# Literacies and digital gaming: negotiating meanings in english language teacher education

Vanderlei J. Zacchi*

**Abstract**

Digital epistemologies in the area of literacies and language teaching are becoming increasingly important, due to the radical transformations that our society is undergoing as a result of the advent of the new technologies of communication and of processes linked to globalization. It is a quite relevant and pressing issue, since children and the youth are coming to school in possession of a great deal of knowledge about and competence with digital tools and discourses. On the other hand, there are still a great number of students that lack digital literacy and face difficulties in reading from the screen. Taking into account the fact that the research on digital games and language teaching in Brazil is very incipient, the aim of this article is to examine ways that literacies and digital games can be combined to improve English language teaching in Sergipe and Brazil. Connecting all these topics may bring innovative results with potential to be applied to English language teaching and teacher education and solidify the research in this area.

**Keywords**: English language teacher education; literacies; digital games

1 Doutor em Estudos Linguísticos e Literários em Inglês pela Universidade de São Paulo (2009). Professor adjunto da Universidade Federal de Sergipe e associado adjunto no Centre for Globalization and Cultural Studies da Universidade de Manitoba, Canadá. E-mail: vanderlei.ufs@gmail.com

## Letramentos e jogos digitais: negociando sentidos na formação de professores de língua inglesa

**Resumo**

Epistemologias digitais na área dos letramentos e do ensino de línguas estão se tornando cada vez mais importantes, devido às transformações radicais pelas quais nossa sociedade está passando como resultado do advento das novas tecnologias de comunicação e de processos vinculados à globalização. É uma questão muito relevante e urgente, já que as crianças e jovens estão chegando às escolas em posse de um vasto conhecimento sobre, e competência em, ferramentas e discursos digitais. Por outro lado, há um grande número de alunos deficitários no letramento digital e que encontram dificuldades na leitura de textos digitais. Levando-se em conta o fato de que a pesquisa envolvendo jogos digitais e ensino de línguas no Brasil é ainda incipiente, o objetivo principal deste trabalho é examinar maneiras de se combinar letramentos e jogos digitais para o aprimoramento do ensino de inglês em Sergipe e no Brasil. Conectar todos esses tópicos pode trazer resultados inovadores no ensino de inglês e na formação de professores, além de solidificar a pesquisa na área, principalmente em relação aos jogos digitais.

**Palavras-chave**: formação de professores de inglês; letramentos; jogos digitais

## Lectoescrituras y juegos digitales: negociando sentidos en la formación de profesores de lengua inglesa

**Resúmen**

Las epistemologías digitales en el área de las lectoescrituras y la enseñanza de idiomas se están volviendo cada vez más importantes debido a las transformaciones radicales por las que nuestra sociedad está pasando como resultado del advenimiento de las nuevas tecnologías de comunicación y de procesos vinculados a la globalización. Es una cuestión muy relevante y urgente, puesto que los niños y jóvenes están llegando a las escuelas en posesión de un amplio conocimiento sobre, y competencia en, herramientas y discursos digitales. Por otro lado, hay todavía un gran número de alumnos deficitarios en la lectoescritura digital y que encuentran dificultades en la lectura de textos digitales. El objetivo principal de este trabajo es examinar maneras de combinar lectoescrituras y juegos digitales para el perfeccionamiento de la enseñanza de inglés en Sergipe y Brasil, aunque se tiene en cuenta el hecho de que la investigación involucrando juegos digitales y enseñanza de lenguas en Brasil es aún incipiente. Conectar todos estos tópicos puede traer resultados innovadores en la enseñanza del inglés y en la formación de profesores, además de solidificar la investigación en el área, principalmente en relación a los juegos digitales.

**Palabras clave**: formación de profesores de inglés; lectoescrituras; juegos digitales
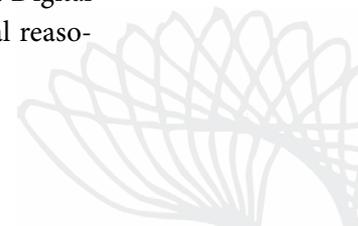
## *Introduction*

Digital games and other technologies are said to be very useful tools in the English language classroom. More than that, they may even be considered revolutionary and the solution for most pedagogical problems. What is usually overseen, in this case, is that the adoption of technology alone does not cause any substantial changes to teaching. So switching from print text to PDF, for example, does not really challenge traditional pedagogies, since the principles of teaching remain the same. Similarly, the use of computer games like crossword or hangman (ZACCHI, 2014b) for teaching vocabulary is not revolutionary at all. Even complex digital games may not be a source of change if teachers keep relying on traditional methodologies, especially if they focus on vocabulary and grammar or if they still think of English teaching as based on four self sufficient abilities (BRASIL, 2006).

Digital epistemologies in the area of literacies and language teaching are becoming increasingly important, due to the radical transformations that our society is undergoing as a result of the advent of new technologies of communication and of processes linked to globalization. It is a quite relevant and pressing issue, since children and the youth are coming to school in possession of a great deal of knowledge about and competence with digital tools and discourses. Taking advantage of such knowledge is highly desirable for schools, although they might usually face some difficulty in keeping up pace with students' performances. This is the reason why Kalantzis and Cope's proposal "to rethink the enterprise of education" (NEW..., 2015) becomes so important and relevant.

