Towards a Transmedia Learning Approach in ESL Context

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Abstract. Transmedia storyworlds allow students to express themselves and take part in a shared culture while developing learning paths. Whilst the use of transmedia storytelling in formal learning environments has been steadily gaining ground among educators, documented cases of its application are still sparse. This paper reports on a transmedia learning storyworld targeted to English as Second Language students by providing insight on the design of the storyworld and analysis of its core elements. The potential and challenges of applying a transmedia approach in an educational setting are explored through the description of the implementation of a prototype version of a transmedia learning storyworld and discussion of issues emerging from the application process. Based on the insights acquired during this stage, the paper concludes with a set of considerations to take into account in the development of future research in the transmedia learning field.

Keywords: English as second language · transmedia learning · transmedia storytelling

1 Introduction

In the 21st Century, students express themselves and interact within a participatory culture. In out-of-school settings, adolescents engage in new forms of cognition and communication [1] by leveraging different technologies for their own purposes, establishing social networks, engaging in sophisticated gaming practices [2], creating, publishing, and commenting on a range of multimedia texts [3]. In this context, transmedia storytelling - "a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience" [4] - "emerges as a mean of creation and expression of the Millennial generation"[5].

Transmedia learning is defined by Raybourn [6] as "a scalable system of messages representing a narrative or core experience that unfolds from the use of multiple media, emotionally engaging learners by involving them personally in the story" - intrinsically, it provides the space "to connect students with diverse content and each other" [7]. Given their affordances, transmedia ecosystems lend themselves in particular to the development of learning activities in English as Second Language (ESL) by providing a multimodal sandbox within which

students gain a greater agency to produce language through digital formats. English language learning, in the mediated and participatory landscape of the 21st Century, can no longer be narrowed down to the exploration of the four skills: speaking, listening, reading, and writing. Competence in ESL entails not only grammatical but also communicative, symbolic [8], and relational [9] aspects which are controlled by sociolinguistic, pragmatic and cultural variables. Hence, language practice cannot be dissociated from the students' needs or language use, goals and reflections. One of the main affordances of transmedia learning environments is the potential to shift the balance of agency as students "become hunters and gatherers pulling together information from multiple sources to form a new synthesis" to become "active publishers of knowledge" [10]. They also allow to "broaden the mix of representational modes in which students express their knowledge and build collaborative knowledge cultures" [11]. Ultimately, these ecosystems aim to engage students in meaningful and authentic learning experiences by taking into consideration their contexts.

Addressing the need to map the use of transmedia learning in formal learning environments of ESL, this paper presents part of an ongoing research project that aims to deepen the understanding of the application of transmedia storyworlds in English as second language learning context. The following sections provide insight into a transmedia learning storyworld, explicitly targeted to ESL adolescent students. The next section describes the design methodology used to scaffold learning activities in the storyworld and provides an overview of the core elements that constitute the experience of the storyworld. Section three reports on the application of a prototype version of the storyworld in a formal learning environment. Finally, the paper concludes with a brief discussion of the challenges emerging from the implementation process and points to future research.

2   Connecting Cat

2.1   Conceptual Design

Connecting Cat is a transmedia learning storyworld targeted to Portuguese 10th-grade students, 16-year-old teenagers. It aims to be the setting of exploration of curricular goals of ESL, level B1 according to CEFR (Common European Framework of Reference for Languages). It is designed to engage students in the exploration of the curricular topics media culture, multiculturalism, linguistic diversity and use of technology. By taking part in the storyworld, students may enhance their language as well as their media literacy skills.

The storyworld's backdrop is an adventure story in which the protagonist seeks pieces to build a portal to connect humans to a tribe of alien warriors. In terms of narrative design, the hero's journey model was used to create an emotional connection and stimulate interest in the learning content embedded in the storyworld. Similarly to Cat's journey, the heroine of the story, students face challenges, meet mentors and are called to develop their learning path. The story is set in both a primary and a secondary world. In this manner, students

can explore a mystical dimension, in this case, an alien warriors' world, as well as the real, through the unveiling of the protagonist's life events.

