

MULTILITERACIES, INFORMATION ECOLOGY AND THE DIGITAL BOOK: EFL STUDENTS' PERCEPTION OF TECHNOLOGY

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RESUMO: Apesar de a tecnologia existir na sala de aula de língua inglesa há muito tempo, somente recentemente o uso da tecnologia passou a ser pesquisado com maior frequência. Desde que o uso de computadores na aprendizagem de língua inglesa passou a ser um dos itens essenciais, muito tem sido revelado sobre o ensino e a aprendizagem mediada por computador. O livro digital (LD) está no mercado há pelo menos seis anos, porém, muito pouco ou quase nada existe em relação ao uso desse instrumento. Esta pesquisa visa preencher essa lacuna. Os conceitos de multiletramento e informação da ecologia suportam teoricamente esta pesquisa. Enquanto o letramento enfatiza o texto somente, a pedagogia de multiletramentos enfoca modos de representação mais amplos que somente o uso da língua. Esses são diferentes de acordo com a cultura e o contexto, e tem efeitos cognitivos, culturais e sociais específicos. A informação da ecologia, por outro lado, é definida como um sistema de pessoas, práticas, valores e tecnologias em um determinado ambiente local. O enfoque não é na tecnologia, mas nas atividades humanas servidas pela tecnologia. As perguntas de pesquisa que motivaram este trabalho de pesquisa foram: a) Os alunos gostam do uso do LD na sala de aula? b) O LD faz alguma diferença na participação/motivação dos alunos? c) O LD tem algum impacto na aprendizagem? Um questionário foi elaborado e distribuído a 30 alunos do curso de graduação em Letras com Inglês que estavam no terceiro semestre do curso. Os dados foram coletados em sala de aula e analisados manualmente devido ao pequeno número de participantes. Os resultados mostram que o LD é considerado um instrumento valioso para a aprendizagem e ajuda os aprendizes a participar mais na aula e a manter o foco no que está sendo ensinado. Além disso, os alunos concordam que as aulas se tornam mais interativas e que as imagens e som são de extrema importância para o processo de aprendizagem deles. Alguns alunos, entretanto, afirmaram que o professor tem um papel significativo na motivação para estudar inglês.

PALAVRAS-CHAVE: multiletramento; informação da ecologia; livro digital.

ABSTRACT: *Technology has been used in the ELT classroom for a long time but only recently has it become the focus of research. Ever since CALL became one of the main resources, much has been revealed about e-teaching and e-learning. The digital book (DB) has been in the market for the past six years, however, little has been discussed regarding the effect of the DB in the English classroom. This research project aims to fill this gap. The concepts of multiliteracies and information ecology underpin the discussion presented here. While literacy concentrates on the use of text only, a pedagogy of multiliteracies focuses on modes of representation much broader than language alone. These differ according to culture and context, and have specific cognitive, cultural, and social effects. Information ecology, on the other hand, is defined as a system of people, practices, values, and technologies in a particular local environment. The focus is not on technology but on human activities served by technology. The research questions which motivated this paper were: a) Do students enjoy the use of the DB in class? b) Does the DB make any difference in their motivation/class participation? c) Does the DB have any impact in their learning? A questionnaire was designed in order to identify how thirty students enrolled in the third*

semester of English at a public university perceived the use of the DB. Data was collected in class and analyzed manually given the small number of participants. The results show that the DB is considered a highly valuable learning tool and it helps learners to participate more in class as well as to focus on what is being taught. In addition, students agree that classes become more interactive and that images and sound are of crucial importance in their learning process. A few students, however, stated that the teacher is also a significant factor in their motivation to study English.

KEYWORDS: *multiliteracies; information ecology; digital book.*

Introduction

Technology has been present in the English as a Foreign Language (EFL, henceforth) classroom for a long time. In the twentieth century video players and tape recorders were commonly used and later on, with the advance of the internet and other technological devices, textbooks have appeared in the market accompanied by more and more technological resources. The interactive whiteboard (IWB, henceforth), for example, brought new possibilities and new modes of learning in the classroom. However, as Oliveira (2010) pointed out, no transformation will take place if teachers use technology with a banking concept of education (FREIRE, 1970). Technology implies collaboration among participants. Most importantly, its use requires a new way of learning, understanding and teaching literacy in EFL.