On the other hand, there are still a great number of students that lack digital literacy and face difficulties in reading from the screen. A study from the Organization for Economic Cooperation and Development (OECD) found out that Brazilian students rank poorly when it comes to reading on the internet. According to the survey, involving students from thirty-one countries, only students from the United Arab Emirates and Colombia ranked worse than the Brazilian ones (FERNANDES, 2015). Improving these students' digital literacy is undoubtedly a major challenge to be tackled, since "Simply having access at home or at school does not guarantee students opportunities for literacy learning" (SNYDER, 2008, p. 167).

The research on digital games and language teaching in Brazil is also very incipient. Perhaps, our greatest challenge, as with other theoretical frameworks and epistemologies, is to develop our own frameworks, based on local contexts and practices, in the attempt to answer local, relevant questions and challenges. The video game industry is largely based in the United States and, consequently, disseminates US values and ideas. However, as with other mass cultural items, such as hip hop (PENNYCOOK, 2007), the idea is not so much to analyse games as cultural products, but mainly to investigate how they are taken and ressignified in local contexts, or how Brazilian players come to make meaning out of them (FRANCISCO; ZACCHI, 2018; ZACCHI, 2015a).

So, overall, in this paper, there are two aspects that deserve special attention. First, digital games and other digital technologies are not only tools to be used in classroom, nor are they simply an "upgrade" from previous technologies, as exemplified above. Digital games in particular present new possibilities for interaction, leisure and logical reaso-

ning. The task then is to seek ways to bring these features to education, like developing collaborative, group work.

The second aspect is related to multimodality and multiliteracies, involving multiple ways of making meaning beyond the traditional oral and written modes. Digital gaming provides several sources of meaning making without necessarily establishing a hierarchy among them. It is true that the visual seems to be the mode with the strongest meaning--making potential, but it depends heavily on other modes like the auditory, the linguistic and the spatial ones. Also, not only cognitive but also sensory perception plays a vital role during performance, so that other parts of the body and gesture become similarly important.

Drawing from a range of different examples and research projects, in the following sections I will deal with these two aspects in succession. I will first address the issue of digital literacy as related to video gaming and the English language classroom. As I mentioned before, the challenge is to bring new information and communication technologies into the classroom with the purpose of building knowledge based on the different possibilities that these technologies afford. After that, I will focus on the concepts of multiliteracies and multimodality to explore a few possibilities that videogames offer in the meaning-making process, especially when related to the English language classroom. In both cases, the main data are taken from research projects directed at teacher education. I will finally conclude this paper with a summary of the main findings.

## *Digital literacy*

In Australia, according to Snyder (2008, p. 181), a survey about the way that teachers react to new ideas indicates that both teachers and schools are quite conservative. Even when they propose to exploit the opportunities offered by the new media of communication, they often do it to "achieve print-based purposes in print-oriented ways", especially when it comes to initiating a curriculum activity, setting homework and evaluating students' work. Therefore, this is not a particularly Brazilian tendency, but a recent research involving English teachers from public schools in Sergipe revealed that many of them use new technologies following traditional teaching patterns, with slight adaptations on top of well established practices (PEREIRA, 2012; NASCIMENTO, 2014; ZACCHI, 2014a).

Two accounts about this tendency are quite illustrative (ZACCHI, 2014a). In a meeting connected with the above mentioned project (*hereafter* referred to as Project 1)[1], we presented to the teachers a text about the online virtual world *Second Life*, which had been taken from a textbook. Two teachers stated that they would never deal with such a text in the classroom, since it might bring to the students' knowledge the existence of "one more game" and, consequently, lead them to "addiction". One of these teachers went

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1 The project took place between 2010 and 2012 (funded by CNPq – process # 401394/2010-7) and involved students and professors from Universidade Federal de Sergipe and teachers from public schools. Meetings with the whole group were held regularly to discuss possible ways of teaching English through a literacies approach. The data were collected in different stages. First, several teachers filled in a questionnaire. After that, twelve of these teachers agreed to take part in the following stages of the project. In one and a half years of collaborative work, we met several times, we built a blog, we recorded audio interviews and class activities (on video), and we wrote field diaries. The data presented here are taken from some of these stages.

on to add that he would rather work with the so called educational games, such as the ones from the website *Games to Learn English* (GAMES TO LEARN ENGLISH, 2012).

These games offer different experiences when compared to non-virtual ones. As far as multimodality is concerned, they present a different display of elements on screen, with a variety of colours, fonts, shapes and, sometimes, sounds. Even so, they still bear similar characteristics with traditional pedagogical games and classroom activities (including those from the textbook), such as spelling, gap filling and true-false exercises.[2] These types of activity keep the tendency to see the language as a structure, exploring mainly its grammar and vocabulary. In a way, it also helps to maintain the teacher's control over the contents to be taught and, consequently, over the students themselves. Thus, dealing with commercial digital games or virtual worlds such as *Second Life* in the classroom may mean the letting go of such control and the need to be prepared for the unknown and the uncertain (ZACCHI, 2015b). Nonetheless, it provides the opportunity to explore other features that go beyond the structure of the language and that can be closer to the students' out-of-school context and identities, stimulating their critical capacities.

