
study of lexical use in writing by 3rd grade ESL
students at a bilingual school in Buenos Aires

N° 886 María Dolores Fernández Abuyé

Tutora: Analía Duarte
Director de carrera: Prof. Alejandro Parini

Departamento de Investigaciones
Fecha defensa de tesina: 22 de septiembre de 2015

Universidad de Belgrano
Zabala 1837 (C1426DQ6)
Ciudad Autónoma de Buenos Aires - Argentina
Tel.: 011-4788-5400 int. 2533
e-mail: invest@ub.edu.ar
url: <http://www.ub.edu.ar/investigaciones>

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Words are slippery things to grasp.
(Hadfield, 1992, p.53)

1. Introduction

Latest trends in education inevitably lead schools and teachers to reformulate their views of how a second language is to be taught.

Two decades ago, a paradigmatic shift in ESL teaching was caused by the change in focus from grammatical mastery to successful communication. Teaching materials were therefore redesigned to foster socio-linguistic competence and teachers were encouraged to adopt a broader, more holistic outlook on language.

Most recently, the boom of technology, globalization and 2.0 tools have given birth to a new profile of students with different needs and who also approach learning differently. They are often highly visual multi-taskers that process in parallel and have short attention spans. These social learners enjoy working in teams, prefer to discover rather than to be told and are used to constructing their own learning by assembling information and tools from different sources (Hart, 2008).

Once again, teaching resources are being adapted and new educational tools are being designed. However, owing to their novelty, there is not always considerable data available regarding their effectiveness. This lack of information makes the evaluation of these new tools even more challenging and at the same time necessary. Hence, while dealing with new classroom technologies it may be worthwhile to explore what these new tools have to offer, pay close attention to students' responses and reflect upon whether the learning theories which guide our practice still apply in the present scenario.

This dissertation was triggered by the noticing of an unusual amount of lexical phrases in the written recounts by young ESL learners who had been exposed to the digital versions of two humorous stories: *Something Good* (Munsch, 1990) and *Penelope and the Monsters* (Radford, 2005).

These digital versions displayed on an interactive whiteboard featured partial animation and simultaneous narration. After watching the stories, the children were requested to write them using their own words. Surprisingly, all students had denoted confidence while tackling the written assignment disregarding their linguistic abilities. Upon reading their productions, it was also remarkable to perceive that beyond using isolated vocabulary items correctly, students had included multi-word chunks from the stories making their versions resemble the original more than in previous assignments of the same kind.

In years before, the printed versions of these same stories had also been met with enthusiasm. However, the new format seemed to enhance their appeal bringing about this surge in students' confidence and the incorporation of richer, more lexically complex chunks in their writing.

The aim of this paper is to explore the impact that multimodal output brought by digital technology may have on lexical acquisition by ESL learners. Furthermore, the possible inherence of motivational factors associated to the use of new technologies will be discussed.

To this effect, the processes of learning and language development will be examined, then narrowing the scope to vocabulary acquisition. Accounts on student motivation in connection to the use of 2.0 tools will be included as well. Next, background information on the students who wrote the recounts analyzed will be provided, along with details on the curriculum they follow and on the stories they were exposed to. Subsequently, the data regarding lexical occurrence obtained from the recounts will be analyzed and the

results will be discussed so as to finally conclude the extent to which the exposure to digital stories has positively affected the lexical production in these students' writing.

2. Literature Review

2.1 Constructing learning with 2.0 tools

Language and culture are the frameworks through which humans experience, communicate, and understand reality.
(Vygotsky, 1968, p. 39)

At present, the incorporation of new digital tools and Web 2.0 technologies into students and teachers' lives and consequently into classrooms has changed the educational setting. Mobile devices, interactive whiteboards and web-based utilities feature "functionality and connectivity which help knowledge creation through open communication and collaboration" (Paily, 2013, p.39).

Web 2.0 is an ambiguous concept that refers both to a large and shifting set of technological tools and to the socially integrated use of technology. (Light & Polin, 2010) Previous web versions featured static pages where people were limited to viewing content passively. Web 2.0 sites allow users to interact and collaborate with each other in a social media dialogue as creators of user-generated content within a virtual community (O'Reilly, 2005). Web 2.0 includes a myriad of web pages, social networking sites, blogs, wikis, video sharing sites and Web applications.

As educators intend to redesign learning experiences for a generation of digital natives, the inevitable question of how it is that children learn gains preponderance once again. Although all 2.0 tools applied in education are fairly novel, the theoretical background which many authors draw on to promote their use is not. For instance, constructivist educational theories seem not to have lost validity as they repeatedly crop up in the literature available on learning with digital media (Warschauer, M., & Ware, M., 2008; Prensky, 2007; Fawcett, 2000; Lyn Morgan, 2008).

Constructivism, as a philosophy of learning, is a blend of the tenets of educational theorists such as Bruner, Piaget and Vygotsky who emphasize knowledge construction instead of reproduction. From this perspective, understanding of the world is built by using actual and previous knowledge as foundations for new concepts and ideas.

Bruner (1973) describes the process of "discovery learning" which consists of learners actively processing experiences, organizing and categorizing information, elaborating hypotheses, and making decisions relying on a cognitive structure of prior knowledge to do so. This cognitive structure or "schema" allows the individual to "go beyond the information given" (Bruner, 1996, p. 129) by being able to extrapolate experiences and use them to fill in cognitive gaps.

Along this line, the role of the teacher should not be to teach information by rote learning, but instead to facilitate the learning process (Bruner, 1996). This means that a good teacher will design lessons that help student discover the relationship between bits of information. To do this a teacher must give students the information they need, but without organizing it for them (McLeod, 2008). In addition, the curriculum should be organized in a spiral manner so that students continually build upon what they have already learned (Bruner, 1996).

Much of Bruner's early theory is based upon the study of cognition and research on child development and can be linked to Jean Piaget's study of the intra-psychological development of knowledge or genetic epistemology. Piaget (1952) had previously defined intellectual growth as a process of adjustment to the world. He described how infants explore their environment and gain skills in regards to object which he also called "schemas". When presented with a new object or situation infants face the discomfort of "disequilibrium". Thus, either they deal with it using an existing schema, a solution he defined as "assimilation" or, if it does not work, they adjust that schema or create a new one through the process of "accommodation". All of this is done in order to reach "equilibrium" again (Wadsworth, 2004).

As Piaget continued his research on children's learning, he noted that there were periods where assimilation dominated, periods where accommodation dominated, and periods of relative equilibrium, and that these periods were similar in nature and timing among all the children he observed (Boeree, 2006). Hence, he developed his idea of stages of cognitive development which became one of the principles of cognitive constructivism: children develop according to stages, each stage building on the successful completion of the previous one.

In his latest work, Bruner's theory (1990, 1996) moved away from Piaget's as he placed more emphasis on the learners' social environment. He encompassed the social and cultural aspects of learning coming closer to socio-cultural constructivists influenced by Lev Vygotsky.

The social cognitive theory poses that students learn best and develop understanding in company of others. Therefore, social groups play an influential role in the development of understanding. Vygotsky (1978, p.56) stated: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)." Culture, therefore, is the main determinant of cognitive progress and knowledge can be defined as the internalization of social activity (Vygotsky, 1978).

In order to describe the learning process even more acutely, Vygotsky (1978) proposes that learning occurs within a zone he labels as Zone of Proximal Development (ZPD). The ZPD is the distance between a student's ability to perform a task with guidance and encouragement of a skilled partner and the student's ability to solve the problem independently. He defines this skilled partner as a More Knowledgeable Other (MKO) which could be a teacher, a peer or even a computer.

Looking into the participation of adults in children's learning, Bruner and Vygotsky seem to agree that they should play an active role in assisting them through the process of scaffolding, providing just enough support to enable them to accomplish what would be too difficult for them to do on their own. The term scaffolding first appeared when Wood, Bruner and Ross described how tutors' interacted with preschoolers to help them solve a block reconstruction problem (Wood et al., 1976). The idea underlying this concept is that "what the child is able to do in collaboration today he will be able to do independently tomorrow" (Vygotsky, 1986, p. 211).

Constructivism, therefore, shifts the central role schools traditionally used to assign to teachers as "dispensers of knowledge" to students who play an active role in learning. The term "scaffolding" has also gained relevance these days regarding the role teachers should adopt while working with new technologies, assisting students during their interactions with peers and 2.0 tools. This decentralization of information is part of the reason why constructivist theory connects so well with the integration of Web 2.0 (Munroe, 2010).