Traditionally, literacy is the ability to read and write official, standard forms of the national language (NEW LONDON GROUP, 1996). However, when learning takes place digitally, there is a lot more involved than text and one language variety. In addition, words, images and sounds are very often juxtaposed and integrated. “If you can’t read the images, you will not be able to recover their meanings from the words in the text alone” (GEE, 2007, p. 17). Thus, there is a need for a new understanding of literacy so as to include the multimodality aspect which characterizes the digital world and, in the case of this paper, the digital book (DB, henceforth). The concept of multiliteracies proposed by the New London Group (1996) has been adopted in order to theoretically support the findings. It “assumes multiple worlds communicated in multiple ways” (LOTHERINGTON, 2007, p.893).

Nevertheless, technology alone will not do the trick. In addition to understanding the complexity of e-teaching and e-learning, one cannot forget that what is going on in the classroom is also being mediated by the human beings involved in the process. As a result, the information ecology of the classroom must also be taken into account.

The objective of this paper is, therefore, to identify how the use of the DB affects students’ motivation, participation, and consequently, learning in the EFL classroom. The participants in this research were 30 students in the third semester of English at a public university in Salvador, Bahia, Brazil.

First, the concepts of the pedagogy of multiliteracies and information ecology will be displayed so as to give support to the empirical data discussed later. A description of the DB used is also presented. Non-surprisingly, students agree that the DB is an important tool for their learning and its systematic use in class contributes to increased participation, engagement and interaction. Nonetheless, the role of the teacher as a motivating factor has also been pointed out by some of the students who participated in the research.

Multiliteracies

Given the complexity of what is involved in reading and writing in the Information Age, the concept of pedagogy of multiliteracies has been put forward by the New London Group (1996). According to the members of the group, a pedagogy of multiliteracies should account for the cultural and linguistic diversity encountered in an increasingly globalized world as well as the variety of text forms associated with information and multimedia technologies.

This includes an understanding and competent control of representational forms that are becoming increasingly significant in the overall communications environment, such as visual images and their relationship to the written word - for instance, visual design in desktop publishing or the interface of visual and linguistic meaning in multimedia. Indeed, this second point relates closely back to the first; the proliferation of communications channels and media supports and extends cultural and subcultural diversity. (NEW LONDON GROUP, 1996, p.61)

While literacy focuses on the mastering of sound-letter correspondence, multiliteracies involve a broader field which includes the visual and other modes of meaning-making. As a consequence, according to Cope and Kalantzis (2000, p. 5), the pedagogy of multiliteracies leads to a kind of teaching in which “language and other modes of meaning are dynamic representational resources, constantly being remade by their users as they work to achieve their various cultural purposes.” This means that learners are not only learning the words and syntax of the language or using their cognitive skills to read but are also engaged in other modes of learning. The teacher, on the other hand, must be attentive to how learners are working with multisemiotic texts so as to help them increase their awareness of the learning that is taking place in the classroom.

New technologies imply new forms of learning and meaning-making. As a result, pedagogy cannot ignore these advances and teaching cannot be restricted to the use of paper and pen. According to Kellner (2002), computer literacy involves more than technical knowledge and skills. It also involves a refined reading, writing, research and communicating ability, and visual literacy takes on increased importance. “Visuality is obviously crucial, compelling users to quickly scan visual fields, perceive and interact with icons, and graphics.” (KELLNER, 2002, p. 162). Therefore, teaching EFL with a DB requires that learners process more than written text. They must simultaneously read and

interpret images, graphics, animation and text. According to Gee (2007, p. 17), “the images often communicate different things from the words.”