The second account about the use of new technologies to "achieve print-based purposes in print-oriented ways" (SNYDER, 2008, p. 181) in the classroom comes from the excerpt below. It was taken from a video recorded class session with another teacher from the project:[3]

> **Teacher** – No *Google*, entre *The Sims*. *Take the picture*, vão pegar uma figura, do *The Sims*, escolham uma figura, ou de uma paisagem, de um local e vocês vão fazer, vão colocar no *blog*, [...] e vão tentar fazer uma mensagem *in English* com os dias da semana, *seasons*, as estações, você vai observar a figura e vai escrever em inglês dizendo que estação está de acordo com a figura, certo? Aí vocês vão aproveitar e vão colocar alguns adjetivos. Todo mundo conhece aqui né? *Old, young, beautiful, ugly, short, tall, thin, fat*. Alguns adjetivos, fazer uma descrição da figura, certo?[4]

As we can see, the teacher makes an attempt to exploit the internet in the classroom, but her approach to English language teaching is limited to matching words with pictures, without taking account of the possibility to exploit multimodal elements, among other things. Even though she uses a context which her students might identify with, she might have used a magazine for the same purpose.

The above examples bring to mind how difficult it may be for teachers to deal with digital technologies in classroom without repeating old patterns, mostly aligned with print texts and activities. In the first case, video games are seen as tools for practising grammar and vocabulary. All other potentialities linked to them are put aside. Bringing video ga-

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2 A few examples are: Fast English: "Listen to or read the words and click on the matching image" (GAMES TO LEARN ENGLISH, 2012); Phrasal Verbs: "Practice making phrasal verbs in a fun way"; Falling Clouds: "Practice grammar and word order".

3 The translation of the texts in Portuguese is mine.

4 On Google, type *The Sims. Take the picture, of The Sims, choose a picture, or a landscape, a place, and you're going to put it on the blog, [...] and you're going to try to write a message in English with the weekdays, the seasons. You're going to observe the picture and write in English the season that matches the picture, ok? Then you're going to add some adjectives. Everyone knows about it, right? Old, young, beautiful, ugly, short, tall, thin, fat. A few adjectives, to do a description of the picture, right?*

mes to the classroom does not necessarily imply bringing them physically. Instead, there are a number of practices involved in video gaming that can be applied to the learning process. Gee (2004) recognizes over thirty learning principles found in video games, which "would be efficacious in areas outside games" (p. 73). These principles range from collaboration and identity to tacit knowledge and "supervised sandbox tutorials" (p. 74).

The second case shows an even more pervasive scenario. It follows from the appearance of web 1.0 with its digitized versions of print texts and files. So much has changed since then, especially as a result of web 2.0, which privileges collaborative work, autonomy, creativity, among many aspects. Bearing that in mind, I started a second research project (*hereafter* referred to as Project 2), this time with pre-service English teachers.

The project – New literacies and digital games in English language teacher education, which was conducted between 2012 and 2014 – had twenty students of the Letras course of UFS. The research tools involved a questionnaire about their playing habits and preferences and online discussions in a community created on Scholar.[5]

As I have already stated elsewhere (ZACCHI, 2017, p. 221-222), in a preliminary questionnaire, we asked the students if it was possible to critically work with digital games in English teaching. One of the students answered: "Critically, I don't think so. But linguistically, yes" (A.S.). Another two students skipped the question to step on a more recognizable ground, such as having students to play games with subtitles and audio in English to improve their listening (D.C.); or asking them to play and transcribe some parts as homework (D.S.). So initially, these teachers-to-be are still thinking of digital technologies in traditional ways, planning activities just as they would with print materials.

Later on, in the group's online interactive space (Steam), we posted the following question: "In what ways can the students' day to day lives be dealt with through *The Cave*? Is there a scene/part through which we could have students to reflect on their daily practices?". The idea was to elicit from them answers and proposals to approach English language teaching connected with social practices and issues, and not limited to structuralist and cognitive approaches. The first idea to come up involved the promotion of cooperation and collaboration among students:

> Acho interessante ressaltar que algumas ações no jogo só podem ser feitas se os avatares trabalharem juntos. As noções de cooperação e colaboração devem ser explicadas e estimuladas. (A.O.)[67]

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5 cgscholar.com is an academic platform mainly devoted to academic writing. Later on, this community migrated to another platform, called Steam (steampowered.com), specialized in games and used mostly by players. This made us come closer to the world inhabited by these players/students, making them more at ease with the research interaction. The data for the first part of this analysis were taken from Steam, whereas the second part was taken from Scholar. The former also involved playing a specific game, *The Cave,* which was also the source of several discussions. The project was funded by CNPq (process # 407337/2012-1).