The new Web 2.0 technologies that are emerging today can certainly facilitate constructivist learning by providing multiple opportunities for discovery as well as access to multiple sources of information, especially primary ones which make learning as authentic as possible. Furthermore, some Web 2.0 tools such as activities of virtual experience encourage students to develop thinking skills which are useful in the real world. For example, in simulations of immersion in a different historical period or in virtual field trips students are able to see and experience places or things that they normally would not be able to experience (Roblyer, 2006). Learning in the constructivist classroom is therefore an ongoing process where learners build meaning by going beyond what they are taught.

All the above mentioned interactions which derive in cognitive development and learning are mediated by language. Halliday (1978, p.1) points out that "language arises in the life of the individual through an ongoing exchange of meanings with significant others". Language therefore is a means for social interaction and at the same time a product of it. Additionally, it is a vehicle for thought. These multiple aspects of language will be explored in the following section.

2.1.1 Man's greatest Tool: Language

The child begins to perceive the world not only through his eyes but also through his speech.
(Vygotsky, 1978, p. 32)

Language is man's greatest tool, a means for communicating with the outside world. It develops from social interaction and plays two fundamental roles in cognitive development. On one hand, it is the main means by which adults transmit information to children, hence, passing knowledge from one generation to the next. On the other, it is a mechanism for thinking (Vygotsky, 1962). As Recker (1996, para. 12) points out:

"It is through language that all cultures have passed on the higher mental functions that enable us to make sense of our world. Learning always involves external experience being transformed into internal processes through the mediation of language. Language is the medium that carries experience into the mind."

Vygotsky (1987) differentiates between three forms of language: social speech which is used to talk to others at about two years of age; private speech which is directed to oneself as an intellectual function at about three years of age; and finally silent inner speech, typical from the age of seven. Moreover, he proposes thought and language are initially separate systems merging at around three years of age. At this point speech and thought become interdependent: thought becomes verbal, speech becomes representational. When this happens, children's monologues are internalized to become inner speech (McLeod, 2007). This internalization of language is important as it leads to cognitive development.

Vygotsky's explanation of human language development and cognitive development serves as a strong foundation for the modern trends in Applied Linguistics (Schütz, 2014). This theory lends support to "less structured and more natural, communicative and experiential approaches and points to the importance of early real-world human interaction in foreign language learning" (Schütz, 2014, para. 15).

Until not long ago, second languages were taught in fractured pieces following a syllabus of grammatical contents. Grammar structures were accorded priority while vocabulary was seen as secondary in importance, merely serving to illustrate the meaning and scope of grammar (Sinclair & Renouf, 1988). For instance, a useful expression such as "Would you like...?" was not presented to beginner students for it contained a modal. "Do you want ...?" was preferred instead after auxiliaries had been introduced.

However, instruction methods have varied on a par with shifts in educational paradigms and the grammar versus vocabulary divide in second language teaching has been bridged. Moreover, the focus on words has been broadened as the concept of lexis was introduced (Sinclair & Renouf, 1988). Nowadays, it is accepted that students need lexical items for communication as from the early stages of language acquisition and they are taught by enhancing their meaning and function while disregarding their structural complexity (Selivan, 2011), as it will be explored in the next section.

2.2 Vocabulary Acquisition

In recent years second language acquisition, formerly considered to be a syntactic rule-governed process has been re-defined by the work of linguists such as Ellis, Sinclair, Nattinger, DeCarrico and Lewis establishing "a significant theoretical and pedagogical shift from the past" (Farshchi, 2007, p.20).

In his work on vocabulary acquisition Ellis (1997) presents two polarized views on language defined as a creative dance or as a choreographed sequence. Following a Chomskyan perspective, some linguists emphasize its creative aspect by stressing the infinite combinatorial possibilities of syntactic rules in generative grammars. On the contrary, other linguists such as Bolinger (1975) argue that language use is repetitive and not particularly creative.

Ellis (1997) could be placed amongst the second group for he proposes that much of language learning is based on the memorization of phonological and syntactic strings that lead to the formation and retention of patterns in long-term memory. These, in turn, will aid the memorization of new strings.

Sinclair (1991) explains the mechanism of native speakers' language use with two different principles: the open-choice principle and the idiom principle. Sinclair (1991) observes that although language users apply both principles, the one which dominates is the idiom principle. Lewis also notes that "much of our supposedly original language use is, in fact, made of prefabricated chunks, much larger than single words" (1996, p.10).

Further support to this view can be found in the works of Widdowson (1989). He stated that communicative competence is not a matter of knowing rules to form sentences but of having a stock of pre-assembled patterns, formulaic phrases, and a kit of rules to adapt and apply them in different contexts. Communicative competence is to him essentially a matter of adaptation, and "rules are not generative but regulative" (Widdowson, 1989, p. 135). Therefore, communicative competence would be the basis, not the product of grammatical competence.

Similarly, Nattinger (1980, p. 341) suggests that "teaching should be based on the idea that language production is the piecing together of units appropriate for a particular situation". Instruction, therefore, should center on these patterns along with their variations and collocations providing learners with strategies to acquire them.

The above mentioned phrases or word combinations can be grouped under the umbrella term "lexis" which nowadays plays a predominant role in second language teaching and learning. Lewis (1997, p. 90) defines lexical items as "socially sanctioned independent units". These may range from individual words to full sentences – institutionalized utterances – that convey fixed social or pragmatic meaning within a given community. Therefore, lexical items are dependent on agreement within a particular social group; "what is a lexical item in American English may not be so in British English" (Lewis, 1997, p.255).

The benefits of using lexical language are manifold. Firstly, lexical chunks not only satisfy speakers' communicative needs at a given moment but, as mentioned above, can be reused later. Second language learners benefit from the existence of lexical units for they ease the load of memory and economize effort as, computation is expensive in psychological resources and time consuming (Schmitt and Mc Carthy, 1997). When using lexical phrases the mind is freed for other tasks such as organization of content.

Secondly, recognizing certain grammar structures as lexical items means that they can be introduced to students much earlier, without analyzing their components. Moreover, since the concept of "function" appeared in language teaching, particularly as Communicative Language Teaching gained prominence, some structures associated with grammar started to be taught lexically or functionally. *I'd like to is not* taught as 'the conditional' anymore but as a chunk expressing desire. (Selivan, 2011).

Thirdly, lexical phrases offer many advantages for teaching conversation. As was suggested previously, they allow for expressions that learners are yet unable to construct creatively, simply because they are stored and retrieved as whole chunks, a fact which should ease frustration and, at the same time, promote motivation, fluency and accuracy. These phrases also ought to prove highly memorable, since they are embedded in socially appropriate situations. More importantly yet, they provide an efficient means of interacting with other speakers about self-selected topics, which is another characteristic that should certainly increase social motivation for learning the language. (Nattinger and DeCarrico, 1989).

Another strong point in favour of the use of lexical chunks is that it promotes more native-like and fluent productions for, as Ellis (1997) explains that speaking natively is speaking idiomatically, using frequent and familiar collocations. In order to illustrate this he points out that the regular question used for proposals is "Will you marry me?" rather than the well-formed but unidiomatic, "My becoming your spouse is what I want" (1997, p.129). This shows there is a limit to how creative speakers can be without sounding odd. Pawley and Syder also argue that native speakers are capable of fluent and idiomatic control of language because they possess a "knowledge of a body of sentence stems which are institutionalized or lexicalized" (1983, p.191).

Finally, second-language students appreciate dealing with authentic language. Moreover, to analyze it in context helps students develop their “noticing” skills, increasing their awareness of patterns (Samuel, 2003). Most phrases can be analyzed by regular grammatical rules and classified into patterns so learning phrases can help learners understand the grammatical rules of the language (Nattinger and DeCarrico, 1992). Also, it is easier for learners to start exploration of the language if they start from lexis, which is concrete, rather than from grammatical rules, which are abstract (Willis, 1990).

Along this line, Cruttenden (1981, p. 87) suggested that learners should be allowed to play with language items as “a dog with a bone” in order to extract the system out of them like “the marrow from the bone.” This view implies that item learning is a prerequisite to system-learning (Schmitt & Carter, 2000), thus, learners should be exposed to lexical phrases and be allowed to experiment with them in order to acquire the system or grammar of a language.

