Teaching digital literature: *Alice Inanimada* in Portugal

Ana Maria Machado

UNIVERSITY OF COIMBRA | CLP
ORCID: 0000-0003-4392-2999

Ana Albuquerque e Aguilar

UNIVERSITY OF COIMBRA | CLP, FCT PHD RESEARCH FELLOW
ORCID: 0000-0001-5424-2433

ABSTRACT

This article seeks to describe the development of the project "*Inanimate Alice:* translating digital literature in an educational context", of the Centre for Portuguese Literature at the University of Coimbra. We will address the different stages of the project and the processes involved, namely, the translation of the first five episodes of the series, the translation and the creation of pedagogical materials adapted to the Portuguese curriculum, the applied research with episodes 1 and 2 of *Alice Inanimada* in two Portuguese schools, the data collection and analysis relating to the experience and reception of the work by students and teachers, and the teacher training course created to respond to the challenges of teaching a digital literary work, in partnership with the Portuguese National Reading Plan – PNL2027, thereby filling a gap in this area, in Portugal. In addition to a reflection on all the research stages, we will present the plans for the future of the project.

KEYWORDS

Inanimate Alice; Alice Inanimada; children and young adults' digital literature; teaching.

RESUMO

Neste artigo, pretende-se apresentar o percurso realizado pelo projeto "*Inanimate Alice:* tradução de literatura digital em contexto educativo", do Centro de Literatura Portuguesa da Universidade de Coimbra. Deste modo, abordar-se-ão as suas diferentes fases e os processos envolvidos, nomeadamente: a tradução dos cinco primeiros episódios da série, a tradução e a criação de material pedagógico adaptado ao currículo português, a investigação aplicada, em duas escolas portuguesas, sobre os episódios 1 e 2 de *Alice Inanimada*, a recolha e análise dos dados relativos à experiência e à receção da obra por alunos e professores e a formação docente criada para responder aos desafios inerentes ao ensino de uma obra literária digital, em parceria com o Plano Nacional de Leitura – PNL 2027, contribuindo assim para preencher a lacuna que existia em Portugal a este nível. Além de uma reflexão sobre todas estas etapas, esboçaremos os planos para o futuro do projeto.

PALAVRAS-CHAVE

Inanimate Alice; Alice Inanimada; literatura infantil e juvenil digital; ensino.

I. INTRODUCTION

The need to equip students with digital skills is a frequent aim of Portuguese and international educational policies (ME, 2017; ME, 2018; UNESCO, 2018). However, their development in the classroom is essentially reduced to resources which take advantage of the procedures to which students are exposed without a critical, ethical or creative look at the digital environment[1].

In the contemporary digital context, electronic literature has developed considerably, especially since the 1990s (Hayles, 2008; Flores, 2019; Rettberg, 2019). In 1979, Lyotard already noticed that machines would change the way of learning. In *Hypertext 3.0*, George Landow added that these changes would also have consequences for literary education because of their emphasis on the reader. However, we see a general "dissonance between what the school curriculum prescribes and what young readers prefer" (Araújo and Frade, 2018: 7) and the presence of electronic literature in schools is not yet a reality, as the school structure is neglecting the creative potential of digital media, the development of digital textual and literary skills in production and reception, and the hermeneutic reflection on digital culture and its impact on reading and writing (Rettberg, 2019: 18).

In this work, we intend to report on the various phases of project "*Inanimate Alice:* translating digital literature in an educational context" (Centre for Portuguese Literature at the University of Coimbra), the main goal of which is the introduction of the work *Alice Inanimada* into primary and secondary schools in Portugal and into the Portuguese National Reading Plan (PNL). With this account, we answer the question "How to teach digital literature in Portuguese schools in the second decade of the 20th century?" and we take the teaching of *Alice Inanimada* as an example. In fact, thinking about the introduction of digital literature in the Portuguese teaching sys-

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1 Due to school closures in the second half of the school year, caused by the corona virus pandemic in 2020, the Portuguese Ministry of Education published Decree no. 14-G/2020, 13 April, in response to the complete change to remote teaching and considerable reliance on digital media. Although everyone was forced to go digital, there was not enough time to create mature strategies and to develop critical thinking regarding this sudden move.

tem is not restricted to its teaching. There is an institutional context surrounding this pedagogic innovation, which concerns official syllabi, the material questions regarding the introduction of a new object, editorial and financial issues, *etc.* For this reason, this work also addresses some sociological aspects of the digital turn and the reservations and concerns that it may raise. Even so, from the beginning we were moved by the words of Dene Grigar, former president of the Electronic Literature Organization:

> if indeed students spend 10 times more of their energy with fingers on a keyboard instead of a nose in a book, then it stands to reason that we should rethink our notion of literacy and advocate elit [electronic literature] as not only viable but also compelling art form for teaching all aspects of reading, writing, and communicating.[2]

Since this is a process that dates back to 2014, in order to demonstrate the resistance we faced mainly by publishing houses and private and public investment, it is important to systematize the various stages of the project, to comment on the articles published (and to be published), and the development plans in progress. We will start with the presentation of the work and the (pre-)history of the project, followed by the creation of the first team, the translation phases (of the episodes and their pedagogical guide), and the creation of guidelines suitable for the Portuguese context. This will be followed by the discussion of experimental use of the episodes in schools, data collection and analysis. Finally, we will present the initial and ongoing teacher training courses, with the establishing of international relations with colleagues from Canada, Russia and United States of America, and the design of a new pilot experiment.