6 Initials are used in order to preserve the participants anonymity.

7 I find it interesting to stress that some actions in the game can only take place if the avatars work together. The notions of cooperation and collaboration must be explained and stimulated.

na hora que você morre, se você morre varias vezes o NPC fala um monte de coisa, pode-se perguntar aos alunos o que eles entenderam dessas passagens e sobre cada puzzle, mas o que vigora ali é mais trabalho em equipe. (W.)[8]

Acho que o trabalho em equipe/cooperação (visto em The Cave) não é o mesmo que estamos acostumados a ver em outros jogos. A colaboração que se dá aí é entre personagens controladas pelo mesmo jogador. Acho que a colaboração de que tanto falamos (entre aprendizes) acontece em outros jogos, mais especificamente os online. Não apenas os MMO, mas jogos como os presentes aqui no Steam; Magicka, Left 4 Dead, etc. permitem que jogadores (nos jogos citados, 4 jogadores) cooperem para atingir determinados objetivos. Para uma prática em sala, imaginemos 15 alunos. Em um jogo online (MMO) poderíamos ter todos trabalhando juntos ao mesmo tempo, em um jogo de Multiplayer Cooperativo (como os exemplos) poderíamos ter grupos de 4, 3 jogadores. Com o The Cave, teríamos 15 alunos com 15 diferentes experiências. (F.B.)[9]

The disagreement about team work in the game is due to the fact that usually one only player can control all three characters in *The Cave,* differently from MMO (Massively Multiplayer Online) games where players need to engage in concerted action to achieve best results.[10] F.B. argues that it would be difficult to have 15 students playing together in the classroom. The result would be 15 different types of experience. A.O. at first agress with F.B., but he then presents an alternative view:

Entretanto, nada impede de utilizá-lo em sala de aula, tendo em vista que nós mesmos estamos interagindo, colaborando e cooperando em assuntos pertinentes ao jogo. O professor utilizaria a mesma forma, porém ensinando/discutindo aspectos referentes à disciplina escolhida, quer LP ou LI. O professor (ou aluno) criaria um grupo ou comunidade em que pudessem trocar informações entre eles. O professor gerenciaria com tópicos e eles alimentariam as discussões. Sobre os áudios, poderia ser feito somente atividades de listening mesmo. As atividades são as de sempre: preencher espaços em branco (poderia ser verbos, expressões, etc.), porém a diferença é que seria uma atividade com mais sentido, tendo em vista que eles estão praticando em seus lares. (A.O.)[11]

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8 When you die, if you die several times, the NPC says a lot of things, so you can ask students what they understood from these parts of the game and about each of the puzzles, but what stands out there is team work.

9 I think that team work/cooperation (in The Cave) isn't the same thing we are used to see in other games. Collaboration in the game takes place among characters controlled by the same player. I think the kind of collaboration we talk so much about (among learners) takes place in other games, most likely online ones. Not only MMO stuff, but also games we can find here on Steam; Magick, Left 4 Dead, etc. allow players (in these games, 4 players) to cooperate to achieve certain goals. For classroom practice, let's imagine 15 students. In an online game (MMO) we could have groups of 3 or 4 players. In The Cave, we would have 15 students with 15 different kinds of experience.

10 In *World of Warcraft*, for example, there are different types of quests with different numbers of players, such as dungeons (5 players) and raids (40 players). For more information, see Francisco e Zacchi (2018).

11 However, nothing stops you from using it in the classroom, since we are always interacting, collaborating, cooperating in subjects related to the game. The teacher could use the same format, but also teaching/discussing aspects connected with the chosen subject, whether Portuguese or English. The teacher (or student) could create a group or community where they could exchange information. The teacher would mediate the topics and the students would feed the discussions. As for the audios, simple listening activities could be done. The same activities as usual: filling in the blanks (verbs, expressions, etc.), but it would be a more meaningful activity, since they would be practicing from home.

So, the participant stresses the importance of collaboration and cooperation in the classroom, and the game could be a good starting point.[12] More importantly, he even admits the possibility of doing traditional mechanical activities in class, but followed by the very relevant observation that those would be more meaningful, situated activities. J.G. reinforces the importance of cooperation within *The Cave:*

> Ah, gente, o The Cave não precisa ser jogado sozinho! :D Claro que não tem um multiplayer online pra treinar cooperação com desconhecidos (como nos MO-BAs), mas no PS3, por exemplo, podem jogar três amigos, cada um controlando um personagem. E eu também vejo a noção de cooperação como o maior valor positivo que dá pra extrair do jogo mesmo. Se o jogador não perceber, desde o começo, que está jogando com um TIME de personagens, não vai avançar muito. Perceber isso torna até os puzzles mais fáceis de resolver, porque pensar com apenas um personagem só leva as possibilidades até certo ponto. Então, usando em sala de aula, acho que essa seria a primeira coisa. Fazer com que eles percebam que é um time, não três personagens isolados. (J.G.)[13]

She reminds the other participants that the game allows for three players playing at once, provided that they have access to a Play Station console. In that case, the players can control one different character each. However, J.G. calls our attention to an even more relevant issue when it comes to using the game in the classroom: the characters themselves can only play as a team. Teachers could have their students to realize that what they see in the game are three characters acting as a team, and not as three isolated characters.

A second issue comes into play when one of the students answers the original question related to "a scene/part through which we could have students to reflect on their daily practices":

> No que diz respeito a cena, poderia citar várias, mas a que eu mais achei interessante foi a chegada a loja logo no início do jogo. A persuasão do "Vendedor" para conseguir o que quer e o detalhe do roubo do cartão postal, que gera inclusive uma conquista (essa conquista gerada por um "roubo" vale a pena?). (F.B.)[14]

We completed the question by asking: "How could we deal with these issues in class? Any ideas?". So J.G. developed the "provocation" posed by F.B.:

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12 This type of activity could also foster the kind of negotiation of meanings that I will present in the next section.