A key issue is to define what learners should do to grasp the meaning of new lexical items. Moudraia (2007) suggests that activities to develop learner’s lexical knowledge should involve intensive and extensive listening and reading in the target language. Fostering the noticing and recording of language patterns and collocations is essential as well as repeating and recycling activities which allow learners to fix words and expressions in their minds.

With regards to the amount of exposure needed to acquire lexical items, meeting them frequently but without explicit teaching is sufficient condition for acquisition (Lewis, 1997). Lewis points out that “each time you meet a word in context and (at least partly) understand it, you understand more of its meaning, and gradually integrate it into your lexicon for immediate access” (1997, p.51).

The value of formulaic, multi-word lexical units has been stressed in both first and second language acquisition research. As described above, linguists have given different labels to chunks of language. These differences in categorizations among linguists call for an approach which can level concepts and provide a frame of action for teachers to undertake in order to teach lexically or at least, to make students aware of the lexical nature of language.

2.2.1 The Lexical Approach

The contributions of the above mentioned linguists were harnessed by their British colleague Michael Lewis in his publications on the Lexical Approach to second language teaching (Lewis, 1993, 1997, 2000). Besides proposing an alternative to grammar-based approaches, he was the first to attempt a description of a lexically-driven method for teachers to follow.

The Lexical Approach takes a holistic rather than atomistic view of language (Lewis, 1997). It establishes a distinction between vocabulary -understood as a stock of individual words with fixed meanings- and lexis, which includes not only single words but also the word combinations that we store in our mental lexicons.

Lexis brings together elements of language learning that were previously treated separately, such as grammar, words and pronunciation. Bringing them together helps learners acquire them, turning “input into intake” (Lewis, 1997, p.58). Intake is defined as language internalized by the learner so that “it becomes and remains available for productive use” (Lewis, 1997, p.207).

In his seminal piece of work “The Lexical Approach” Lewis (1993) identifies lexical items as falling into four types:

- 1 a Words
- b Polywords
2. Collocations
3. Fixed Expressions
4. Semi-Fixed Expressions

The first category is sub-divided into Words and Polywords. Individual words, traditionally referred to as “vocabulary” are recognized by the Lexical Approach although Lewis points out that when learning a

language one should pay equal attention to the other equally important and more productive lexical items such as collocations, fixed expressions and semi-fixed expressions.

Polywords, the next sub category, is a small group of lexical items or chunks which are normally not reversible: He names “bread and butter” as an example. Lewis states that phrasal verbs and adverbial phrases are also included in this group. Examples: by the way, the following day, put away, etc.

The second category of lexical items is Collocations which Lewis defines as a “predictable combination of words” (Lewis, 2000, p.51). They are chunks of lexical items that co-occur naturally and are not normally interchangeable. For example: “make a mistake” and “do the work”. Though ‘make’ and ‘do’ have almost the same meaning, they cannot be used interchangeably.

The third category is Fixed Expressions, also known as Institutionalized Expressions. Lewis mentions that these are comparatively short and rare chunks a speaker stores as units and uses in speech such as “Happy New Year” or “It’s a lovely morning, isn’t it?”

The fourth category is Semi- Fixed Expressions, also known as Sentence Frames or Heads. They range ‘from very short to very long and from almost fixed to very free’ (Lewis, 1997, p.11). In addition, Lewis points out that unlike fixed expressions which are used mainly in spoken language, semi-fixed expressions occur widely in both spoken and written language. These expressions allow a number of different words or phrases to be inserted into them. For example:

It’s/That’s not my fault.

Could you pass the ..., please?

What was really interesting / surprising / annoying was...

As mentioned in section 2.2 lexicalization facilitates the L2 learning task by economizing production efforts on behalf of the learner while enabling him or her to communicate more efficiently. The teacher’s job is, therefore, to help learners notice the language they meet more accurately and provide the necessary strategies to increase the chances of input being acquired and becoming “intake”.

To this effect, new technologies applied in education can contribute by multiplying the language input students receive while providing tools for communication with which students can feel at ease. Such is the case with interactive whiteboards which will be described in the following section.

2.3 Interactive Whiteboards: Engaging students interactively – Suiting learners’ styles

Interactive whiteboards (IWBs) were initially developed in the 1990’s for use in the corporate world and they have only been used within the last years as educational tools in classrooms (Sessoms, 2008). They are manufactured in various sizes by different companies such as SmartTechnology, Promethean, Sony, and others. Interactive boards connect through a USB port to a computer which is in turn connected to a beamer. The computer screen is projected onto the interactive board and the user has access to all files, software, and Internet at the touch of a finger or a device depending on the type of interactive board.

These boards have two distinct functions: display and interactivity. On the one hand, they can be used to display files, software, or Internet resources. On the other, interactive boards allow users to write on them and manipulate objects including images and text. In addition, they can be used in combination with remote devices so that a large number of students can simultaneously express their opinions or select correct answers.

Sessoms (2008) points out that interactive boards subscribe to the fundamental constructivist notion of “active participants” as students are encouraged to complete the knowledge construction sequence as outlined by Piaget. Currently held belief systems and understandings –schemata– are challenged through technology based interactive learning environments producing disequilibrium. Subsequently, the learner

changes those belief systems through the process of accommodation or expands them through the process of assimilation in order to match his or her experiences achieving equilibrium once again.

Multiple advantages are attributed to the use of interactive boards in the classroom such as fostering flexibility in lessons, promoting student interaction with content, providing greater visualization of concepts and increasing motivation. Despite all the potential attributed to IWBs, some studies point out that they are mainly used by teachers to replicate traditional pedagogies (Schuck & Kearney, 2008), using it similarly to the way they used a blackboard before.

Nevertheless, a strong point in favour of IWBs which seems not to be under discussion is that it increases the chances for multimodal learning by allowing students to receive extended visual and auditory input while appealing to their multiple intelligences (Miller, D., Glover, D. & Averis, D., 2004).

The concept of learning styles and multiple intelligences has been enriched by the contributions of Gardner (1993) who identified eight core intelligences. Learning style preferences influence the way in which information is processed and stored. As students' learning styles vary, most teachers strive to incorporate strategies that will meet the needs of every child.

During lessons using the IWB visual learners may benefit from seeing facts and data, video clips, pictures, animations or diagrams displayed in colorful, large format. Kinesthetic learners have plenty of opportunities for hands-on participation if they are encouraged to write on, highlight, and interact with the IWB. Auditory learners can profit from dialogue, sound effects, and whole class discussion.

In their work on Multimodal Learning through Media, Cisco researchers (2008) assert that recent technological advances through functional Magnetic Resonance Imaging (fMRI) scans confirm people have a dual coding system. Visuals and text/ or auditory input are therefore processed in separate channels and their simultaneous use powers learning. Hence, they conclude that students using well-designed combinations of visuals and text learn more than students who only use text.

According to social cognitive and constructivist theories, another factor which may strongly affect learning is the environment in which it occurs. Bruner (1966) highlighted that instruction must be concerned with the experiences and contexts that make the student willing and able to learn.

Further support to this view can be found among Krashen's (1983) main five theories on language acquisition. The Affective Filter Hypothesis poses the need for a positive classroom environment where motivation and self-confidence are high while anxiety levels are low. Learners need to feel relaxed and confident that they are able to make mistakes and take risks. Otherwise, input will be filtered out before it can reach the brain and will not result in acquisition.

Vygotsky's claim that "instruction is most efficient when students engage in activities within a supportive learning environment and when they receive appropriate guidance that is mediated by tools" (Vygotsky, 1978, p. 231) has been used to promote collaborative use of digital media, especially interactive whiteboards (G. L. Morgan, 2008). The relationship between student motivation and use of IWBs will be examined in the following section.

2.3.1 IWBs and Student Motivation

As mentioned above, interactive boards together with laptop computers and 2.0 tools have caused a revolution in SL classroom, increasing the opportunities for interactivity and whole class participation. The general student response to this transformation in classroom practices seems to be engagement and increased motivation. However, learners' enthusiasm may also have to do with the novelty of the use of these tools within the language class. Measurements on the effects of these new technologies on students' learning seem to raise interest among educators and researchers as shown by the recent proliferation of work on the topic available online and elsewhere.