Presentation of the work

Inanimate Alice tells, in the first person, the story of a girl who grows up dreaming of being a game designer, with her creations becoming progressively more sophisticated from episode to episode. This transmedia and interactive serial novel, created and developed by Ian Harper, Andy Campbell, Chris Joseph, Kate Pullinger, and Mez Breeze (2005-2017), uses mechanisms and game-like environments that encourage students to read, reread, and understand the whole story, while having fun. Between the first (2005) and the fifth episode (2015), major technological advances were made. Between the fourth and the fifth episodes, six years passed, during which students and teachers filled the void of this gap, through creating their own stories

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2 Dene Grigar, "Electronic Literature: Where Is It?", 12-28-2008. http://electronicbookreview.com/essay/electronic-literature-where-is-it/

on web platforms, YouTube, or PowerPoint, as can be seen in the Alice Is a Friend of Mine – Digital Gallery.

Meanwhile, episode 6, "The Last Gas Station", where Alice worked in a service area, was released in 2017. This narrative, always in the first person, uses computer game technology, while maintaining its literary dimension.[3] In 2018, "Perpetual Nomads" spanned the gap between episodes six and seven (not yet produced): this new interactive fiction was the first *Inanimate Alice* work in virtual reality, where the reader walks literally in Alice's shoes. The adventure takes place in the desert, when the bus transporting the young woman to the city has an accident, so the protagonist seeks guidance on a mobile phone with almost no battery.

Alice's story has a progressive complexity which follows the growing up of the protagonist – she is an 8-year-old girl in the first episode, and a 19-year-old in "Perpetual Nomads". Recommended for young people (from 10 to 14), the last episodes aim to reach older readers or even students who do not have English as their mother tongue. The series is used in teacher training in several countries (Pullinger, 2015), including Australia, where the title forms part of the curriculum, and the Australian Education Services, a government agency, has made repeated investments in the work, particularly the commissioning of "Perpetual Nomads". Also, in the United States, Amanda Hovious (2013) states that "*Inanimate Alice* can be seamlessly integrated into the [North America] curriculum" as it complies with the English Language Arts Standards / Reading: Literature.

Inanimate Alice is a text with considerable visibility and with a range of possibilities to be integrated within the school curriculum. It is a work of digital fiction which discusses topics such as digital mobility, disruptive lives, interculturality, home and regular education, and even corruption. So far it has been translated into six languages (Spanish, French, German, Italian, Japanese and Indonesian)[4] and there is the prospect that it may be translated into Russian and Polish in the near future. The first two episodes have already been produced in Portuguese. However, as we will explain below, we are looking for a way to make them available.

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3 According to Ian Harper, the executive producer of the series, for the moment, this episode is only playable on computers with a 2GB graphics card. Once this limitation is corrected, "The Last Gas Station" will be accessible widely.

4 Initially, episodes in these languages were available on the *Inanimate Alice* official website, but now they are only available through purchase (https://inanimatealice.com/store/).

II. THE PROJECT

During the first contact with *Inanimate Alice*[5], at the Summer School of the Doctoral Programme in Materialities of Literature, held in 2014, the project coordinator realized the pedagogical potential of the work and the widespread dissemination it could have in the Portuguese language speaking world, the fourth most spoken language in the world (with more than 260 million speakers on four continents).[6]

Translating the episodes into Portuguese and making them available online would allow students to have their first contact with electronic literature, at a time when, as now, digital literature for children and young adults was absent from the national curriculum. The intention with this was never to eliminate the central place occupied by literary literacy, but rather to expand the skills acquired in the multimodal and multimedia creative environments associated with it, which lack critical pedagogical support in order to stimulate the reflective, ethical and creative potential of the students.

Given this, in a first presentation of the work's potential and the singularities of the construction of the main character, in The Child and the Book Conference 2015 (held in Aveiro), Ana Maria Machado put forward the hypothesis of setting up a team based around the work and, in October of the same year, she conceived the project "*Inanimate Alice*: Translation of Digital Literature in an Educational Context", within the Research Group "Digital Mediation and Materialities of Literature" of the Centre for Portuguese Literature (CLP). The project then created took advantage of the research context offered by the PhD Programme in Materialities of Literature and the Master's Degree in Translation, and started this with the collaboration of Ana Albuquerque e Aguilar, PhD candidate, António Oliveira, MA in Translation, and Ian Harper, the executive producer of the series, as well as Kate Pullinger and Chris Joseph as project consultants. The main goal was to translate the first five episodes[7] of *Inanimate Alice* into Portuguese and, as stated above, for this to be endorsed by the Portuguese National Reading Plan (NRP 2027).[8] This idea was presented to the NRP 2027 team, as they were

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5 Meanwhile, the website was updated (www.inanimatealice.com).