13 C'mon people, you don't need to play The Cave on your own! :D There's no online multiplayer to train cooperation with unknown people (as with MOBAs), but on PS3, for example, three friends can play, each one controlling one character. And I also see the notion of cooperation as the greatest positive feature you can extract from the game. If the player doesn't realize, from the beginning, that he's playing with a TEAM of characters, he won't go very far. Realizing this makes even the puzzles easier to solve because thinking with only one character stretches the possibilities only to a certain extent. So, using it in the classroom, I think that would be the first thing. Make them realize that's a team, not three isolated characters.

14 As for the game part, I could mention several of them, but one which I found most interesting was the arrival to the shop right at the beginning. The "Salesman's" persuasion to get what he wants, and the detail of the postcard theft, which by the way generates a reward (is such a reward, generated by a theft, worth it?).

> Também achei legal a ideia da "moral" do jogo, como vocês falaram. Desde o começo, tem a persuasão do vendedor. A coisa do cartão postal. Mas sempre há dois lados da coisa. Até como oposto à conquista de roubar o cartão postal existe a conquista de devolver o cartão. Com a história dos personagens, você pode se arrepender ou não. É uma escolha feita no final do jogo [...]. Não muda o que já passou, que é o extremo a que eles foram pra realizar seu desejo, tanto que você não tem escolha nos níveis específicos dos personagens. Você só pode passar do nível quando fizer o que a história mostra. (Os gêmeos, por exemplo, têm que matar os pais pra avançar. A cientista tem que soltar o foguete. O caipira tem que queimar o parque.) Mas quanto à história deles em si, o futuro, ainda há uma escolha, a opção de se arrepender no fim do jogo. A moral tá sempre aí. [E há] a noção de manipulação, que também tá bem presente. Vocês devem ter notado que, toda vez que aparece outra pessoa ou animal [...], o jogador tem que manipular o animal com comida ou a pessoa com algo de valor emocional pra ela pra que saia de cena. (J.G.)[15]

None of them actually suggested activities for the classroom. But these two participants highlighted the idea around ethical issues in video games that can be easily applicable in class. Is it OK to do "wrong" things in order to achieve your goals? Does the end justify the means? In *The Cave,* most of the time the player does not have much choice, since evil deeds (like children killing their parents) are part of the mechanics and are a necessary step to advance in the game. Even so, J.G. mentions that there is the possibility of redeeming yourself at the end of the game. Above all, the game can be a good way to bring to the fore ethical issues in society to be discussed and evaluated by the students.

Therefore, the research participants, all pre-service English teachers, were able to think of the game as a source for meaningful and situated classroom activities by exploring the game's own specificity, and not as one more technological apparatus to give support to mechanical and structuralist activities. These are good examples of truly digital literacy.

### Literacies, multiliteracies and multimodality

The contrast between literacy and literacies is worth exploring here, since they are not only the singular and plural versions of the same concept. Literacy is seen as closely connected with the linguistic mode, i.e. reading and writing, while literacies involve a range of other modes and abilities, as highlighted above, as a result of all the social and cultural changes in recent decades, especially those connected with the new media. Therefore, they have been referred to in a variety of ways, such as multiliteracies, digital literacies, critical literacy and multimodality. In Brazil, literacy might be equivalent to

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15 I also found the game's "moral" idea nice, as you said. From the beginning, there's the salesman's persuasion. The postcard thing. But there's always the other side. In opposition to the quest of the theft, there's the quest of the return of the postcard. As for the characters' narratives, you can either regret or not. It's a choice made at the end of the game […]. It doesn't change the events, which is the farthest they went to fulfill your wishes, so much so that you don't have choices at each character's level. You can only progress when you do what the story tells you to. (The Twins, for example, have to kill their parents to go on. The Scientist needs to launch the rocket. The Hillbilly has to burn down the park.) But as for their own stories, the future, there's still a choice, to choice to regret at the end of the game. That's where the moral always is. [And there's] the notion of manipulation, which is always present. You must have noticed that, every time another person or animal comes about/turns up […], the player has to manipulate the animal with food, or the person with something emotionally valuable, for them to get out of scene.

"alfabetização" and literacies is usually translated as "(novos) letramentos". Another important feature is that literacy/*alfabetização* involves a psycholinguistic process, whereas literacies/*letramentos* refers to situated sociocultural practices (BRASIL, 2006).

Literacies is an evolving field closely related to pedagogy and educational technologies. It also plays an important role in language education. In 1994 a group known as The New London Group met in New London, US, to discuss the future of literacy teaching. The meeting and discussions resulted in the seminal book *Multiliteracies* (COPE; KALANTZIS, 2000), with chapters written by the members of the group. This book has been quite influential in many parts of the world. In Brazil the discussions set out by the New London Group have prompted a revision of the notion of literacy and, by the same token, of the works of Paulo Freire (cf. MENEZES DE SOUZA, 2011; MONTE MÓR, 2011), who has also been a source of inspiration for researchers in the field of literacies outside Brazil.