The New London Group (1996) proposes the concept of Design as a cornerstone for the pedagogy of multiliteracies. The term is used to describe the process (teachers as designers of the learning process) as well as “the forms of meaning because it is free of the negative associations for teachers of terms such as ‘grammar’ ” (NEW LONDON GROUP, 1996, p. 69). Consequently, using language is a matter of Design composed of three elements: a) Available Designs: the grammar of various semiotic systems available and “orders of discourse”. According to Fairclough (2000, p. 170), “an order of discourse is a set of discursive practices associated with an institution or social domain, and the particular relationships and boundaries which obtain between these practices.” In the case of the utilization of the DB as a learning tool, the order of discourse of the classroom includes such discursive practices as reading a text that is projected on a screen, listening to it and, at the same time, engaging in conversation regarding the images, the sound, and the text. The concept of orders of discourse is thus extended to include “combinations of modes of meaning and shifts across modes of meaning within the dynamic movements of orders of discourse” (FAIRCLOUGH, 2000, p. 173); b) Designing: “the process of shaping emergent meaning involves re-presentation and recontextualisation. Reading, seeing and listening are all instances of Designing” (NEW LONDON GROUP, 1996, p. 72). It involves making new use of old material. Listeners and readers produce (design) texts based on their own interests and life experiences thus transforming what has been received in the form of Available Design into The Redesigned; c) The Redesigned: Once the reader or listener redesigns a new text, it becomes available as new Available Designs. However, it is never a reproduction of the old Available Design. “It is the unique production of human agency: a transformed meaning” (NEW LONDON GROUP, 1996, p. 73).

While the use of technology requires new ways of looking into teaching and learning, and the adoption of new terminologies and attitudes, it is also true that the classroom is an environment in which human activities are still the most important elements. In addition, as it has been said over and over again, technology in itself does not lead to better teaching and learning but rather it is the ability of those involved in the teaching and learning process to use technology that affects the whole process of second language acquisition positively or negatively.

Information ecology

According to Nardi and O’Day (1999, p. 49), information ecology is “a system of people, practices, values and technologies in a particular local environment.” The human activities are served by technology and not the other way around. The authors give as examples of information ecologies a library, a hospital intensive care unit and a self-service copy shop. All three places have in common the fact that machines and people interact guided by the values of the people involved. “Technologies are carefully integrated into existing habits and practices, according to the values of the information ecology” (NARDI; O’DAY, 1999, p. 50).

In an EFL classroom, the DB and other technological devices should then serve the purpose of enhancing learning according to the values established by the group. As an example of information ecology, the EFL classroom displays the inherent properties of an ecology as described by Nardi and O'Day (1999): a) it is a complex system; b) it exhibits diversity and is in constant evolution; c) different parts coevolve changing according to the relationships in the system; d) keystone species necessary to the survival of the ecology are present; e) it has a sense of locality.

System

Likewise other complex systems, the EFL classroom is marked by strong interrelationships and dependencies among teacher, learners and materials. Although different, all three elements are closely linked in order for success to be achieved.

According to Nardi and O'Day (1999, p. 51), "change in an ecology is systemic". This means that if one element is changed, the whole system will feel the change. Therefore, using a DB, rather than a regular paper book, implies that a certain change in attitude is necessary on the part of both teacher and students. Fortunately, in the case of the group who took part in this research, the change was beneficial since they feel that the DB encourages interaction and promotes meaningful learning.

Diversity

In the EFL classroom there are different kinds of students with different learning styles in the same way that in information ecology different kinds of people use different kinds of tools. "A diverse information ecology is a lively, human, intensely social place, even if it incorporates very advanced technologies. It has many different resources and materials and allows for individual proclivities and interests." (NARDI; O'DAY, 1999, p. 52).

The DB caters for different learning styles and, as mentioned in the previous section, requires a multimodal approach to teaching and learning. Students were unanimous in affirming that the visual support provided by the DB helped them learn better.

Coevolution

Change is key in ecology. Species adapt according to changes in the environment. The EFL classroom is not different. Changes in materials and methods are a constant and the people involved in the teaching and learning process should be able to learn and adapt and create. "The social and technical aspects of an environment *coevolve*. People's activities and tools adjust and are adjusted in relation to each other, always attempting and

never quite achieving a perfect fit.” (NARDI; O’DAY, 1999, p. 53. Emphasis in the original.)