6 The varieties of Portuguese language do not exclude the European variety from being read in Africa or Brazil, for example. However, in 2020, the project team was expanded, with the addition of three professors from the Federal Institute of S. Paulo (José Landeira, Carla Souto and Carlos Santos), with the aim of adapting the European Portuguese version to the Brazilian variety and collaborating in the development of pedagogical guidelines adapted to the different national realities.

7 After overcoming the technical difficulties of the last two episodes, which involved solving problems of compatibility and institutional access to virtual reality, these last episodes of the franchise will also be translated into Portuguese.

8 The Portuguese National Reading Plan is an inter-ministerial entity created in 2007, which was renewed for another 10-year phase, in 2017, by Resolution of the Council of Ministers No. 48-D/2017. In addition to strategies and forms of acting in society and

reviewing their principles and objectives, in which literature in digital forms was included. However, it should be noted that, until then, their list of recommendations had not included electronic literature. There already was a Digital Book Library, but it only contained ebooks and digitized books (Matsuda, 2018) with little interaction, immersion, semiotic multimodality, cybertextual basis for communication, or structural disruption (Hayles, 2008; Murphy, 1997; Ramada Prieto, 2017).

The openness towards the digital could already be perceived in documents from the Ministry of Education such as the *Students' Profile at the End of Compulsory Education* (ME, 2017) or *Essential Learning – Portuguese* (ME, 2018), where familiarity with the digital environment in different contexts of communication and knowledge was recommended. Finally, in 2018, *Alice Inanimada*, the Portuguese translation of *Inanimate Alice*, was endorsed by the NRP 2027, as "the first digital narrative fiction to be read/used in Portuguese schools from pedagogical scripts focused on the aesthetic perception of students, the understanding of multimedia and the immersive literary experience."[9] (PNL 2027, 2018: 13).

Translation

The translation work carried out by the Portuguese team was focused only on the linguistic translation problems. Their repercussion on the other levels of the digital work, characterized by multiple layers, and the implications for its code, were solved by the production team of the series.

Figure 1. *Alice Inanimada*, episode 1

The translation problems that the team tried to solve were therefore strictly concerned with the transposition from English into Portuguese, as explained in detail in the paper "*Inanimate Alice:* The Story of the Series and its Impact in Portugal" (2018). To typify the problems and challenges faced during this process, we used as reference the typology of objective translation problems discussed by Christiane Nord in *Text Analysis in Translation* (2005: 174-179), namely, pragmatic, convention-related, linguistic, and text-specific problems (174).

One should recall that when Kate Pullinger wrote the text for episodes 1 and 2, she was not expecting that it would become such a huge success among children and teenagers (Pullinger, 2015), who rapidly became the target audience of the series. This happened not only because they identify themselves with the protagonist, but also with her way of narrating the story, and due to her speech. For the Portuguese version, we wanted to maintain the same language register in order to get the same reaction, experience and reception from the readers. Above all, it was intended that students and teachers of primary and secondary education should recognize a model of colloquial writing and verbal and visual reading in *Alice Inanimada*.

Furthermore, during the translation process the team always kept this pedagogic purpose in mind, because the ultimate goal of the project is to bring *Alice* to the classroom, which means that attention was focused on the target text. This orientation determined all the decisions we had to make regarding translation problems. One of our biggest challenges was the translation of the word "player", used to refer to the multifunctional technological device Alice uses in every episode, even before the smartphone was available on the market. We decided to keep the anglicism and therefore the estrangement regarding this gadget, an option that will allow teachers to explore media and smartphone archaeology, for example.

Figure 2. *Alice Inanimada*, episode 1

Moreover, the process was not merely a literal translation exercise, but also a process of intercultural analysis, in order to give Portuguese children and teenagers a new text that would meet their expectations, without disregarding the source text. We believe that the attention given to the translation is decisive in expanding Alice's universe and its recognition within the Portuguese speaking world and, in this way, we are able to engage children and young people in electronic literature, such as reported in other experiments with *Inanimate Alice* (e.g. Hovious *et. al.*, 2020), and show them that reading can be a stimulating activity.[10]

Educational Guidelines

Even though the audience of digital natives[11] has a natural appetite for the digital, such material still needs teaching strategies focused on the specificity of electronic literature and aimed at the conscious acquisition of the reading skills of a new literary form that explores features such as multimodality, ergodicity, instability, interactivity, immersion, and non-linearity, among others.

Thinking precisely of this didactic and pedagogical dimension, and given that this would be the first digitally-created serial novel to be read in Portuguese schools, the translation work was extended to include the pedagogical guidelines prepared by Jess Laccetti (episodes 1 to 3) and Bill Boyd. The materials prepared by this author are a kind of guiding index for a manual to be written later, but its organization allows adaptations and includes suggestions for activities for each of the episodes. These pedagogical guides are a precious help to the educational community, as they provide teachers with suitable tools for reading *Alice*. At the same time, they offer an important introduction to electronic literature, in that, with the help of these tools, students will undergo a transmedia experience that will give them another level of awareness and knowledge about this *corpus*.

Nonetheless, the team is also creating new guidelines, adapted to the Portuguese curriculum and focusing on the literary and linguistic aspects of *Alice Inanimada*, as well as digital literacy, providing a basis for teachers of Portuguese and teacher-librarians to explore these topics in their classes. In

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10 The number of articles that reflect on the encouragement of reading and the training of readers attests to the fact that this is an activity that, especially when the family context is not favorable, requires formal guidance. This reflection has been made by authors such as Colomer (2005), Leite (2013) or Cosson (2014).