In tune with the discussion about literacies, another important concept being developed by Cope and Kalantzis is "new learning", which seeks to "re-vision" education, i.e. "to rethink the enterprise of education" (NEW..., 2015). One important aspect about new learning is that it takes into account the fact that the dynamics and places of learning differ radically from previous experiences. As a result, education currently faces "enormously disruptive changes", probably the greatest ones in recent times. So, "These changes challenge the fundamentals of education as we know it – globalisation, social diversity, new technologies and new kinds of learners who expect to be agents in the making of their knowledge and identities rather than receptacles of transmitted content" (NEW..., 2015).

One final aspect to be taken into account is the idea of negotiation of meanings. Wenger (1998, p. 53) defines it as "the process by which we experience the world and our engagement in it as meaningful". We engage because "we project our meanings to the world and then we perceive them as existing in the world by possessing a reality proper to them" (p. 54); and we negotiate because "the meanings reside neither in ourselves nor in the world, but in the dynamic relationship of living in the world" (p. 54). The negotiation of meanings, therefore, is strictly connected with literacies, since it is a highly situated and context dependent process. According to Kalantzis and Cope,

> Navigating contemporary social spaces requires the application of not just one set of rules for meaning-making (literacy in the singular), but the negotiation of different literacies depending on the people and contexts you encounter. There are, in other words, many literacies and these vary according to cultural context, social purpose, life experience, personal interest, knowledge base and so on. The key is not learning how to communicate in the one, right way, but how to negotiate these differences in meaning. (LITERACIES, 2015)

So literacies in the plural implies that meanings are not fixed and unchanging. Also, as mentioned above, it is part of a sociocultural rather than psycholinguistic process. In that case, the negotiation of meanings involves not only the interpretation of, and interaction with, different types of texts available around us. It also involves both the online and offline interaction and negotiation with other people, of different backgrounds and from different contexts. Playing online digital games demands not only the required me-

chanical skills, but also some knowledge of English to interact with other players from around the world.[16]

The issue of negotiating meanings was dealt with in a more recent research project (hereafter referred to as Project 3),[17] although not involving English language teachers, but *World of Warcraft* (WoW) players from Brazil (FRANCISCO; ZACCHI, 2018). It was mentioned that many of the players' attitudes and moves in the game are not guided only by the game mechanics and by formal rules, but also by collective agreements among players and an overall game culture that is implicit in gameplay. All of this is a result of constant interaction with other players in and out of the game, in forums, specialized blogs and group discussions. This comes to show how playing games[18] is a collective rather than individual endeavour which depends not only on technical abilities, but also, and perhaps more importantly, on social and cultural negotiated practices.

Another important way of making meaning in games is through multimodality. In Project 3, this issue was addressed taking into account the different sources that players draw on to make sense of their playing. It was noticed that in certain moments resorting to mixed modes of meaning-making (graphics, sounds, colours, oral and written language, etc.) can be decisive in game play. Most of the time it is nearly impossible to "survive" in the game in possession of verbal skills only. Therefore,

> the comprehension and use of "texts" do not depend only on competences, previously developed through reading and writing, as suggested by traditional notions of literacy; texts, such as digital games, go beyond the written language: the player interacts with commands, actions, visual elements, utterances and sounds. The texts of these environments, in their new formats, therefore, are characteristically multimodal and presuppose complex processes of reproduction and transformation. The players are not only readers, users of a system of representation or consumers: they are cobuilders of texts as form and of the representational resources which texts provide for the transformation and negotiation of meanings. (FRANCISCO; ZACCHI, 2018, p. 265-266)

In Project 2,[19] the group of researchers resorted to multimodality as another way to make the undergraduates aware of other possibilities for English teaching apart from exploring linguistic features alone. We, therefore, asked: "When you are playing, what do you observe, analyse in the virtual scenery, and what do you actually use from it to understand the narrative and accomplish the goals of the game?". There were some observations about the importance of colours in the process of meaning making, but most of the answers were related to sounds and music:

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16 In Project 2, the role of English for Brazilian players was also addressed (see ZACCHI, 2015a).

17 The project took place between 2015 and 2017 and aimed at investigating a community of Braziliar players of WoW. The data presented here are part of a stage of the research in which four participants were interviewed online by means of Discord, a VoIP6 app developed especially for players.

18In special MMPORPG (Massive Muliplayer Online Role Playing Games), which is the case of WoW.