Drawing from the multiliteracy training approach proposed by Kurek & Hauck [12], the students' interactions, within the storyworld, were scaffolded around the following parameters: reception, participation, and contribution. This method "attempts to address learner literacy needs on various levels. Similarly to what is happening in a language classroom, the learner is guided from observation of the desired acts, through their interpretation to the final performance, with the teacher gradually withdrawing support" [12]. By exploring the different platforms, students are able to move from informed reception of input to responsive participation in opinion-generating activities and creative contribution of multimodal outputs [12]. Kurek & Hauck [12] argue "language learners who can comfortably alternate in their roles as semiotic responders and semiotic initiators will reflect the success of training that takes account of multimodality as a core element of digital literacy skills." To facilitate the management of learning goals, different narrative units address different curricular topics Regardless if the students explore the storyworld in a linear or non-linear manner, the narrative units are comprehensible on their own, even when explored outside the main narrative framework and encapsulate the necessary context to explore the learning content.

2.2   Core Elements of the Experience

The platforms for the storyworld were selected taking into account the learning sequence proposed by Kurek & Hauck [12]: reception, participation, and contribution. Platforms that would, on the one hand, provide learning inputs and, on the other, trigger the creation of learning outputs. The different points of access to the storyworld are set forth via a website [13], the hub of the storyworld. The navigation within the framework allows for a cumulative or complementary exploration of the elements, linear or non-linear. Below is a brief description of the main platforms that constitute the storyworld. The first three targeted to provide learning inputs the students can explore:

Who am I [14] is a webisode that establishes the essence of the story - characters, setting, and challenges. The main character is confronted with the revelation of her secret alien identity and mission. The webisode integrates a clue to two other narrative units. It can be explored to raise awareness to diverse types of linguistic discourse and discursive practices in the L2. Students can critically evaluate discourse and develop conversation skills using the webisode as a setting.

Seek and you shall find [15] is an interactive video. It makes use of the choose-your-own-adventure structure to provide a set of narratives threads that users can select and consequently create a personal experience of the story. Both the setting and characters' interactions were intentionally attuned to exploit the topics of linguistic diversity and multiculturalism. The various narrative threads provide learning inputs such as discourses representing diverse cultures, genres, intentions, communication modes and language varieties.

Allure [16] is a motion book sequence that exploits the culture and life of the alien tribe. The user is invited to track the warrior Shakid from the moment he morphs from a cat, in the real world, into a Fluxus warrior, follow a rescue mission and his return to the real world. The events related to the mission, in particular, are set to integrate learning triggers related to the topic linguistic diversity. Allure adapts the graphic conventions of comic books and combines static art, simple animation, and sound to create a movie-like feel within the comic. Thus, it presents the potential to explore receptive communication skills and reinforce meaning through different modes of representation. By tapping into this narrative unit, students can identify biased or exploitative situations and then report and rephrase information provided visually in the sequence.

In conjunction with platforms targeted to deliver learning inputs, the storyworld is articulated around three platforms aimed to trigger the production of learning outputs:

The Fluxus Logs [17] is a blog that aims to be the alien tribe repository of knowledge "seeds" collected by humans about planet earth and its inhabitants. As co-creators of the storyworld, students can give their contribution to the assemblage. Posts on the blog include challenges that might encourage students to create, collaboratively or on their own, digital artifacts such as wikis, podcasts, videos or any other form of digital creation. This space is targeted to engage students in the topics, activate prior knowledge as well as develop media literacy skills. They are encouraged to express in a creative manner, remix and recycle modes, genres, and symbols to forge new interpretations and representations of the storyworld while channeling previously acquired knowledge and skills.