11 Aware of the problems and limitations concerning the distinction between "digital natives" and "digital immigrants" made by Mark Prensky (2001; 2009), we use the first term because it emphasizes the relationship new generations have with digital media in contradistinction to the majority of teachers in Portugal.

fact, the pedagogical experience developed in two schools in Central Portugal and the teacher training sessions created by the team showed that both students and teachers were interested in studying electronic literature and exploring new forms of reading/using/interacting (Hayles, 2008; Montfort, 2003) with texts in class, as we will explain in more detail below.

Publishers

Facing the gap between children's electronic literature and Portuguese schools – a topic addressed in the article "Is there a gap in the classroom? *Inanimate Alice* in Portuguese schools", to be published in 2020 – as we approached the end of the translation of the first five episodes and of the educational guidelines, we began a survey in order to find a publishing house or a technology company with a didactic interest, which would risk investing in a product that was still marginal, but with recognized potential. The lack of response was all the more surprising because the educational and publishing communities in Portugal had already shown an effective and growing interest in children's and young adult literature.

Offering an e-lit experience to Portuguese students involves logistical and financial issues. One of the major obstacles the team has faced is precisely the lack of financial support for the publication of the Portuguese version of the *Alice Inanimada* series. In July 2017, we contacted the two largest textbook publishers in Portugal, but although there has already been some openness to digital reading and other skills in curricular documents and syllabi, publishers fear what would be a major innovation. One of the publishers even stressed the conservatism of public schools, advancing the hypothesis of a greater welcome from private schools.

From the contacts held, we understood that, from the point of view of these publishing houses it is safer to publish what the Ministry of Education and the NRP recommend students to read. Moreover, Portuguese publishing companies are still very attached to the print business model and, from our interaction with them, we had the clear impression that they fear what, in their view, would be a risky undertaking, even considering that, in general, Portuguese schools are, since 2008, well equipped from the point of view of computer technology – except for the frequent lack of updating of software by the Ministry of Education. In June 2018, we tried a partnership between Microsoft Portugal and The BradField Company. It was expected then that the *Alice Inanimada* series could be sold to schools, teachers and students and that, finally, it could be studied in class, but Microsoft Portugal did not con-

sider the partnership opportune. In any event, contacts continue with investors interested in the educational area, hoping that, in the near future, Alice Inanimada will finally be able to reach every Portuguese school.

To achieve this, we need an entity responsible for marketing and distribution in the Portuguese market of what would be a replica of the Teachers Edition Suite (TES) model (the first five episodes accompanied by pedagogical guidelines). This would mean that the publisher would develop the product with the *Inanimate Alice* production team. Initially, we thought that public and private schools with autonomy and curricular flexibility (and also some audacity) would be available to buy the TES, making its integration into teaching possible, but this has not happened yet.

This silence is all the more surprising given that, when you look at the Portuguese speaking world, there is a huge difference between a solid digital publishing market in Brazil (Matsuda and Conte, 2020), especially targeting children and teenagers, and the corresponding void in Portugal. For this reason, a new team, also from the University of Coimbra, has been working on a pioneer Portuguese digital literary work for children (Torres *et al.*, 2019; Machado, Torres, Albuquerque e Aguilar, Estefani, Andrade, and Pereira, 2019), inspired by the murals (https://www.costa-pinheiro.de/pt/publico) of the Portuguese painter Costa Pinheiro (1932, Moura, Portugal – 2015, Munich, Germany).[12]

The educational context

The argument used to persuade publishers of the didactic and economic advantage of taking a first step in the dissemination of electronic literature also included the openness to digital that was beginning to make itself felt in some national and international curricular and orientational documents. Thus, the *Students' Profile at the End of* Compulsory Education (2017) refers to the need to teach them to read digital texts,[13] but neither the ministerial

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12 Ana Maria Machado and Ana Albuquerque e Aguilar, from the first project, and Júlia Zuza Andrade, also a member of the Centre for Portuguese Literature (CLP), are creating three stories for three different audiences: an illustrated album for younger children, generative poems based on children's oral tradition, for 6-9-year-olds, and a novel about "passaria"/"birdry" novel, for 9-11-year-olds. Later, the team welcomed two more PhD students, Thales Estefani, from the CLP, and Luís Lucas Pereira, from the Computer Engineering Department, responsible for design and hypermedia code, respectively. Rui Torres, digital artist and professor at the Fernando Pessoa University (Porto, Portugal), is the project consultant.

13 The student is supposed to be able to "apply these languages [symbolic, associated with languages (mother tongue and foreign languages), literature, music, arts, technologies, mathematics and science] in an appropriate way to different communication contexts, in analog and digital environments." (ME, 2017: 11). (All the ME's documents are written in Portuguese and the translations are ours.)

documents nor the publishers explicitly recognize the educational potential of hypertextual and multimodal literature.