Levy (2002) conducted research in secondary schools in Sheffield, England, investigating the impact of IWB use in different cross-curricular classroom practices. Her objectives were to analyze how teachers

used the boards, which activities seemed to result well and the benefits they perceived in whiteboard use. Among other findings, she concluded from her study that interactive whiteboard use fosters more teacher-student interaction. In addition, it encourages discussion, questioning, and greater student participation in the lessons.

Smith, Hardman and Higgins (2006) investigated teacher-student discourse interactions triggered by IWB use. Over a two-year period one hundred eighty-four literacy lessons were observed in primary school. They found that lessons using the whiteboards had more reciprocal dialogue, faster pace, and greater frequency of answers.

Finally, Cogill's (2002) observations of five teachers and their classrooms led to the conclusion that whiteboards "helped to capture children's attention" (p. 31). Students completed a five-point Likert Scale questionnaire after each lesson. The results seemed to indicate correlation between motivation and technology use. The students expressed enjoyment in using the IWB, and according to Cogill, "Enjoyment suggests higher motivation to learn" (p. 4). He concluded that interactive whiteboard technology is an instructional tool that stimulates student motivation.

The following section, will describe the process by which third grade students in successive years wrote the recounts of the stories that were used in this study to compare the effect of different outputs –teacher's reading versus digital version on IWB- on lexical production.

3. Data Gathering

At the school where the study was conducted, re-writing stories is one of the skills students are required to master in third grade. The targets of attainment for writing fiction are set by the Cambridge International Primary Programme¹ adopted in 2007. This education programme developed by University of Cambridge International Examinations is used in primary schools around the world. Its curriculum covers English, English as a Second Language, Mathematics and Science for learners aged 5–11. Moreover, it includes support for teachers and integrated assessment.

In Guided Writing lessons students are exposed to stories from different genres which are analyzed and discussed. Subsequently, students are asked to write their own versions, often with the aid of pictures and a word bank for vocabulary since another objective listed in the Curriculum Framework is to start using "interesting words and phrases" (2011, p.6).

For the present study two versions of the same stories were used. The printed edition of *Penelope and the Monsters* was published by Lobster Press and the one of *Something Good* by Annick press.

The online versions were both accessed via the internet on the Canadian Tumblebooks website which consists of a digital library of animated picture books. TumbleBooks are created from existing picture books from several North American children publishers such as Chronicle Books, Charlesbridge Press, Annick Press, Simon and Schuster, and others.

Tumblebooks offers a paid subscription to access texts which feature narration by native speakers and animation at key moments which enhances humorous scenes or aids comprehension with the aim of making reading fun and accessible (Brueck, 2014, para. 4). The text is highlighted on a par with the reading and some key words or phrases are repeated in speech bubbles next to the characters using uppercase. Focus is placed in some images as the camera zooms on them. Details of the stories chosen are provided below.

The written recounts of students exposed to the digital versions of the stories were compared to written recounts of the same stories by students who, in previous years, had been read aloud the printed versions. The data obtained reflects the richness of their productions in terms of usage of lexical items and how

¹ Renamed Cambridge Primary Programme (CIP) in 2011.

close they come to meeting the targets of attainment for Third-grade-Writing set by Cambridge and listed in section 3.2.1.

3.1 Subjects

The present study was conducted with the 2009, 2010 and 2011 groups of third grade students at a private bilingual school in Belgrano, Buenos Aires. These children had fifteen English periods a week, each lasting forty minutes. Besides having an English teacher for their regular lessons, an assistant teacher worked with half of the group for the weekly Guided Reading and Writing lessons to allow for more one-to-one feedback. The Reading and Writing sessions, which lasted eighty minutes each, were held on different days.

These groups of students had been learning English since Kinder and were meant to fulfill Stage 2 of the Cambridge Primary Programme² by the end of the year. According to the Common European Framework of Reference they could be classified as A1 learners or Basic Users of the Language (Council of Europe, 2001).

Besides belonging to the generation of so-called “digital natives” and having access to internet and latest technology at home, these students have experienced the gradual introduction of these technologies at school. The 2009 and 2010 Control groups were among the first to use the IWB and Classmate computer on a weekly basis for different whole class activities: The 2011 Experimental group had an IWB installed in the classroom and their teachers devised activities using the Active Inspire software to work on different subjects. This software designed by the Promethean company features tools to prepare interactive material saved in files named “flipcharts” to be used on IWBs.

3.1.1 Cambridge Primary Writing Practice

Cambridge University provides access to a Teacher Guide designed for schools that implement their Primary Programme. It focuses on learners as “doers” and provides strategies for teachers to build a learning environment where students can actively learn and develop their thinking skills by working independently.

It puts forward “differentiation” as a key issue and aims to guide teachers as they plan learning experiences to “cover a range of learning abilities” (2011, p. 38) that go from low to high achievers. Besides levels of ability, teachers should have in mind the learners’ personal styles and pace of work. They ought to support the less able as well as challenge the more able so that they all reach their potential, “the best that they as individual are able to achieve” (2011, p. 42).

A whole section of the guide is devoted to ICT and Digital technology which need to be included “in order to make the most of learners’ potential” (2011, p.58) since they are part of learners everyday experiences. Interactive whiteboards (IWB) are described as tools which promote sharing and public talk and small group sessions are recommended for they allow more possibilities of participation per student.

Furthermore, digital technology is recommended to support the development of early reading skills. Specifically, IWBs which allow phonic, lexical and grammatical elements to be highlighted marked and discussed making it easier to manage shared and guided reading lessons. Images in picture books can be appreciated better when projected and can be used to help students work on sequencing. According to this guidebook “reorganizing texts on screen, moving sections and paragraphs, is becoming an everyday part of the classroom writing experience” (Cambridge Primary English Teacher Guide, 2011, p. 60).

Cambridge University additionally provides an English curriculum framework for Primary featuring a comprehensive set of progressive learning objectives divided into six levels. The following list features the writing objectives for fiction in Stage 2:

² Former Cambridge International Primary Programme - CIPP

- Develop stories with a setting, characters and a sequence of events.
- Structure a story with a beginning, middle and end.
- Link ideas in sections, grouped by content.
- Find alternatives to and/then in developing a narrative and connecting ideas.
- Write with a variety of sentence types.
- Use the structures of familiar poems and stories in developing own writing.
- Begin to use dialogue in stories.
- Use the language of time, e.g. suddenly, after that.
- Choose some interesting words and phrases, e.g. in describing people and places.

According to CIP trainer and author, Kate Ruttle, students must receive lots of exposure, time to process, and finally, opportunities to produce orally; for they will only write what they can produce orally. (Budgell and Ruttle, 2014, p. 6)

3.2 Two versions of Humorous Picture Stories

As mentioned in section 2.1.1, language is the main means for passing knowledge from one generation to the next. Most specifically, storytelling is an appealing language practice which different cultures throughout history have used for teaching and learning.

Frequent exposure to stories can aid students' reading and listening comprehension, even in mathematical applications; such as solving story problems. It can also help increase learners' phonemic and cultural awareness while improving their fluency and language accuracy (Meyer & Bogdan, 2001).

Teachers can also profit from storytelling by using it as a tool for teaching writing including specific skills, such as sequencing and summarizing. Students can also be encouraged to imagine their own endings to stories. They can keep the same characters and setting and alter the problems the characters face. Old stories can be re-written with a modern spin. Teachers and students may use stories creatively to trigger of all sorts of alternatives (Simmon, 1983).

Two humorous picture stories were involved in the present study. *Penelope and the Monsters* is a humorous story written by Sheri Radford and illustrated by Christine Tripp which features a girl who refuses to go to sleep for she claims there are monsters hiding in her bedroom. It is part of a three story series in which the common childhood scenario of Penelope's home spins out of control. *Something Good* is another humorous story about a girl called Tyya who complains that her father does not buy good food at the supermarket. Her father ends up having to pay for her after she is confused for a doll. Robert Munch is the author and Michael Martchenko the illustrator, both famous for a whole collection of humorous story books sold worldwide.

Both storylines follow a similar pattern. The main characters are kids with who the listeners can identify and the rest are relatives or just common people. The online Tumblebooks version of *Something Good* it is narrated by its actual author, Robert Munch, who is a well-known storyteller, as well as writer, who usually visits schools and interprets his own stories. This is interesting for listening to a native speaker reading aloud helps students get used to the cadence of a second language, plus the author of a story will be sure to make optimal chunking choices. In his book on teaching collocation, Lewis (2000) stresses that recognizing chunks is essential for SL acquisition and that students should be exposed to readings aloud of correctly chunked texts.