Among the myths about technology, one is that technology will replace language teachers. According to Blake (2008, p. 14) “technology will not replace teachers in the future, but rather teachers who use technology will probably replace teachers who do not.” Therefore, teachers need to evolve in the same way everything else evolves in our environment. The DB is not such a complex tool that will require spending hours to learn how to use it. In addition, it is like any other technology available which we end up learning by doing as it has happened with cell phones, I-pads and PCs.

Keystone species

Any ecological system requires the presence of keystone species without whom the whole system can be destroyed. In information ecologies, these keystone species are the people who know how to use the technology adopted. Effective use of technology can only be achieved with adequate training. In the EFL classroom, the teacher is the mediator and the keystone species. However, as mentioned before, it is important to know how to use technology and understand that the DB alone, for example, will not solve all the problems inherent in the process of learning a second language such as English.

Locality

“Locality is a particularly important attribute of information ecologies” (NARDI; O’DAY, 1999, p. 55) . Only the members of a certain system have access to inside information which is not available to outsiders. The choice of technology and the role it plays can only be determined by the members of the group. In the EFL classroom, the teacher should be aware of the role the DB plays in the learning process. It has a place which is located within a network of relationships and should not be adopted blindly as if its use could be the answer to successful learning.

The EFL classroom is, therefore, an example of information ecology in which technology plays an important role but does not replace the human activities which take place among participants every day. As shown in the diagram below, the emergence of new technologies unleash creativity and different forms of interaction which, in turn,

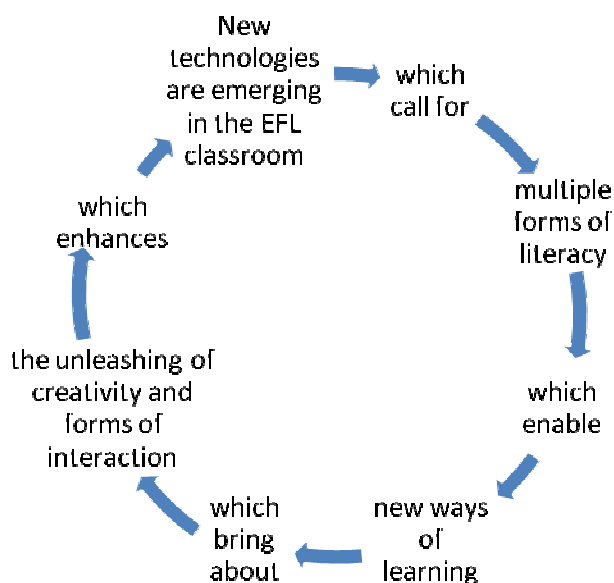


Fig. 1 - The virtuous cycle of information ecology (Adapted from: The Virtuous cycle of knowledge ecology (PÓR; MOLLOY, 2000)

will lead to the creation of still other new forms of technology. It also enables new ways of learning which require multiliteracies. As Nardi and O'Day (1999, p.1) point out, "it is possible to use technology with pleasure and grace if we make thoughtful decisions in the context of our 'local habitations', to borrow Shakespeare's phrase."

The digital book

Differently from other types of e-books, the DB used to teach English at the public university where this research was conducted is a CD-ROM which

allows the teacher to access and display an interactive version of any page from the Coursebook in front of the class. All of the relevant audio, video and reference materials are instantly accessible right on the page. This digital material is ready to use, requiring no preparation from the teacher, and is designed to help the flow of the lesson. (www.macmillanenglish.com/global)

As the description taken from the textbook website presents it, the DB helps the flow of the lesson. It has been designed to be used with IWBs, however, due to the fact that the university does not have an IWB, a LDC projector is used in order to display the image on a pull-down screen or on a regular white board. The figure below shows what the image looks like when displayed to students in the classroom.