In fact, in the *Essential Learning – Portuguese* (ME, 2018), there is the same openness to the multimodal without specifying literary forms.[14] Neverthe-less, some progress is shown in the reference to the extension to other types of text: "the plurality of textual genres, in contexts that the digital has been expanding":

> Each of these [production and reception of texts, literary education, and explicit knowledge about language], on its own and functioning together, contributes to specific skills associated with the development of a more comprehensive and inclusive literacy: safe participation in the "language games" that the speakers perform by activating knowledge of a plurality of textual genres, in contexts that the digital has been expanding; correct and adequate production and an accu-rate and critical interpretation of texts; full knowledge and enjoyment of liter-ary texts from the Portuguese heritage and from literature in the Portuguese language, consolidated formation of readers, suitable development of linguistic awareness and explicit knowledge of the structure, rules and uses of the Portu-guese language. (ME, 2018: 1-2)

The development of digital literacy is thus progressive, but still timidly addressed in national official documents. For its part, in *A Global Framework of Reference on Digital Literacy Skills*, UNESCO (2018) establishes the im-portance of digital literacy and defines it as

> the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy. (UNESCO, 2018: 6)

Without this being the justification for reading digital literature, Scott Rettberg (2019) sees it as a means to learn how to approach reading and writing in digital media and to understand its impact on contemporary life.

Be that as may, in the current situation in Portugal, despite the curric-ular openness towards the digital, the absence of electronic literature for children is a reality, as is its corollary, that is, the absence of pedagogical instruments and of lifelong training in the field of the didactics of digital

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14 "To assume Portuguese as an object of study implies understanding language as a fac-tor of achievement, of communication, of aesthetic fruition, of literary education, of problem solving and of critical thinking. It is at the intersection of several areas that the teaching and learning of Portuguese is built: production and reception of texts (oral, written, multimodal), literary education, explicit knowledge about language (structure and functioning)." (ME, 2018: 3).

literature. Despite this state of affairs, the pedagogical experiments carried out by two of the team members[15] show that children and teenagers are very interested in this type of educational innovation and that many teachers are willing to learn new skills.

Guided by this perception and despite our failed attempts with Portuguese publishers, we have insisted on introducing digital literature in our schools. Furthermore, since the educational changes in our country often take place in a top-down manner, we tried to approach the Ministry of Education. The National Reading Plan 2027 was one of the possible ways to achieve repercussion in the classroom. It was a fortunate coincidence that its commission requested the cooperation of universities in order to provide suggestions for reading. This dialogue went on for a few months. Finally, *Alice Inanimada* was mentioned in the NRP 2027 as the first digitally born work that this institution has endorsed in the Portuguese educational system, as mentioned above, and *The Strategic Plan for the Area of Science, Technology and Higher Education* was unequivocal in its goals: "In 2018, carry out two short-term training actions dedicated to the reading/use of digital literature with the objective of initiating teachers in the educational uses of interactive narrative." (2018: 13)

The NRP seal was an important argument for organizations such as the International Portuguese Language Institute (IILP), and for other Portuguese-speaking countries such as Angola and Brazil. Unfortunately, the instability generated by the current economic and political crises,[16] made ongoing contacts impossible, and we hope that a more favourable context will soon allow dialogue to resume. In the meantime, contacts have been initiated with institutions from the United States of America, where some funding can be found given the existence of schools that teach Portuguese as a heritage language.

Pedagogical experiment

The slowness of the replies from our business and ministerial contacts could not hinder the development of the project, so while the talks described above were taking place, we understood that it was time to create and to put into practice a pedagogical experiment. As such, we contacted two public

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15 Ana Albuquerque e Aguilar and Alice Atsuko Matsuda, a post-doctoral student, who joined the project in 2018.
16 In the case of Angola, the fall in the price of oil was accompanied by a decrease in foreign currency reserves and difficulties in external financing that coincided with the change of government (2017) and the changes in political support; in relation to Brazil, disinvestment in education and culture has been fully evident since the current president took office (2019).

schools in the Centre of Portugal in order to present *Alice Inanimada* to the students and to undertake an empirical study.

As Ian Harper, the producer of the series, and Chris Joseph, visual artist, produced the first two episodes in Portuguese, in April and May 2018, 59 sixth- and eighth-graders interacted with the series, their absolute first use of digital literature. In the process of didacticization of the work, two questionnaires[17] were prepared which simultaneously signalled the specificities of digital literature and evaluated the way in which students recognized them (namely, their aesthetic perception, attention and immersion, the degree of understanding required by the work, the layers of meaning and their interaction, multimodality, etc.), with a total of 117 responses collected. These questionnaires also aimed to understand how students identify the typology and genre of the work, their empathy with the story and their awareness of multimedia features. We also wished to understand the type of activities and strategies teachers need to apply in order to develop not only digital literacy, but a digital literary literacy.

Regarding teachers, it was important to know what they thought in terms of their interest in the pedagogical experiment with *Alice Inanimada*, the widening of their students' knowledge, the difficulties inherent to a literary experience in a digital environment, and also their suggestions for further activities. Since the experiment involved only three teachers, their responses were less representative than those of the students, but still quite important in the initial phase of the applied research of the project, as it was important to get the perception of the teachers with whom we had collaborated *in loco*, together with their students.[18] However, we were able to develop a more fruitful dialogue about these subjects with the teachers and teacher-librarians in the context of the training courses we developed in February and May 2019, in cooperation with the NRP 2027, which we will consider below. In any case, the reactions of students and teachers to a first contact with digital literature was fundamental for us to understand the pedagogical and didactic orientations best suited to this audience and to start thinking about the guidelines to create.