In these stories there is repetition both of events and words used to describe them, variation on the repetition, and then an ending with a twist. Repetition of events makes the stories seem familiar making readers or listeners feel more comfortable with them. For example, Penelope calls her father, he comes in, checks for monsters, finds none and sends her to bed several times. Whereas in *Something Good*, Tyya's father repeatedly tells her to put back the sugary stuff she loaded the cart with.

Furthermore, a surprise element is added. In *Penelope*, kids may wonder what creature will be causing trouble and in the case of *Something Good* what naughty thing Tyya will do at the supermarket. Children usually respond to the incremental build of these narratives and enjoy anticipating what is coming next.

These stories are told using very simple language making them accessible to the listeners. There is plenty direct speech and there are lots of interjections yelled by exasperated characters in hilarious situations which make the stories very enticing for kids. For instance, Penelope's father yells, "Go to sleep!" and she always shouts back "I'm never, ever, in a million, trillion, gazillion years going to sleep!". Or Tyra calls out, "Look daddy, good food!" and he replies with a startled, "Yikes!" All these elements are prone to leading to imitation on behalf of the listeners and even spontaneous retelling.

3.3 Control and Experimental Groups

The recounts of *Something Good* and *Penelope and the Monsters* used as Control Groups were written in 2009 and 2010 respectively as a mid-year writing exam. These exams were filed by the school and permission was granted to make copies in order to conduct this study. Parental consent was not required as the names of the children involved will not be published.

During the lesson previous to the exam students in the Control groups were exposed to the printed versions of these stories and generally showed appreciation for them making positive comments. Next, students worked on retelling the sequence of events orally with the aid of pictures they had to place in order. The teacher was physically in a central position with students standing around her so that they could see the cards. Whether she shuffled the cards or a student did it she needed to be right in the spot to monitor the activity and provide feedback. While this activity was carried out new words and phrases were written on the board.

The written versions of *Something Good* and *Penelope and the Monsters* used as Experimental Groups were both written in 2011 by the same group of eighteen third grade students. The children were exposed to the online version on the Tumblebooks digital library and worked on the sequence of events placing digital pictures of the story in order using the Active Inspire software. One student at a time came to the board to drag a picture and place it in sequence. The students themselves revealed the correct answers to check whether they had done it correctly or not. The teacher monitored the activity from a distant position.

In addition, the children described the pictures in the story using a tool in the same software which features a flashlight that allows to "shed light" on parts of the illustrations at a time. The students in this group made positive comments on the stories as well and used the same Word Banks the Control Groups had used for the writing task.

Regarding number of writing pieces included in the study, the experimental group had eighteen students who wrote recounts of both stories included in this study and the control groups were narrowed down to eighteen as well. There were twenty 2009 exams but two were left out because the final part of the story was missing. There were nineteen 2010 exams and the one that was left out belonged to a Peruvian girl who had come to the school two months before and whose level of English was significantly lower than the rest.

Summarizing, questioning, clarifying, and predicting skills were practiced orally by both groups prior to the writing task. During the actual writing activity the Control and Experimental groups were provided the Word Banks which are transcribed in Appendix E. The data extracted from the writing pieces in order to be compared and analyzed is presented in the next section.

4. Factual Analysis

The steps for gathering data which will be described were performed separately for each of the stories included in the study.

All students' recounts were read several times. During the first reading recurring lexical items which appeared verbatim in the original stories were listed. Next, they were sorted into Lewis' categories enumerated in the Literature Review Section. Subsequently, a table was designed to record the occurrence

of these lexical items in each of the students' recounts (Appendices C and D). Each recount was read again skimming for the lexical items on the list. A lexical item –single or multi-word– was considered as “occurring” if the student had been able to use it correctly in his or her writing piece. The words listed in the Word banks provided at the moment of writing were not included in the list.

Once data on each recount was gathered, the total numbers of occurrences of lexical items per student and per group were added up so that they could be compared. Individual words for each writing piece were also recorded and averaged to be able to see whether there was a big difference in the total length of the recounts. It was assumed that if one group's productions had been overall much longer than the other group's productions, this would have probably affected the occurrence of lexical items but the results indicate this was not the case as seen in Table 5 below:

Table 5

	Penelope and the Monsters		Something Good	
	Average Occurrences of lexical items per group	Average Word Count per group	Average Occurrences of lexical items per group	Average Word Count per group
Control Group	38%	208	40%	212.7
Experimental Group	62%	228	60%	269.17

However, the average of occurrences did indicate a remarkable difference. In the case of “Penelope and the Monsters” the Experimental group on average recorded 24% more occurrence of lexical items and in the case of “Something Good” the Experimental group also recorded 20% more occurrence.

In order to have a closer look at this difference Tables 6 and 7 feature the percentages of occurrence of lexical items per category for each story.

Table 6

Occurrence of lexical items per category		
<i>Story: Penelope and the Monsters</i>		
CATEGORY	CONTROL GROUP	EXPERIMENTAL GROUP
Words	36%	64%
Polywords	39%	61%
Collocations	40%	60%
Fixed Expressions	43%	57%
Semi-Fixed Expressions	36%	64%

Table 7

Occurrence of lexical items per category		
Story: <i>Something Good</i>		
CATEGORY	CONTROL GROUP	EXPERIMENTAL GROUP
Words	48%	52%
Polywords	51%	49%
Collocations	38%	62%
Fixed Expressions	0%	0%
Semi-Fixed Expressions	26%	74%

In both stories the greatest difference can be observed in the occurrence of semi-fixed expressions. The implications of the differences in the data obtained will be addressed in the Discussion section below.

5. Discussion

The tables included in the Data Analysis section quantify each student’s lexical production. As shown by the results in Table 5 the students in the Experimental group who were exposed to digital versions of the stories featuring multimodal output have spontaneously included 24% and 20% respectively more lexical items in their written recounts than students in the Control groups. Therefore, it could be inferred that this kind of enhanced exposure, consisting of visual, auditory and kinesthetic elements fosters lexical acquisition on behalf of students.

Reflecting upon Vygotsky’s constructivist theory on language acquisition, the following parallelism comes to mind:

In the Experimental group the IWB could be fulfilling the role More Knowledgeable Other, as it projects multimodal output on the student – visual image, text and sound. At the same time, the simultaneous highlighting of the text and the partial animation probably scaffolded students’ comprehension, aiding their transition through the Zone of Proximal Development and consequently encouraging lexical acquisition.

At the moment of exposure, the role of the teacher also shifted in accordance to constructivist precepts; from a central place in the Control groups providing output when reading the stories, to that of facilitator in the Experimental group setting up the digital devices.

During pre and post-reading moments the resources used varied from paper to digital format but still the teacher’s role was quite central. However, the fact that in the Experimental group all the students could see the material displayed simultaneously and from their seats and the teacher did not need to be in the center of the classroom or in physical contact with the material did make a slight difference. In the Control groups this distance could have been achieved by working in groups with sets of cards and a printed key for them to check but of course this would have demanded further preparation prior to the lesson.

Conversely, the interaction among peers was fundamental before exposure to the stories as they made predictions and shared personal experiences that had to do with the titles. Also during post reading activities as they collaboratively worked on the sequence of events evidencing how social groups influence the development of understanding. As a result, all the members of both groups showed overall comprehension of the stories, for they could reproduce them in their own words describing the most relevant events. This may have had to do with the following facts:

Firstly, these stories take place in contexts so familiar to children that they can easily relate the situations to their own schemata. Some examples are: the refusal to go to bed, fear of the dark, asking parents for treats at the supermarket and being scolded. Secondly, they contain real-world interaction carried out in simple authentic language which second-language students appreciate and plenty of repetition which aids retention. Thirdly, the humorous appeal of the stories probably motivated students to be more attentive during the exposure and more willing to write it out. This is made evident by the fact that nearly all the students included some of the most whimsical moments of the stories such as when Tyya's father saw his loaded cart and yelled "Yikes!" or when Penelope yelled "Enough!" and challenged the monsters to come out .

As described in the Literature Review section, motivation is a necessary component, because it activates the learners' senses and allows input to be internalized.