Cat's Facebook posts seek to immerse students in her quests by sharing her impressions, the challenges she is facing and asking for opinions. Students are encouraged to be active participants and expand their knowledge on the topics explored through the webisodes and motion book sequence. By interacting with the protagonist on this platform, they can address discourse issues such as argumentation and negotiation skills, pragmatic competence or netiquette in L2.

The Ed Tribe/Community is a platform specifically targeted to the use of the storyworld in formal learning environments. Edmodo integrates social networking and communication features that promote collaborative and creative practices both in the classroom and outside leading to the creation of learning paths that address the students' needs and learning contexts. It is intended to be a space for the community of students and teachers to share resources and content related to the storyworld. A set of learning resources [18] related to the story is also provided on this platform. The exploration guides to the story provide prompts for speaking activities such as group discussions or role play and a wide variety of writing prompts. The main goal is to provide a body of activities conveyed via personal accounts as much as factual texts reflecting an authentic variety of sources taken from the English speaking world that teachers can select according to the students' needs. The learning activities can be shared, remixed and enhanced by educators or students.

3   Application of the Storyworld Prototype in Formal Learning Environment

Upon completion of the design stage and the development of the experience, several questions remained answered, namely: if the story was engaging thus fostering learning practices within a formal learning environment; whether or not students felt compelled to complete the whole experience and if the learning content encapsulated in the different fragments of the story was interesting enough and understandable to the students. Ultimately, could the storyworld provide a sufficiently satisfying learning experience to the students. To attain a preliminary assessment and collect feedback regarding as to how students would respond to the storyworld, an exploratory test was conducted.

3.1   Methodology

The pilot study followed the design-based research methodology mostly due to its central focus on tackling complex educational problems and given the complexity that entails the analysis of a learning experience and the assessment of an artifact such as a transmedia storyworld. The first iteration of the storyworld was implemented in three 90-minutes ESL classes with 24 tenth grade students at an urban secondary school in Portugal. The number of students didn't vary across the three sessions. They spent the 90 minutes sessions working on activities and assignments related to the storyworld. The researcher took part in the experience as observer and participant, and the classes were co-taught with the teacher. Throughout the three sessions, student and teacher observation and interviews were conducted, and artifacts collected. The sessions were recorded for transcription purposes and also to collect data regarding interactions between teacher/ students and between peers. Prior to the implementation stage, the teacher had access to all the content the students would engage with and was given instructions on how to interact with the various elements contained within the storyworld. Students had previously had contact with the curricular topics that are at the core of the storyworld since the sessions were set at the end of the school year. During this research cycle, the pedagogical sequence: reception - participation - contribution wasn't followed taking into account the goals of the pilot study - elicit overall feedback from users regarding the use of the storyworld for learning purposes. Nevertheless, at different points of the pilot study, students were specifically instructed to participate in the storyworld by producing digital artifacts or by being active participants in the story through a quest set via QR codes and augmented reality triggers.

    In the first session, students were allowed to explored the storyworld without guidance from the teacher or researcher. To track the students' experience, a hash number was generated and saved on the client side. In this manner, it was possible to identify which access points the students had accessed to and through which sequence they had engaged with the different platforms. Using Google analytics features, it was also possible to monitor how much time students spent exploring the various platforms of the storyworld. The majority of the

students preferred to explore the motion book sequence and the interactive video. Returning on separate occasions during the session to replay the content on these two platforms. In the last 30 minutes of the session, in groups of four, the students exchanged information with their peers about the story and tried to map the events of the main protagonist. All groups were able to track the main events of the protagonist. During the second session, students were asked to focus on the Fluxus Logs blog, select one of the available posts and submit a digital artifact related to it. The remaining 30 minutes were used to discuss what they had learned through the exploration of the blog posts and the creation of their digital artifacts. In the last session, students took part in one of the protagonist's quests. They were encouraged to help Cat to find the location of one of the portal pieces and its kidnaped guardian. The triggers for the quest were set via the mobile augmented reality application Aurasma and QR Codes. Throughout the quest, students had to solve clues and provide information to Cat. The remaining 30 minutes of the session were used to collect feedback on the overall experience of the storyworld. The students also provided feedback through a questionnaire provided at the end. The feedback activities were integrated into the sessions as opportunities for students to interact and engage in reflective practice using L2.