Starting with students, the 6th and 8th grade classes where the pedagogical experiment took place are part of two schools with slightly different social and cultural backgrounds, as one of them – located in Coimbra – has a more privileged situation than the other – in Anadia.[19] Through the

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19 This paragraph summarises the detailed description made in the article Machado *et al.* 2020 (forthcoming).

way they navigated the episode, as well as the answers to the question-naire – *e.g.* potential difficulties in reading the text and advancing in the story – students showed that they have some, although not critical, digital literacy. The students who participated in the experiment belonged to three different classes. Each class was divided in half: one group read the story on paper and the other on screen; in the second episode, the groups changed versions. The printed episode was necessary for a first contras-tive experience and, although this remediation results in an artificial con-struction, it aims at integrating the minimum narrative content maintaining its closeness to the discourse, such as the narrative perspec-tive. Suppressing the transmedial change that the digital allows, and try-ing to maintain the reading experience created by Kate Pullinger, we reduced the illustrations to the absolutely necessary, i.e., to those cases in which the information was not provided by the verbal text *per se*, so it was necessary to add an illustration to remediate it:

Figure 3. Brad, the character created by Alice, in her player

After reading the episode, each group individually answered a question-naire divided into three parts: personal, social and cultural data, aesthetic reception, and understanding of the print or digital work. The results that we presented consider the totality of the students, without further distinc-tions, since at this stage it was important to analyse general aspects such as the reaction to multimodality and immersion, and also because the differ-ences between the school grades/levels (6th and 8th) were not significant.

Figure 4. Infanta D. Maria Secondary School, Coimbra (3 May 2018)[20]

As part of introducing electronic literature in schools, the aesthetic reception was the main focus of this analysis, with digital literacy being the object of a study to be undertaken later. The results of this research confirmed the study of Ackerman and Lauterman (2012) on reading on screen or paper, arguing that "the problem with screen reading is more psychological than technological." It is therefore natural that familiarity with technology favours electronic mediation.

According to the result of the common parts of both questionnaires, we were able to conclude that, even considering their ontological difference, reading the digital episode proved to be more stimulating than reading on paper, as in the first case more students expressed a desire to study more digital works, confirming the conclusion of Vânia Barbosa *et al.* (2012) by stating that "digital literature provides a good way to motivate students to read literature, in this scenario." In fact, from their answers, their interest in the work became evident and, even taking the artificial nature of the printed version provided into account, the preference for the digital over the paper version was manifest.

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20 Photograph taken by Ana Albuquerque e Aguilar, in one of the interactions with 8th grade students, in one of the school's multimedia classrooms.

Concerning the medium, as expected, students who read the original version first and then the print adaptation preferred the digital medium because they used their digital skills to navigate the episode instead of simply reading the verbal code accompanied by three illustrations.[21] In this confrontation between two media, students realized that the original narrative was digitally born.

In the evaluation of the estrangement in relation to the literary work in a digital environment, most students show a naturalization regarding the medium, having had no difficulties in navigating through the work.

Regarding the motivation to create a new episode about Alice's adventures, the students who read the digital version were more willing to do so (68% *vs.* 50%). In the field of creation, monomodality dominates (45 vs. 14), but this result may have been conditioned by the fact that students assumed they could only choose one of the modes listed (namely: text, image, video, or sound) or, on the other hand, due to their lack of awareness of the concept of mode and the assumption that the video was multimodal. Maybe the preference for the text, associated or not with another mode, reveals a school *habitus* that would have prevented them from designing alternatives.

Regarding the type of action in the reception of digital literature, 55% of students chose vision, having stated they "watched" the episode, followed by "reading" (42%) and using (3%), this being the only option signalling the reception difference in relation to traditional media, i.e. requiring concrete gestures from the user to move forward. The difference in relation to the passive attitude of the codex reader brings the digital literature reader closer to the player. Surprisingly, the "game" option was not marked by students, although at the end of the questionnaire they used the verb "to play" ("jogar") to talk about their interaction with *Alice Inanimada*. It is possible that the pressure of writing has removed the hypothesis of "gaming" because, in the minds of students, that would be out of line with usual practices in the classroom.

In identifying genre, the responses were mostly adequate, as 58% of students identified the episode as a "digital narrative". The remainder considered it to be an "animated cartoon" (29%) or a "youth novel" (13%). Consistent with the previous question, no one chose the option "computer game".