19 This stage of the research was developed on the Scholar platform.

Os sons, o ambiente, e a depender do jogo, os movimentos dos personagens ou do cenário, podem reforçar ainda mais o entendimento. (E.S.)[20]

Na verdade, o diálogo entre som e imagem/cenário auxilia muito a dar clareza em certas fases que precisam de um esforço maior pra cumprir o que é pedido. (V.)[21]

Em alguns jogos como Dead Island os sons podem até salvar a vida de seu avatar, sendo um jogo de zumbis da pra saber quando eles então chegando pelos sons de-les. […] Pode ser pouco notada e/ou citada mas a trilha sonora de alguns jogos são muito legais e em outros pode ser aterrorizante, exemplo Silent Hill, considerado o mais medonho de todos os jogos de terror. Já vivenciei a saga umas 3 vezes e devo dizer que os sons do jogo dão mais medo que os próprios monstros. A tensão deixa mais emocionante a jornada. Em God of War pouco antes de morrer o personagem fica ofegante e da pra ouvir os batimentos cardíacos e senti-lo pela vibração do controle. (A.S.)[22]

o que eu acho mais sensacional é como a música se incorpora nas cenas tornando--se difícil dizer se a música é apenas um aspecto complementar no jogo ou mesmo no cinema de onde essa técnica é oriunda. (T.O.)[23]

Citing *Dead Island,* A.S. stresses how important and decisive the sounds in the game can be. But he mentions a rarely noticed feature of console games: you can feel the control vibrating in critical moments of the game, adding up to a sensorial approach to meaning-making and calling attention to the role of the body in this process. As for sound and music, an issue that can raise some interesting discussion is whether they are only supplementary (T.O.) to other modes or helpful in sorting out parts of the game (V.), bearing in mind that, as far as multimodality is concerned, the different modes of meaning-making act in conjunction and not necessarily following a hierarchy.

In an attempt to further explore this issue, we posted the following question: "I was wondering whether music, colours, the narrative structure and other configurations supplement the narrative's interpretative meaning of the game or whether they exist only for ornament. What do you think?". The emphasis on audio resources was still prevalent:

no jogo Age of Empires tem um som de corneta para avisar que o seu Império está sendo atacado e isso ajuda muito quando você está jogando contra mais de um Império. Se o ataque estiver fora do seu campo de visão no momento, isso te alerta para voltar pro seu território; além de ter um mapa menor embaixo com as

20 The sounds, the environment and, depending on the game, the movements of the characters or the scenery, may reinforce even more our comprehension.

21 Actually, the dialogue between sound and image/scenary helps a lot to clarify in certain phases that require extra effort to accomplish what is necessary.

22 In certain games such as Dead Island the sounds can even save your avatar's life, being a zoombies game you can know when they're coming by their sounds. […] Although little noticed and/or mentioned, the soundtrack of some games are very nice and in others it can be terrifying, like Silent Hill, considered to be the scariest terror game. I've already experienced the saga 3 times and I would say that the sounds of the game are even more frightful than the monters themselves. Tension makes the journey more exciting. In God of War just before dying the character starts gasping and it's possible to hear his heart beats and feel them by the vibration of the control.

23 What I find it most sensational is how the music is incorporated into the scenes making it difficult to tell if the music is just a supplementary aspect of the game or even of the cinema, where this technique originated.

cores de cada Império. Exemplo: Se o seu é o vermelho e os seus inimigos são os amarelos, verdes e azuis; no mapa menor você observa quem está lhe atacando só com a cor. (V.)[24]

No [...] Pro Evolution Soccer, as multimodalidades são responsáveis pela representação da realidade. Como se trata de um jogo de futebol, o som do apito, da torcida, da bola etc são fundamentais para esse fim. A identificação dos gamers com os times é aumentada pelas fidelidade das cores e desenhos. As penalidades (cartão vermelho, amarelo). A linguagem do jogo é centrada muito nas cores e nos sons. Interpretá-las é condição para se dar bem numa disputa. (T.A.)[25]

Sem dúvida que cores e sons estão sim ligados ao sentido interpretativo da narrativa e ou da ideia principal do jogo. E o interessante também, é perceber que cada gênero de jogo tem alguma peculiaridade, ligando sons/imagens ao jogo em si, como alguns exemplos que já forma dados aqui [...]. Outro exemplo que acho bem interessante, mas falando em questão dos sons, são as escolhas dos repertórios musicais nos jogos de corrida. Quem aqui já jogou Need For Speed, Burnout e afins, sabe que durante as corridas, musicas (geralmente Pop/Rock/Rap americano) sempre estão presentes nos jogos […]. É só notar que as muscias, nesse caso independentemente dos estilos musicas, são praticamente todas progressivas, num ritmo rápido e empolgante, que faz certa sincronia com o sentimento de adrenalina virtual que o gamer sente. E o faz entrar de vez no clima do jogo. Com esse exemplo, quero dizer que a peculiaridade do gênero corrida, é essa. Assim como peculiaridades sonoras em jogos de primeira pessoa como Battlefield ou Call Of Duty (ouvir passos, bombas, soldados gritando, auxilia no andamento do jogo) e etc. (E.S.)[26]

No matter the genre (action, strategy, sports, etc.), the above participants all agreed upon the important role played by the audio and visual resources in the games. E.S. summarizes this idea by stating that "Colours and sounds are definitely connected with the game's main idea and/or its narrative's interpretative meanings". And it is not just about helping to solve problems, but also about creating an adequate atmosphere, improving the feeling of immersion in the game.

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24 In Age of Empires there's a cornet like sound to warn that your Empire is under attack and this helps you very much when you are playing against more than one Empire. If the attack is out of your visual field you are warned to go back to your territory; besides, there's a map in the bottom with the colours of each Empire. For example: If yours is red and your enemies' are yellow, red and blue, on the small map you can see who is attacking you by the colour only.