Fig. 2 – A lesson page from the DB Global Pre Intermediate (www.macmillanenglish.com/global)

In addition to the coursebook pages, video and audio, the DB also brings a Teacher's area, “ a digital ‘blank canvas’ which can be accessed at any point during a lesson. The teacher can build up a complete repository of teacher and student-generated material to support each unit of the Coursebook.” (www.macmillanenglish.com/global). There are also digital games templates which can be customized with teacher's own content. Figure 3 below depicts a teacher's area page with an activity prepared for an elementary class.

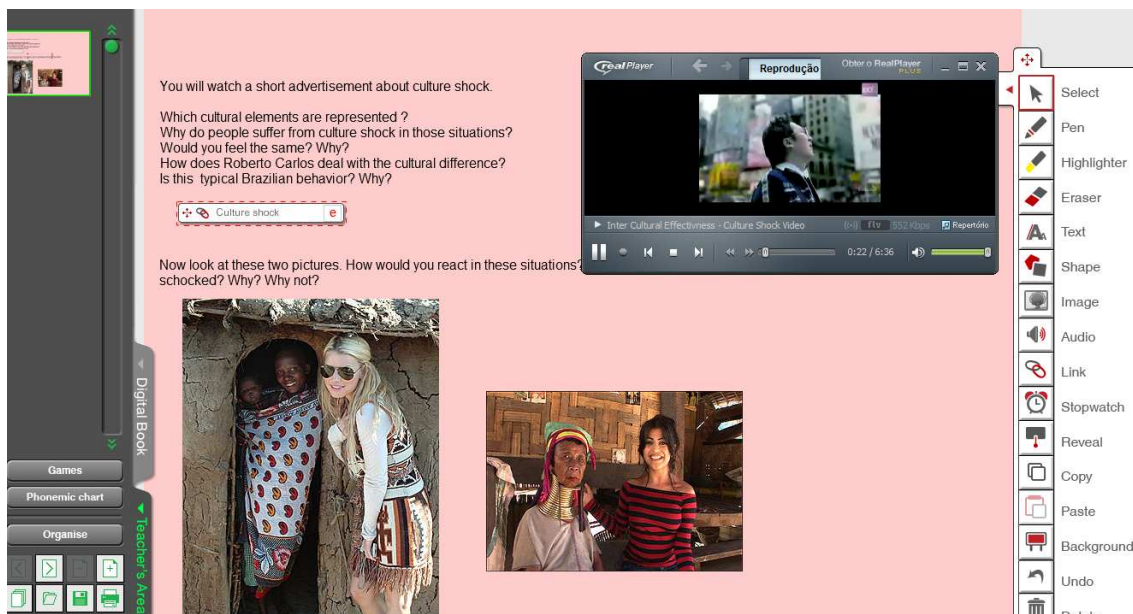


Fig. 3 – A teacher's area page (Source: Original)

It is clear from the figures presented that the DB fits Gee's definition of a semiotic domain. According to Gee (2007, p. 19):

By a semiotic domain I mean any set of practices that recruits one or more modalities (e.g. oral or written language, images, equations, symbols, sounds, gestures, graphs, artifacts, etc.) to communicate distinctive types of meaning.

Technology in modern societies creates new semiotic domains which, in turn, require new ways of learning. Gee (2007) proposes two types of learning: a) active learning and b) critical learning. While active learning involves experiencing the world in new ways, forming new affiliations and preparation for future learning, critical learning implies that

the learner needs to learn not only how to understand and produce meanings in a particular semiotic domain but, in addition, needs to learn how to think about the domain at a “meta” level as a complex system of interrelated parts. The learner also needs to learn how to innovate the domain – how to produce meanings that, while recognizable to experts in the domain, are seen as somehow novel or unpredictable. (GEE, 2007, p. 25)

The DB contains all the elements which require a multimodal type of learning and, consequently, a pedagogy of multiliteracies, in addition to being one of the ‘species’ which compose the information ecology in the EFL classroom.