"Language acquisition proceeds best when the input is not just comprehensible, but really interesting, even compelling; so interesting that you forget you are listening to or reading another language." (Krashen in Fotheringham, 2009, para. 7)

This quote serves to illustrate the children's behaviour during exposure to the digital stories; all the students had their eyes fixed on the IWB and most expressed enjoyment by laughing or smiling. This reaction also shows agreement with Cogill's study on IWBs and motivation, mentioned previously.

Concerning language development both groups that took part in the story portray constructivist precepts on how language and culture are intricately meshed. These stories were told using language, the main vehicle for cultural transmission. Parents or teachers telling stories to children transmit culture. Characters within the stories embodying parents who explain about everyday issues to their children transmit culture as well.

Consequently, this experience has encompassed two simultaneous situations of cultural transmission, each mediated by language. Moreover, each student must have internally made sense of these experiences using language which has been previously defined as the "mechanism for thinking", as, according to Vygotsky, eight year old students have already developed inner speech.

It has been mentioned that certain web 2.0 tools can simulate situations of cultural immersion for students. Similarly stories, especially the ones that contain familiar elements can also offer an immersion-like experience to the reader. Because multimodal output appeals to multiple senses, it fosters a stronger connection between the child and the story. This familiarity may account for the confidence the student feels when having to retell it, both orally and in written form. Furthermore, it has been mentioned that storytelling is also usually credited for increasing learners' fluency and language accuracy which has proved true in this particular study as students were able to clearly reproduce the stories in their own words, using several lexical items from the original versions correctly.

Another issue which probably has contributed to the production of complete recounts on behalf of the students, especially in the Experimental group, is the use of lexical phrases. These, in Widdowson's words, "pre-assembled patterns" reduce the mental computation efforts usually assigned to building phrases and allow more time to be devoted to organizing the content. Two examples from the stories which several students used are "a medium-sized voice" and "What is it?"

Following the assertion by Cambridge CIP experts that oral production precedes writing it could be assumed that students have acquired the lexical items included in their recounts. It would seem that by listening to some lexical items repeated several times throughout the stories, the children could grasp them and include them in their own productions making them more fluent and native-like. Proof of this can be found in the fact that they disregarded some options provided in the Word Banks such as *banged*, *shook* and *rattled*, using instead the infinitive as heard in the story *started to bang*, *started to rattle*, etc. A further example is the use of the negative in questions which had not been taught previously as in *Don't you think?* or *Why don't you?*³ Nevertheless, it probably would be useful to recycle these lexical items in future activities so that students can fix them in their minds.

³ Examples included in Tables 1, 2, 3 and 4.

This is consistent with Moudraia's (2009) previously mentioned suggestions for developing lexical knowledge which also include extensive listening and reading in the target language as was done by the students involved in this study. It has been mentioned as well that this author highlights the importance of developing noticing and recording of language patterns so that they can be reproduced later on.

Taking a close look at Table 5 it can be observed that although some versions in the Control groups are very long this does not necessarily mean that they include many lexical items from the stories. These versions are thorough in details on events but lack richness regarding language as seen in the works of subjects 46 and 53 which feature high word counts but low occurrence of lexical items. Another striking fact is that no fixed expressions from *Something Good* were reproduced by the students but this is simply because the original story features none.

In both stories the greatest difference can be observed in the occurrence of semi-fixed expressions. They are the most flexible and abundantly occurring category for they consist of sentence heads or frames with slots to be filled in. They are also the longest phrases to remember. This is portrayed by the results shown in tables 6 and 7; the percentage of semi-fixed expressions used by the Experimental Group in *Penelope* and the *Monsters* is 64% and 74% in *Something Good*. Once again, the power of multi modal output could be used to account for this difference.

Concerning the targets of achievement set by the Cambridge Programme, the students' written productions seem to meet all the writing objectives for fiction in Stage 2 listed in the Data Gathering section. The students were able to structure their writing with a clear beginning, middle and end, used adverbs of time, used dialogue and a variety of sentence types. In addition, they all included at least some lexical phrases which seems to fulfil the objective of "choosing interesting words or phrases". In addition, the work done by students during the present study complies with the requirements regarding use of ICT, especially IWBs suggested for rearranging sequences.

Interestingly, Sessoms (2008) points out that despite the fact that IWBs are designed to help facilitate an interactive learning environment, researchers have found that they are not always used interactively (Levy, 2002; Kennewell, 2004 in Sessoms, 2008). Traditional teaching pedagogy is not based on an interactive model; therefore, it is possible that teachers will use technological tools to support traditional pedagogy rather than an interactive one, limiting their positive effect.

In the present study the IWB was used as a means of projecting output on the students which apparently features no further interactivity than a teacher reading out loud. Still, upon analysis of the multiple ways in which students engaged with the content during the story and the interactive post reading activities; also after examining their written productions, it can be concluded that the results differed from the ones obtained using traditional exposure. As Lewis (1997) recognized, students can also participate actively in non-verbal ways by listening, noticing and reflecting; mirroring the way they learned their first language. Therefore, in this case, this use of the IWB as a multimodal projector and of the Active Inspire software for post reading activities, served its purpose of triggering a writing assignment and making students get well acquainted with the story and language they needed to reproduce it.

A drawback pointed out by Lewis himself is that recycling activities which are needed to fix lexical items are usually "viewed as boring" (Lewis, 1997, p.51). However, he goes on to say that research evidence shows that repeating certain kinds of activity such as summarizing a text orally one day and again a few days later may be the most efficient way of improving learners' language. Thus, while recycling is a key strategy in the lexical approach, it is also essential for teachers and material writers to find novel and engaging ways of doing it, one of which could be through the interactive tools featured by IWB software as the ones described in section 3.3.

An interesting way to enlarge on this study would be to explore each student's level of proficiency with language and compare other pieces they wrote with the ones included in this study. Moreover, their predominant learning styles could be taken into account and a questionnaire designed to record their opinions on the different kinds of output. Furthermore, as students' motivation in this study is only assessed subjectively, it would be significant to measure it both quantitatively and qualitatively.

It would also have been interesting to measure the correct use of punctuation and correct paragraphing in one group and another. The fact that the experimental group could read the text along and actually see the divisions into paragraphs and the punctuation used, especially to mark dialogue, did seem to make a difference in their recounts. All in all there seemed to be many more divisions in the students' recounts than in previous writings, more use of different sentence types –interrogative, exclamatory and negative– and most students punctuated the dialogues or asked questions about how to do it correctly while they were writing. Nevertheless, without making the necessary measurements this remains a mere impression.

6. Conclusion

We do not need new dogma or orthodoxy; the truth, such as it is, is in the movement.
(Cupitt, in Lewis, 1997, p.14)

The present study has delved into the constructivist precepts which situate learning amidst a cultural setting and dependent on cultural resources. Literacy has historically changed under the influence of technology- from the invention of the press, to the emergence of radio and television, to the advent of computers and internet. Educators have subsequently been required to adapt to these changes and researchers to record them. Lately, however, the situation has turned conflictive for technology evolves at a pace so fast that it is hard for the educational community to keep up.

This research has taken into account that learners change on a par with technology, using communication devices interactively and bringing their digital literacy practices to school. Thus, educators need both to get acquainted with learners' novel practices and assess their needs in order to help them become successful both at school and within the global community.

There is currently great enthusiasm about the potential of many new digital tools for language teaching but it has not yet been matched by research on what actually happens in the classrooms. For instance, although there is plenty of literature on instructional use of technology in general, only a limited number of studies have been found to investigate the effects of interactive whiteboard use in the classroom.

In the case of this dissertation, the data obtained confirmed the teacher's impression on students' enhanced lexical production as well as evidenced that the IWB is a useful tool to project multimodal output which aids lexical acquisition and has a positive motivational effect on students. One of the conclusions derived is, therefore, that educators need to remain open to the revision of their teaching practices, reflect upon their own experience and keep updated on the findings of the latest research.

This study has also dealt with several dichotomies which had previously been examined on countless occasions in the education field: learning versus acquisition, "teacher centredness" versus "learner centredness", grammar versus lexis and traditional teaching methods versus new technologies. Far from striving for redundancy, this has to do with the conviction that language, learning and technology are dynamic in nature and need to be subjected to constant re-examination as they evolve.

The second conclusion derived from this research is that fostering students' lexical acquisition requires a change in the teacher's outlook on language. This could be challenging for most teachers would first need to overcome the grammar/vocabulary dichotomy which is usually embedded in their training. Next, teachers should draw students' attention to the benefits of lexicalization, promoting the noticing of lexical chunks and avoiding the temptation to analyse their internal structures.