25 In Pro Evolution Soccer, the multimodalities are responsible for the representation of reality. Since it's a football game, the sound of the whistle, the fans, the ball, etc. are essential for that purpose. Gamers' identification with the teams is augmented by the fidelity of colours and shapes. Penalties (red, yellow cards). The language of the game is very much centred in colours and sounds. Interpreting them is a condition for being successful in a challenge.

26 Undoubtfully colours and sounds are connected to the narrative's interpretative meaning or the main idea of the game. What's also interesting is to notice that each game genre has a peculiarity, connecting sounds/images to the game itself, according to some examples given here […]. Another interesting example, in terms of sounds, are the choices of musical repertoire in race games. Whoever played Need for Speed, Burnout and the like knows that during the races, music (usually US Pop/Rock/Rap) are always present in the game […]. No matter the musical style, the pieces are always progressive, in a fast and stimulating pace, with a certain synchronicity with the feeling of virtual adrenaline that the gamer experiences. And make him fully get into the atmosphere of the game. By this I mean that that's the peculiarity of the race game genre. The same happens with the peculiarities of sounds in first person shooters such as Battlefield or Call of Duty (hearing footsteps, bombs, soldiers yelling, helps to progress in the game) etc.

In Project 3, Francisco and Zacchi describe M.'s experience when playing WoW (an MMORPG genre). Since she plays as a healer, she is in charge of keeping her group (usually a five-player party) alive and well. So she needs to pay attention to all the details:

> Her social role depends very much on how she scrutinizes the scenery, on how she assimilates the wealth of information present in the game. It also requires a lot of skilfulness during battle: she needs to be alert to her group's movements and to the enemies' attacks in order to avoid that she and her allies are killed. (FRANCISCO; ZACCHI, 2018, p. 265)

Such skilfulness involves interpreting all the audio and visual information and being able to respond accordingly with her body, especially with her hands, which are responsible for her avatar's movements and strikes.

As for the second situation mentioned above, about creating an adequate atmosphere, one cannot assume that, even in such a case, non-verbal elements in the game are only decorative. Gee (2004, p. 24-27) gives a good example by describing Brian – a boy who cannot read or write – playing *Pikmin* on a Nintendo Game Boy, a handheld video game player. As Brian progressed in the game, it became more and more challenging, a common feature in most games. So, at a certain stage he noticed some changes in the landscape and background music in a way that the tone of the game changed "from a cute fairy tale to a somewhat darker struggle for survival" (p. 27). The music was now "scary" and the landscape much "harsher-looking" than the ones before. This is a feature that games share with films, as T.O. mentioned above. Brian himself came to the conclusion that "things were going to get harder" now, causing him to rethink some of his strategies. So, although Brian might be considered illiterate (literacy in the singular), he was able to make meaning out of the game as a text by resorting to other literacies, which involved a deeper knowledge of different modes of meaning-making.

## *Conclusion*

New digital technologies, including digital games, pose a challenge to teachers in general. This paper sought to explore some of the implications that this challenge may bring to English language teaching. Overall, the main objective was to seek ways of bringing digital gaming features – or principles, as proposed by Gee (2004) – to the English language classroom, so as to avoid looking at games as just another kind of text, or technology, to be used in "traditional", print-based, ways. The main source of data for this paper was a project (Project 2) developed with pre-service English language teachers, who interacted on two different platforms to discuss issues related to digital gaming, English language teaching, literacies, ethics, among others.

So, in this paper, I chose to explore two particular aspects. First, digital games and other digital technologies are not only tools to be used in classroom, nor are they simply an "upgrade" from previous technologies. They present new possibilities for interaction, leisure and logical reasoning. Second, digital gaming involves multiple ways of making meaning beyond the traditional oral and written modes when multimodality and multiliteracies are taken into account.

In the first case, one possibility presented by the students/would-be-teachers was collaboration and cooperation. One of them (A.O.) suggests that the teacher takes to the classroom this level of collaboration and interaction that revolve in and around games, with groups and communities that discuss and share information, with the teacher as an administrator and mediator. Another issue that came up was related to ethics in game-play and in real life. The discussion revolved around parts of the game that require some "evil deeds" as a necessary step to progress in the narrative. This might bring about questions, such as: Is it OK to do "wrong" things to achieve your goals? Does the end justify the means? Therefore, *The Cave*, like many other games, can be a good way to bring to the fore ethical issues in society to be discussed and evaluated by the students.

As for multimodality and multiliteracies, the students presented several situations that require a more thorough evaluation of the diverse modes of meaning-making present in games. One of the students inquired whether the role of non-verbal semiotic modes was to just serve as a support for the narrative or to actually add to the overall process of meaning-making, as envisaged by multimodality. The participants gave several situations in which non-verbal resources are indispensable for progressing in games. Furthermore, it is possible to assume that audio and visual elements do not have aesthetic value only. They actually add up to the atmosphere and overall meaning of the narrative. These aspects are not exclusive to digital games only, but they are present in many other text types and genres and are liable to be explored in the classroom.

Therefore, consciously or not, the research participants, all pre-service English teachers, were able to think of digital games as a source for meaningful and situated classroom activities by exploring games' own specificities, and not as one more technological apparatus to give support to mechanical and structuralist classroom activities.

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