To assess the awareness of immersion, students had to indicate the moment they had "entered" the story. Interestingly, those who read it on paper

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21 The first one, with the drawing of Brad on Alice's player, was essential in order for the reader to understand the references, because, as stated above, we did not translate the word "player". The other two concerned Alice's thoughts that appear on both the player and on screen, but not in the main verbal text. So, if we wanted the original text to make sense, we needed to use multimodality in print. This allowed us to discuss writing strategies for print and/or digital media with students and teachers.

referred to situations of mental immersion (74%), while 32% of those who read it on the computer referred to situations of interaction with the story, such as the moment when Alice photographs the flowers and sends them to her father. This notation of internal interactivity (Ryan, 2001) seems to translate into some awareness that, with these gestures, the reader replaced the protagonist. In any case, most of the students (45%) reasoned in terms of imaginary immersion, in line with the reading practice with which they are familiar, that is, with the reader-text fusion proper to the reading of print literary works (Ryan, 2011), a kind of "experience of being transported to an elaborately simulated place" (Murray, 1997: 110). Even so, the digital literacy of the group feeling the gesture as an addition to print reading, that is, an "immersion as participatory activity" (Murray, 1997: 110), in a world where there are no boundaries between territories (Provenzo, 1991), should be highlighted.

Transversely, the answers to the second questionnaire reveal that the students naturalized the ergodic gesture, that is, the "non-trivial effort [...] required to allow the reader to traverse the text" (Aarseth, 1997:1), and the consequent need for interaction and immersion. In fact, 96% of the students found it natural to have to dress Alice before she went out into the snow in episode 2 – "Italy" / "*Itália*" –, since the gesture was coherent with the narrative. As for the puzzle that needs to be solved for the action to continue, also in episode 2, it is understandable that only 11% found it natural (Manresa Potrony: 2014), since the physical gesture diverts from the narrative line, being, however, an immersive gesture attesting to the progressively more ergodic nature of the medium, as opposed to the linearity of print text (Aarseth, 1997).

It is precisely because these specific characteristics of digital literature still have an incipient presence in the first two episodes of the series that they show an important aesthetic and didactic experience, providing for the metacognition of concepts and practices such as interactivity, immersion and ergodicity. Through the implicit knowledge of students, it is up to the teachers to explore these contents in order to develop the pupils' digital literary literacy. In the guidelines we are preparing, this becomes very clear.

Concerning the three teachers who collaborated in the experiment, it is worth saying that two of them sometimes use digital technologies in class, that they all want to use *Alice Inanimada* in their teaching when the work is available to the public, and that they consider the endorsement by the NRP 2027 for the legitimization of the work very important. For these teachers, the main arguments for introducing the series in the classroom are the interest and motivation of students, educational innovation and the development of digital skills. It would also be a good start for the development of

creative and cultural activities. In the incorporation of *Alice* in their pedagogical practices, their greatest fear lies in possible technical problems and difficulties accessing the internet.

The study summarised here was the first of its kind carried out in Portugal and it was very gratifying to observe the interest, motivation and enthusiasm of students and teachers as well as their willingness to continue learning and teaching digital literature.

In-service teacher training and higher education

In the absence of effective commitments by the Ministry of Education and by Portuguese publishers, the team continued its effort to bring electronic literature to schools by means of training courses, namely those organised by the NRP 2027 and the Directorate-General for Education, in 2019: "Electronic Literature in an Educational Context: Creative Practices. Inanimate Alice Teacher Training".[22] In the four courses held in Coimbra and Lisbon, we trained more than 50 teachers, educators and teacher-librarians, from all over the country. During the sessions, the trainees had to undertake interdisciplinary creative projects and some of them provided continuity to these in their own schools and libraries, with an emphasis on Rui Mateus who presented his didactic project at the Teaching Digital Literature International Conference 2019 (TDLIC 2019) and submitted it to the current issue of the journal *MATLIT – Materialities of Literature*. However, the greatest proof of recognition of these courses was the material evidence of the ontological difference between digital and digitized literature (Hayles, 2008; Kirchof, 2016; Araújo and Frade, 2018) and, consequently, a new perspective on digital literature. In fact, among the trainees there were also members of the NRP staff who immediately accepted the examples provided of digital literature and incorporated them into the official website of the National Reading Plan. At the outset, these works were incorporated into the Bibliotecas e Livros Digitais (*Libraries and Digital Books*) section of the website, but, more recently, a new section has been created, Leitura em Apps (*Reading through Apps*), where one can find different websites and apps, some of them relating to digital literature.[23] Even though these new recommendations would

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22 The course was created and taught by Ana Maria Machado and Ana Albuquerque e Aguilar. It took place at the School of Arts and Humanities of the University of Coimbra (6 February and 29 April 2019) and at the Professor João Soares Teacher Training Centre, in Lisbon (8 February and 1 April 2019).
23 Even though some of the titles in Portuguese are child-oriented, as we stated above, there is still a lack of Portuguese digital literature for children and young adults.

greatly benefit from an expert and curatorial perspective, it is still an important step towards the inclusion of electronic literature in reading and creative experiences.

Gradually, we are achieving a domino effect despite the lack of financial resources. In fact, to these training courses we added others certified by the Scientific and Pedagogical Council for In-service Teacher Training,[24] as well as pedagogical experiments in another school.[25] In 2019/2020, the training course that took place at the School of Arts and Humanities of the University of Coimbra was specifically designed for cooperating teachers, i.e. supervisors of the students' teaching practice, and for the syllabus of the Master's in the Teaching of Portuguese,[26] with an introductory module on digital literature, where, among other works, *Alice Inanimada* was studied.