Furthermore, in order to achieve this change, as Lewis (1997) suggests teachers should start modestly by extending usual vocabulary activities to multi-word items. As most vocabulary is acquired, teachers should make sure they expose students to enough real language to increase their lexicons, rather than teach it formally. Students may also need help to overcome the anxiety of trying to understand every word they read and strategies to use contextual clues to guess meaning.

The third conclusion has to do with the importance of keeping students motivated, so focused on the content they want to communicate that they forget they are using a second language. Ideal tasks should allow students to get carried away by the power of communication without worries about accuracy to set them back, valuing the ability to speak a foreign language, as a genuine skill for life.

A final consideration is whether it is necessary at all to implement a particular approach in the classroom. No approach can be believed to withhold the answers to all teaching queries because as hopefully, exemplified by this study, learners constantly pose new challenges. Solutions can only be attempted by revisiting eminent theories on education, considering new ones, reflecting, and incorporating useful insights to daily practices.

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Appendix A

Something Good by Robert Munsch

Tyaa went shopping with her father and her brother and her sister. She pushed the cart up the aisle and down the aisle, up the aisle and down the aisle, up the aisle and down the aisle.

Tyaa said, "Sometimes my father doesn't buy good food. He gets bread, eggs, milk, cheese, spinach—nothing any good! He doesn't buy ICE CREAM! COOKIES! CHOCOLATE BARS! or GINGER ALE!"

So Tyaa very quietly snuck away from her father and got a cart of her own. She pushed it over to the ice cream. Then she put one hundred boxes of ice cream into her cart.

Tyaa pushed that cart up behind her father and said, "DADDY, LOOK!" Her father turned around and yelled, "YIKES!"

Tyaa said, "DADDY! GOOD FOOD!"

"Oh, no," said her father. "This is sugary junk.

It will rot your teeth. It will lower your IQ. Put it ALL BACK!

So Tyaa put back the one hundred boxes of ice cream. She meant to go right back to her father, but on the way she had to pass the candy. She put three hundred chocolate bars into her cart.

Tyaa pushed that cart up behind her father and said, "DADDY, LOOK!" Her father turned around and yelled, "YIKES!"

Tyaa said, "DADDY! GOOD FOOD!"

"Oh, no," said her father. "This is sugary junk. Put it ALL BACK!"

So Tyaa put back all the chocolate bars. Then her father said, Okay Tyaa, I have had it. You stand here and DON'T MOVE."

Tyaa knew she was in BIG trouble, so she stood there and DIDN'T MOVE. Some friends came by and said hello. Tyaa didn't move. A man ran over her toe with his cart. Tyaa still didn't move.

A lady who worked at the store came by and looked at Tyaa. She looked her over from the top down, and she looked her over from the bottom up. She knocked Tyaa on the head – and Tyaa still didn't move.

The lady said "This is the nicest doll I have ever seen. It looks almost real." She put a price tag on Tyaa's nose that said \$ 29.95.

The she picked Tyaa up and put her on the shelf with all the other dolls.

A man came along and looked at Tyaa. He said "This is the nicest doll I have ever seen. I'm going to get that doll for my son." He picked up Tyaa by the hair.

Tyaa yelled, very loudly, "STOP."

The man screamed, "EYAAAAH! IT'S ALIVE!" And he ran down the aisle, knocking over a pile of five hundred apples.

A lady came along and looked at Tyaa. She said "This is the nicest doll I have ever seen. I think I will buy this doll for my daughter." She picked up Tyaa by the ear. Tyaa yelled, as loud as she could, "STOP."

The lady screamed, "EYAAAAH! IT'S ALIVE!" And she ran down the aisle, knocking over a pile of five hundred oranges.

Then Tyaa's father came along, looking for his daughter. He said "Tyaa? Tyaa? Tyaa? Tyaa? Where are you? ... TYAA! What are you doing on that shelf?"

Tyaa said "It's all your fault. You told me not to move and people are trying to buy me, WAAAAHHHHH!"

"Oh, come now," said her father. "I won't let anybody buy you." He gave Tyaa a big kiss and a big hug; then they went to pay for all the food.

The man at the cash register looked at Tyaa and said "Hey, Mister, you can't take that kid out of the store. You have to pay for her. It says so right on her nose: twenty-nine ninety-five."

"Wait," said the father. "This is my own kid. I don't have to pay for my own kid."

The man said "if it has a price tag, you have to pay for it."

"I won't pay," said the father.

"You've got to," said the man.

The father said, "NNNNO."

The man said, "YYYYES."

The father said, "NNNNO!"

The man said, "YYYYES!"

The father and Andrew and Julie all yelled, "NNNNNNO!"

Then Tyaa quietly said, "Daddy, don't you think I'm worth twenty-nine ninety-five?"

“Ah...Um...I mean... Well, of course you’re worth worth twenty-nine ninety-five,” said the father. He reached into his wallet, got out the money, paid the man, and took the price tag off Tyya’s nose.

Tyya gave her father a big kiss, SMMMERCCHH, and a big hug, MMMMMMMMMMMM, and then she said, “Daddy, you finally bought something good after all.”

Then her father picked up Tyya and gave her a big long hug – and didn’t say anything at all.

THE END

Appendix B

***Penelope and the Monsters* by Sheri Radford**

"I'm never, ever, not in a million trillion gazillion years going to sleep," Penelope announced to her father as he tucked her into her bed.

"You're going to be awfully tired if you stay up that long," her father said.

"But there are monsters in here."

"I don't see any monsters."

"That's because they're hiding. They only come out after you leave," Penelope explained.

"There are no such things as monsters. Now go to sleep." Penelope's father turned out the light and shut the door behind him.

Penelope looked around the dark room nervously. Suddenly, her dresser drawers started to bang.

She pulled her quilt up over her chin. "If there are any monsters in there, you can just go away right now," she gulped.

"No monsters here," said a tiny voice from inside the drawer.

"We're not monsters. We're gnomes," said another tiny voice.

"Shhhhh. We don't want her to know that," said a third tiny voice.

"Aaaaaahhhhh!" screamed Penelope.

Penelope's father came running into the room and turned on the light.

"What? What is it?" he cried.

"There are gnomes in my dresser!" shrieked Penelope.

Penelope's father walked over to the dresser. He opened each drawer and looked inside. "Nope," he said. "No gnomes."

"Of course not," said Penelope. "They only come out after you leave."

"Go to sleep," her father said.

"I'm never, ever, not in a million trillion gazillion years going to sleep," Penelope said.

Penelope's father turned out the light and closed the door.

As soon as he was gone, the doors to Penelope's closet started to rattle.

Penelope pulled her quilt up over her nose. "If there are any monsters in there, you can just go away right now," she gulped.

"No monsters here," said a medium-size voice from inside the closet.

"We're not monsters. We're trolls," said another medium-size voice.

"Shhhhh. We don't want her to know that," said a third medium-size voice.

“Aaaaaahhhhh!” screamed Penelope.

Penelope’s father opened the door and turned on the light.

“What? What is it now?” he asked.

“There are trolls in my closet!” shrieked Penelope.

Penelope’s father sighed and opened the closed doors. “Look. No trolls.”

“Of course not,” said Penelope. “They only come out after you leave.”

“Go to sleep,” her father said.

“I’m never, ever, not in a million trillion gazillion years going to sleep,” Penelope said.

Penelope’s father turned out the light and closed the door.

As soon as he was gone, Penelope’s bed started to shake.

Penelope pulled her quilt up over her eyes. “If there are any monsters under there, you can just go away right now,” she gulped.

“No monsters here,” said a very large voice from inside the closet.

“We’re not monsters. We’re giants,” said another very large voice.

“Shhhhh. We don’t want her to know that,” said a third very large voice.

“Aaaaaahhhhh!” screamed Penelope.

“Go to sleep!” Penelope’s father yelled from down the hall.

“I’m never, ever, not in a million trillion gazillion years going to sleep,” Penelope yelled back.

She pulled her quilt up over her head.

Penelope’s bed kept shaking. Penelope stayed under her quilt.

The dresser drawers started to bang. Penelope stayed under her quilt.

The closet doors started to rattle. Penelope stayed under her quilt.

Her teeth chattered, her knees clattered, her heart fluttered and thumped. She shivered and quivered. She trembled and quaked. But the shaking and banging and rattling went on and on...