At the beginning of the semester, most students do not have their textbooks yet, so the DB is the only source available to teach the lessons. Learners have to get used to reading from the image projected on the screen as well as working with the activities proposed. Once they have their books, students use both their paper books and/or the DB depending on the activity.¹

Research questions

Given that, to my knowledge, little, or no research has been done in the use of the DB in the EFL classroom, this study intends to fill this gap. The multimodal nature of the material led to the belief that students were capable of using their senses and both active and critical learning skills in order to achieve their goals. In addition, the learning environment becomes an information ecology since human activities are served by technology and not the other way around.

The following research questions were posed:

1. Do students enjoy the use of the DB in class?
2. Does the DB make any difference in their motivation/class participation?
3. Does the DB have any impact in their learning?

¹ Books are sold at the university during the first week of classes by a local bookstore. The price of the book, however, prevents low-income students from acquiring the material. Thus, for those students, the DB is the only resource available in class. This information was obtained through the answers to the questions in Part B of the questionnaire .(See Appendix.)

Method

In order to understand the relationship between the use of the DB and students' learning, a questionnaire was devised based on the principles of multiliteracies and information ecology. The objective was to understand the role of this technological device in conjunction with the role of the teacher in the EFL classroom.

Participants

The subject sample consisted of thirty students who voluntarily participated in the study and were in the third semester of English at a public university in Salvador, Bahia, Brazil. Fifteen of them had been attending my classes for all three semesters in which the DB was used. None of the other professors use the DB at the university, so the rest of the group was presented to this material for the first time that semester. At this university, students who are majoring in English or English and Portuguese must attend three 102-hour semesters of English. The overall proficiency level by the end of the third semester is B1. The age of participants ranged between 18 and 40 years old but the great majority was in their twenties. 80 % of the participants were female and 20% were male.

Information-gathering instrument

A questionnaire was designed to collect information regarding students' attitude and understanding of the use of the DB (See Appendix). The questions were written based on the hypotheses that the DB motivates students and engages their attention which, in turn, enhances their learning. The concept of multiliteracies was also taken into account since the DB provides a multimodal learning environment. Only parts A (data presented in the previous section) and C of the questionnaire are discussed here. Part B was included as background information so as to find out how many students actually used the e-workbook, which accompanies the textbook, and whether they knew how to use it. As mentioned in footnote 1, Part B also provided information as to why some students had not purchased the material. Given the focus of this article, the data collected regarding Part B will not be fully discussed here.

The questionnaire was written in Portuguese in order to avoid any kind of language misunderstanding. As mentioned above, the proficiency level of the participating subjects is B1, which allows them to understand the questions if written in English, but not necessarily express their ideas fully in written form in that language.

Procedures

Towards the end of the semester, I set aside one day in the class schedule to talk to students about the research project and to ask who wanted to take part in it. All of the students present in class that day² agreed it would be a great opportunity for them to reflect on the subject, i.e., the use of the DB in the EFL classroom. The questionnaire was handed out and students had as much time as needed to fill it out. While writing down their

² There was a total of 35 students in this group but five were absent that day, thus, n= 30.

answers they all had a chance to ask clarification questions in case they were not sure of what to say. Clarification, however, did not mean answering questions for the students but simply paraphrasing the questions.

The questionnaires were collected at the end of the session, read and tallied manually. The small sample did not require the use of more sophisticated statistical treatment.

Results

As mentioned above, given the focus of this article, only the questions in Part C are presented and discussed here. The small sample justifies the presentation of results in table format rather than graphs and text, which would turn this section quite repetitive. The questions are reproduced here in English as well as the answers but they were all originally written in Portuguese. Only the percentages of positive answers are presented on the table. The reasons given were grouped according to topic and only the reasons given by at least 80% of the students were considered. If a reason was given by less than 20%, it was not considered relevant enough for this study due to the small sample. The negative answers are presented in the discussion.