The investment in digital literature at the post-graduate level included a Short Course of Combinatory Poetry and Textual Generation,[27] taught by Rui Torres and Bruno Ministro, in the 2018/2019 academic year, aimed at students of the MA in Teaching, with Portuguese, the Master's in Portuguese Literature and the PhD in Materialities of Literature. In July 25-26, 2019, at the School of Arts and Humanities of the University of Coimbra, the team also organized the Teaching Digital Literature International Conference, where a roundtable discussion on the teaching of *Inanimate Alice* around the world took place, with participants from Canada, Portugal, Spain, Russia, and the United States of America. Some of the papers presented at this session have been selected for publication in the current issue (8.1) of *MATLIT – Materialities of Literature*, coordinated by Ana Maria Machado and Ana Albuquerque e Aguilar. It was extremely rewarding to experience the power of this digital narrative and to understand how we can build a teaching and learning community around Alice, based on cooperation, interdisciplinarity, curricular flexibility, inclusion, sharing, critical thinking, creativity – in short, very close to an ideal school.

All these activities involved teachers and students from primary and secondary schools, but also from the university, seeking to make the educating community aware of electronic literature and of its pedagogical potential. On the other hand, bonds and partnerships around Inanimate Alice

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24 Coordinated by Ana Maria Machado. The seminars were guided, respectively, by Rui Mateus and Ana Maria Machado, and by the PhD students Ana Albuquerque e Aguilar and Cecília Magalhães.

25 In the context of her doctoral research, Ana Albuquerque e Aguilar developed a similar experiment with *Alice Inanimada* in a private school in Lisbon, on 30 May and 5 June 2019, involving the collaboration of one teacher and 57 sixth-graders. The results were very similar to the ones described above.

26 Master in Teaching Portuguese in Secondary Schools, Master in Teaching Portuguese and a Foreign Language (English, French, German and Spanish) in Secondary Schools, and Master in Teaching Portuguese and Latin in Secondary Schools.

27 Coordinated by Ana Maria Machado, in a partnership between the three Masters in Teaching with Portuguese and the PhD in Materialities of Literature.

have been created, namely with teachers and academics that have been reflecting theoretically (Stewart, 2010; Zuern, 2015) and pedagogically (Fleming, 2013; Przybyszewska, 2019) about the series or about their own experiments with it, like Brian Cancy, Steltman Cameron, and Svetlana Kuchina, whose work is presented in Inanimate Alice's Featured Classrooms.

III.CONCLUSION (AND FUTURE PLANS FOR THE PROJECT)

Looking back, a lot has been done. The pedagogical experiments, the teacher training sessions and the academic debates are an example of the project's success. Funding has never been forthcoming, but there are ongoing developments and we have new plans.

In 2020, on the Inanimate Alice webpage, in the Featured Classrooms (in the iTeach with Alice section), images, videos and testimonies of the first Portuguese pedagogical experiment will be introduced.

As part of the Master's Degree in Portuguese as a Foreign/Second Language, the project coordinator will develop the didacticization of the episodes produced for Portuguese as a heritage language (Albuquerque e Aguilar, 2018b), implementing the "Atlantic Bridge", i.e. a cooperation protocol with Lesley University (Massachusetts, USA). In addition to this dissemination action, the Portuguese team, in collaboration with the production team (www.bradfieldnarrative.com), is committed to creating a pilot-experiment in 20 schools in Central Portugal, taking advantage of the network of schools that have a protocol with the University of Coimbra. We are thinking of the schools where the first experiments took place, but we have already made contacts with other schools that are also interested in joining the project.

To create a network of teachers with specific training in the area, in the school year 2019/2020 and as part of Initial Teacher Training, as stated above, the three Master's Degrees in Teaching Portuguese have offered a module on Teaching Digital Literature, also thinking that, through the cooperation of these students, at the end of the second term, a training session would be created for teachers of the selected schools. In this way, our intention was that, in the first term of the 2020/2021 school year, the first episode of Alice Inanimada would be studied in each of these schools. However, due to the COVID-19 pandemic and consequent impact in schools, and also the uncertainty about the teaching and learning regime[28] in September 2020, we may have to make some adaptations.

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28 From 16 March 2020, Portugal adopted a remote teaching regime. On 18 May, 11th- and 12th-graders resumed face-to-face lessons, but only in specific subjects. All the other grades, from 1st to 10th, kept the remote teaching regime until the end of the school year.

We believe that, as in the experiments reported, the first episode will create curiosity in students and a wish to experience new adventures of Alice and we also hope that the publicity for the experiment on social media will raise interest in working with *Alice Inanimada* in other schools. In that regard, a profile of the protagonist has already been created on Facebook.

The pedagogic materials will be stored in the cloud, probably at the University of Coimbra, where they will be disseminated through licenses granted to this group of schools.

From the point of view of funding, we are very aware of the obstacles ahead of us, but we believe that, with the support of the School of Arts and Humanities of the University of Coimbra, we can place some hope in entities such as the Intermunicipal Community of the Region of Coimbra (CIM/RC), which deals with the area of education, or the Regional Strategy for Intelligent Education (EREI).

Encouraged by our work, Russian and Polish colleagues will follow us in Alice's footsteps, expanding her universe. This (difficult) new stage cannot hide the rewarding work developed since 2015, nor the national and international recognition of the project.

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