And on and on and on and on and on and on and on...

And on and on and on and on and on and on and on...

And on and on and on and on and on and on and on...

And on and on...

“Enough!” Penelope shouted, throwing off her quilt and turning on the light.

“Hey, all you monsters! Why don’t you stop hiding if you’re so scary?”

Why don't you come out and scare me?"

Nothing happened.

"If you want to scare me, you'll have to come out and do it now," said Penelope.

Nothing happened.

"I'm waiting," said Penelope.

The dresser drawers opened, and three tiny gnomes hopped out.

Three medium-sized trolls jumped out of the closed.

Three very giant crawled out from under the bed.

They all stared at Penelope. Penelope stared back at them.

You're not very scary at all, said Penelope.

The gnomes and trolls and giants all looked disappointed.

You're actually pretty silly-looking, said Penelope.

The gnomes and trolls and giants all looked insulted.

"In fact," added Penelope, "my father says you don't even exist"

"What?"

The gnomes and trolls and giants all looked furious. They turned their backs on Penelope and held a secret meeting.

Then, without saying even goodbye, they all walked out her bedroom door.

Penelope turned off the light and crawled into bed. She smiled to herself.

"I'm never, ever, not in a million trillion gazillion years going to be afraid of monsters again," she said.

The next night, Penelope's father dresser drawers started to bang.

"No monsters in there. But, shh, we don't want him to know that!"

THE END

Appendix C

STORY: Penelope & the Monsters		OCCURRENCES per student GROUP 1- CONTROL (exposed to printed version)																																				
A	B	L	E	SUBJECTS →		Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8	Subject 9	Subject 10	Subject 11	Subject 12	Subject 13	Subject 14	Subject 15	Subject 16	Subject 17	Subject 18															
T																																						
1	CATEGORY	EXAMPLE																																				
	Words	Hey!						X																														
		yelled							X																													
		shouted							X											X	X	X	X	X														
		Suddenly			X		X		X											X	X	X	X	X														
		AAAAAAAAAA!			X		X		X											X	X	X	X	X														
		Enough!			X					X										X	X	X	X	X														
		Polkwords																																				
		night now																																				
		Of course																																				
		turned off (the light)			X		X		X											X	X	X	X	X														
		The next night					X															X																
		come out							X											X	X	X	X	X														
		go away!																					X															
		Shut the door																																				
		closed the door					X		X											X	X	X	X	X														
		silly-looking																																				
		looked insulted					X																															
		were disappointed																																				
		a tiny/ medium-sized/ large voice			X				X											X	X	X	X	X														
		never, ever																																				
		on and on																				X																
		Never in a million/ trillion/ gazillion/ years						X														X	X	X														
		What is it?																																				
		started to rattle/ bang/ shake			X				X												X	X	X	X														
		We are not... we are			X		X		X												X	X	X	X														
		they only come after you leave																																				
		you don't (even) exist			X																	X	X	X														
		go to sleep			X		X															X	X	X														
		Why don't you																																				
		(look), no monsters (in here)																				X																
		if there are any																				X																
		not (scary) at all																				X																
		(We) don't want (her) to know					X															X																
		if you are																						X														
	TOTAL	WORD COUNT PER WRITING PIECE	9	273	7	216	10	315	5	124	6	150	11	285	6	127	5	163	9	176	8	222	6	183	7	199	10	232	7	276	8	351	9	264	10	176	10	210

STORY: Penelope & the Monsters		GROUP 2 - EXPERIMENTAL (exposed to talking version on IWB)																		
SUBJECTS →		Subject 19	Subject 20	Subject 21	Subject 22	Subject 23	Subject 24	Subject 25	Subject 26	Subject 27	Subject 28	Subject 29	Subject 30	Subject 31	Subject 32	Subject 33	Subject 34	Subject 35	Subject 36	
CATEGORY	EXAMPLE																			
1	Words	X			X					X							X			
2		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
26		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
27		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
28		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
29		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
31		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
33		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
34		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
35		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
36		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TOTAL		18	10	10	18	15	15	10	16	14	12	15	17	9	11	10	13	10	12	
WORD COUNT PER WRITING PIECE		166	150	311	263	299	236	167	222	247	147	274	310	238	221	208	220	162	270	

Apéndice D

STORY: Something Good		GROUP 1 - CONTROL (exposed to printed version)																	
SUBJECTS →		Subject 37	Subject 38	Subject 39	Subject 40	Subject 41	Subject 42	Subject 43	Subject 44	Subject 45	Subject 46	Subject 47	Subject 48	Subject 49	Subject 50	Subject 51	Subject 52	Subject 53	Subject 54
CATEGORY	EXAMPLE																		
Words	<i>Whee!</i>	X	X	X	X	X		X	X			X	X		X	X			
	<i>Mister</i>																		
Polywords	<i>Price-tag</i>	X	X			X			X			X			X	X			
	<i>Cash register</i>	X	X	X				X	X		X	X		X	X	X			
	<i>Up the aisle</i>	X	X			X			X			X				X			
	<i>Down the aisle</i>	X	X			X			X			X							
	<i>Put it (all) back</i>	X	X			X			X			X		X	X	X			
	<i>Stay / stand here/ there</i>																	X	X
	<i>Affer all</i>	X													X				
Collocations	<i>Big trouble</i>																		
	<i>Sugary junk</i>		X		X			X			X		X		X		X		X
	<i>A big hug / kiss</i>		X								X		X		X				
	<i>Good food</i>					X		X									X	X	X
	<i>Chocolate bars</i>	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
	<i>Ginger ale</i>		X					X	X			X	X	X	X	X	X	X	X
	<i>Boxes of ice cream</i>	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X
	<i>something good</i>									X									
	<i>Nothing (any) good</i>					X								X					
Fixed expressions																			
Semi-fixed expressions	<i>It's (all) your fault</i>			X									X	X	X	X			
	<i>I have ever seen</i>		X										X	X	X	X			X
	<i>Don't you think...?</i>				X														
	<i>I'm worth...</i>																		
	<i>It's alive!</i>					X			X					X	X	X			
	<i>People are trying/want/ried to buy me</i>																		
	<i>This/She is my (own) kid /daughter</i>																		
	<i>What are you doing on that she's?</i>																		
	<i>I won't let anyone buy you</i>																		
	<i>You have to pay</i>		X	X	X						X					X			
TOTAL OCCURRENCES PER STUDENT		9	12	8	9	8	2	7	9	3	6	8	10	8	10	11	5	3	10
WORD COUNT PER WRITING PIECE		249	229	201	158	226	72	202	210	92	329	203	192	272	283	278	207	229	196

STORY: Something Good		GROUP 2 - EXPERIMENTAL (exposed to talking version on IWB)																			
SUBJECTS →		Subj 19	Subj 20	Subj 21	Subj 22	Subj 23	Subj 24	Subj 25	Subj 26	Subj 27	Subj 28	Subj 29	Subj 30	Subj 31	Subj 32	Subj 33	Subj 34	Subj 35	Subj 36		
CATEGORY	EXAMPLE																				
Words	Yikes! Mister	X		X	X	X	X			X			X	X	X	X	X			X	
Polysyllabic words	price-tag Cash register	X				X				X	X	X	X	X	X	X	X	X	X		X
	Up the aisle Down the aisle put (it all) back Stay/ Stand here After all		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Collocations	Big trouble sugary junk A big hug / kiss Good food Chocolate bars Ginger ale Boxes of ice cream Something good Nothing (any) good	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fixed expressions																					
Semi-fixed expressions	It's all your fault I have everseen Don't you think...? I'm worth... It's alive! People are trying/want/ried to buy me This/She is my (own) kid/daughter What are you doing on that shelf? I won't let anyone buy you You have to pay	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TOTAL OCCURRENCES PER STUDENT		12	8	14	18	11	9	5	5	16	11	8	14	12	18	12	15	7	11		
WORD COUNT PER WRITING PIECE		207	174	285	355	346	178	185	182	318	314	271	294	247	331	305	459	191	203		

T
A
B
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E
4

Appendix E

Word Bank “Penelope and the Monsters”

trolls – giants – gnomes – came out of – closet – chest of drawers – bed – shook – banged – rattled

Word Bank “Something Good”

Tyya - daughter - shopping - store – cart - lady - trouble - shelf- cashier – bought – paid - hugged