Questions	% of students who answered the question positively	% of students who provided no explanation for an answer	Reasons given
Q. 1: Which technologies do you find in the classroom?	100% of the students could identify all technological devices found in the classroom, i.e. computer/notebook, LDC projector, loudspeakers, internet, videos and audio but none of them actually mentioned the DB as an example of technology. Two students mistakenly referred to it as e-workbook. ³		
Q 2. Do you like the way the DB is used in class?	100%	13%	Classes are more interactive and dynamic; it helps me focus on the lesson; it's more practical;

³ The e-workbook is a CD ROM which accompanies the book but is not used in the classroom. It is meant as supplementary material for students to develop their language skills at home or in a lab.

			it's easier to learn with it.
Q 3. Does the DB help you learn better?	100%	15 %	Language problems are solved collectively; it's interactive; it's better to visualize content; more people participate in the activities.
Q 4. Does the DB make you participate more actively in class?	90%	33%	Everyone takes part in the activities; there's more interaction.
Q 5. Does the DB make you pay more attention in class?	90%	33%	It becomes the focus; it's bigger than the book; it's interactive; images and answers help a lot; it helps follow the class better.
Q 6. Do you feel more motivated in class because of the DB?	80%	26%	There's more interaction; classes are different; classes are more interesting; the student learns what he sees; it's easier to pay attention.
Q 7. Are English classes with the DB different from other English classes you've had here at the university?	84%	16%	Past classes had no video or visual aids; classes now are more interactive; with the book only students were isolated.

Table 1 – Answers given by students to questions in Part C of the questionnaire

Discussion

This study explored the impact of the use of the DB in the EFL classroom. The data obtained through a questionnaire was presented and are now discussed in what follows according to each research question. It should be noted that because this is the only study⁴, to my knowledge, that investigated the use of the DB, no reference to earlier studies can be made. The theoretical framework chosen, i.e., the pedagogy of multiliteracies and information ecology, seem to explain the answers provided by students. Moreover, the

⁴ Cf. Kalantzis-Cope; Gherab-Martín, 2011.

results presented in the previous section appear to suggest that the use of the DB in the EFL classroom affects learning in a positive manner.

The first research question sought to determine whether students liked the use of the DB in class. Overall, the results show that all the participants enjoyed not only the way the DB was used in class, but also agreed that this type of material makes learning English easier and more enjoyable. The students who had never experienced classes with the DB mentioned that they felt isolated when teachers used the book only. Thus, a sense of community is built and the information ecology principles apply. Furthermore, learners also mention the dynamics of the lessons as another positive point regarding the use of the DB.

Other studies have pointed out the advantages of using technology in the classroom and have described a number of positive effects in second language learning (ERBEN; BAN; CASTAÑEDA, 2009). Although these studies did not explicitly mention the use of the DB, the conclusion reached by the authors may be expanded to the DB as an example of technology.

The second question addressed the issue of motivation and class participation in relation to the use of the DB. Once again, the great majority of the students affirmed that they feel more motivated to participate during the lessons especially because the lessons are more interactive. In fact, the words “interaction” and “interactive” appear in 95% of the answers which indicate that there is an increase in participation on the part of students. Interestingly enough, a few students emphasized the fact that their motivation depends on the topic and that the teacher is the key factor rather than the DB itself. It seems that for some students, information ecology is indeed at work, i.e., the DB helps mediate human activities rather than being the sole element in the classroom. The class is still learning-centered not technology-centered.

Regarding motivation and technology, a study with 350 students at a Turkish university also revealed that participants responded positively to the use of technology in the EFL classroom (BINNUR, 2009). The author concluded that “there is great relation between language learning motivational factors and using technology” (BINNUR, 2009, p. 17). Moreover, a survey with 358 students of beginning Spanish classes using a combination of technologies show that students attribute an important role to instructors but were divided in their perceptions about the learning or interest values of the individual components. The author reports that technologically equipped classrooms increase students’ motivation because of the interactive nature of the activities (STEPP-GREANY, 2002).

Finally, the third question addressed the impact on students’ learning. The intent here was not to measure their learning but to identify their perception as to whether the DB affected their learning in any manner.