3.2   Research Insights

Previous to the sessions, to collect data that might help target their needs as participants of storyworld and improve it according to their preferences and insights, they answered a questionnaire concerning their social media consumption habits and their presence in the online world. More than 80% stated to prefer to be online through their mobile phones. The majority of the class (more than 70%) reported spending an average of two to five hours a day online mostly on social networks (74%) or playing games. 61% students are members of more than three social networking sites. Regarding preferences, the students prefer to use Facebook to interact with peers - more than 90%, but some also frequently interact on the Tumblr and Instagram platforms (36%). 70% play multiplayer online games and prefer action, and adventure games such as League of Legends or GTA V. The collection of this data allowed posteriorly to improve upon the first version of the storyworld by including access points in platforms that were more relevant to the students namely the Instagram platform.

Following the sessions, a feedback questionnaire was used to ascertain students' attitudes toward the storyworld. Students were asked a number of questions concerning the different platforms they had interacted with. The questions were presented as statements with Likert-type responses. Students could indicate how much they agreed or disagreed with each statement on a scale from 1 to 5. The questions referred to the following themes: quality; learning and engagement. They were also asked to rate the elements of the storyworld. Table one presents the average ratings received from the students (based on a scale of 1 to 5, with 5 being the highest).

Through the feedback questionnaire and discussion activities, participants had the opportunity to provide their insight on how the storyworld could expand.

	Quality	Engagement	Learning
Webisode 1	3	4	3
Motion Book Sequence	4	5	4
Interactive Video	4	4	3
Blog	4	4	4
QR / AR Quest	4	4	4

Table 1: Average ratings received from students during the first iteration.

They suggested that the integration of an Instagram account could help track Cat's quests and that they could have an active role by creating their own Cat's adventures.

Although students provided positive reviews to the site regarding navigation and web design, they suggested more guidance should be added. These concerns were addressed subsequently resulting in the integration of supplementary structured menus in a new version of the site.

A significant amount of challenges emerged during the sessions. Often students expected direct guidance from the teacher or researcher to explore the storyworld, and while developing their digital artifacts, they were not aware of intellectual property rights concerning the resources they had used. During group work, some participants demonstrated a lack of collaborative culture in interactions with their peers. This was particularly visible during the quest activity and interfered with the completion of the mission. Taking into account the qualitative and quantitative data collected, future research cycles should address the fact that students in a class present different levels of media literacy proficiency and the need to raise awareness to digital copyright use. In the next stage of research, a new iteration of the prototype will be explored in an ESL formal learning environment to acquire insights on how the pedagogical sequence: reception; participation and contribution via learning input and output platforms can be applied through the use of a transmedia storyworld.

4   Closing Discussion

Connecting Cat, as part of an ongoing research project, aims to deepen the understanding of the implementation of transmedia storyworld in ESL learning context - how it can communicate the complexity and context of a story and its learning content via the use of media platforms as well as achieve students' engagement and participation. Researchers have demonstrated through empirical study that learning is inseparable from the cultural identities, practices and material settings of everyday life yet in schools educators and students seem to have little control over what happens in their classroom [19]. Transmedia storyworlds targeted to learning have the potential to create a participatory space for students. Knowledge and skills can be shared around a shared purpose and enhance creative production. In other words, transmedia storyworlds can be viewed as spaces in which students feel connected.

Although this paper only reports on the preliminary stage in a research process to assess and improve the storyworld, the data collected during the pilot study indicate the storyworld has the potential to be explored in an ESL learning context. The implementation of future versions will hopefully yield more insights on to how to use transmedia learning storyworlds in formal learning environments.

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