It is possible to say that students are unanimous regarding the positive effect of the DB in their learning. Due to its multimodal nature, the DB enhances visual learning and this is revealed by some of the answers to questions 3, 5 and 6: “students learn what they see”; “images and answers help a lot”; “it’s better to visualize content”. Multimodal materials require a pedagogy of multiliteracies since they involve visual and other modes of meaning-making. The Available Designs (or the grammar of the semiotic systems available, in this case the DB) is recontextualized based on the learners own interest and experiences thus becoming the Redesigned, or transformed meaning. Furthermore, language problems are solved collectively, as mentioned by one of the students, which increases attention and participation.

A very positive effect of the use of interactive whiteboards (which is, in many ways very similar to a DB) on visual learning and student engagement was found by Beeland, Jr., Instructional Technology Coordinator and School Improvement Steering Committee Chairperson in Forsyth, Georgia in an action research study carried out in 2002 with 194 students and 10 teachers. The author concluded that,

interactive whiteboards can be used in the classroom to increase student engagement during the learning process. This information will be helpful to schools and school system leaders as important decisions are made regarding future spending of technology funding. [...] Based on the results of this study, I would recommend that interactive whiteboards be purchased with the intention that they be permanently housed within a classroom. (BEELAND, JR. 2002, p. 6)

In a nutshell, it can be said that the use of the DB engages students, increases participation and attention, and promotes interaction among the members of the class.

Conclusion

The descriptive survey presented here had as its main aim to investigate the effect of the DB as an instructional tool. The concepts of multiliteracies and information ecology shed light into some important aspects such as the multimodal nature of the material which, in turn, requires a different view of teaching and learning given that learners will have to engage in more than one mode of meaning making at a time and the relationship among the members of the classroom with one another and technology.

The results must be interpreted with caution due to the small number of participants. However, supported by other findings in the field of technology and language learning, it can be said that the use of the DB does have a positive effect on learning and should be adopted by more teachers in the EFL classroom at the university where this investigation took place.

In sum, it can be said that the findings reported in this article contribute to the literature on the use of technology in the EFL classroom, more specifically, the digital book, which has not received much attention in second language acquisition or technology-use literature.

To conclude, I highly encourage teachers to use the DB cautioning them, however, that technology is not the answer to all the problems they might face in their classrooms. As said before, it is not technology that will replace teachers, but teachers who know how to use technology that will replace teachers who do not (GEE, 2007). As technology revolutionizes the way people interact and learn, EFL teachers, especially at a university course which educates future English teachers, should take advantage of all the technology available in order to provide these future professionals with a strong foundation in the use of technology as a powerful learning tool.

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APPENDIX - QUESTIONNAIRE

Sua contribuição nesta pesquisa será essencial para que ela seja bem sucedida. Obrigado por participar!

PARTE A

Sexo: M() F() **Idade:** _____ anos

No. de semestres em minha turma: 1() 2() 3()

PARTE B

Marque a(s) afirmativa(s) que for(em) verdadeira(s) para você.

- () Posso computador em casa.
- () Posso o e-workbook.
- () Utilizo o e-workbook para praticar/aprender inglês com frequência.
- () Sei utilizar o e-workbook e exploro todas as suas possibilidades.
- () Utilizo a internet para praticar/aprender inglês com frequência.
- () É melhor estudar/aprender inglês com as atividades do e-workbook do que com as atividades do livro.
- () Me sinto mais motivado em aprender/estudar inglês por causa do e-workbook.

ANOTE AQUI:

1. Por que não possui o e-workbook?

2. Por que não explora mais/utiliza pouco o e-workbook?

3. Como utiliza a internet para praticar/aprender inglês?

PARTE C

Responda as perguntas de forma breve.

1. Que tecnologias você encontra nas suas aulas de inglês?
2. Você gosta do uso do DB? Sim () Não () Por que?
3. O DB ajuda você a aprender melhor? Sim () Não () Por que?
4. O DB faz você participar mais da aula? Sim () Não () Por que?
5. O DB faz você prestar mais atenção na aula? Sim () Não () Por que?
6. Você se sente mais motivado nas aulas de inglês por causa do DB?
Sim () Não () Por que?
7. Você acha as aulas de inglês com o DB diferentes das outras aulas de inglês que você teve aqui na universidade? Sim () Não () Explique. (Use a parte de trás da folha).