

# Collaborative storytelling with Wiki: a case study in Spanish rural schools

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**Abstract**—The isolation of rural communities creates special needs for teachers and students in rural schools. Within the framework of SoRuraLL project, we have investigated the potential of social software tools for enhancing teaching and learning possibilities in rural settings. In this context, a new educational scenario was co-designed by researchers and rural school teachers, which consists of collaboratively writing a story, among distant schools, through the use of a Wiki application. The scenario has been implemented in two Spanish rural schools. This paper aims to describe the Wiki storytelling educational activity, as well as to analyze the related learning outcomes and impacts on the participating rural schools.

**Index Terms**—Wiki, Storytelling, Choose Your Own Adventure, social software, rural education.

## I. INTRODUCTION

It is recognized that rural communities are one of the disadvantaged groups in Europe due to their physical distance and isolation from other communities. Rural schools and teachers, as part of such groups, encounter difficulties in accessing services and resources for working with peers. Although internet access is changing the landscape of the rural teacher, the possibility of working with colleagues in professional development tasks is not completely provided. New opportunities for bridging the gap between rural and urban schools could emerge through the use of ICT tools.

Rural education in Spain has been given special attention and has significantly improved in the recent years [1]. With the political and administrative decentralization of the educational system, each autonomous regional government has developed educational structures and services adapted to the needs of rural schools. However, there are still clear needs to be tackled [2].

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Among them, there is a lack of continuous training for rural school teachers aiming to keep pace with new didactical approaches, with the use of ICT in the classroom, with dealing with diversity, and for professional development. Indeed, rural schools need to be re-thought the as embedded within the actual society and its features.

The SoRuraLL project (LLP Program, KA3, 2009-2010) aims to investigate the potential for enhanced lifelong learning offered by social networking tools and platforms to those living in geographically and socio-economically disadvantaged rural areas. Experimental learning approaches are being developed and implemented, examining the potential offered by these new trends and tools for the alleviation of the disadvantage suffered by such populations in Europe through the enhancement of opportunities for effective and meaningful lifelong learning. The project is being implemented in five different countries. In this context, several Spanish rural multigrade primary schools, with students aged between 3 and 12, have been conducting common educational activities enhanced by social networking tools. Their participation has been coordinated by Future Learning research team ([www.futurelearning.org](http://www.futurelearning.org)), an initiative within the University of Barcelona.

One of the main outcomes of the SoRuraLL project is a web-based platform called SoRuraLL Virtual Learning World (VLW). It has been co-designed by the project's partners and consists of a user friendly web interface to a private environment adapted to the evolving interests of the rural communities. It integrates several social networking tools carefully structured, organized and interrelated, materializing the concept of a shared space for communication, exchange, and mutual support among users. Content within the platform can be added and edited by registered members of the SoRuraLL network. While certain parts are made public for external audience to read and comment, other parts remain accessible only to the SoRuraLL community. The VLW does not aim to integrate the most powerful, fancy or sophisticated tools; rather, it combines the technologies which, in a natural way, have emerged as appropriate to the context of the rural schools. Within the Spanish network of rural schools, the VLW provides teachers with a private platform integrating several 2.0 applications adapted to the specific needs of the learning scenarios they were willing to implement.

The VLW, by providing a private Wiki platform, enabled teachers to conduct a collaborative Wiki-storytelling activity,

which they would not have been able to conduct within other applications. This activity consisted, for two schools (CEIP Rellinars and CEIP Sant Serni – Prats), in co-designing a hypermedia story of the “choose your own adventure” type, by using a Wiki application.

This paper aims at describing the Wiki storytelling scenario, and at analyzing its impacts and outcomes in the rural schools. The first section gives some background on social software enhanced learning and storytelling. A second section aims at formulating the needs of Spanish rural schools. Afterwards, the article describes the Wiki storytelling educational scenario, as well as its implementation process. Finally, a last section describes the results and learning outcomes of this implementation.

## II. SOCIAL SOFTWARE ENHANCED LEARNING

Owen et al. [3] formulate some key attributes of social software in relation to education, such as:

- The communication between groups (to review each others' actions and to allow those actions to benefit each other member of a community);
- the communication between many people (to publish for a large audience);
- gathering and sharing resources (gathering and making material available);
- collaborative collecting and indexing of information (new ways of organizing and finding knowledge objects);
- new tools for knowledge aggregation and creation of new knowledge.

The most common social software tools, together with their functions, are described in Table 1.

Type	Function	Tools
Communicative	To share ideas, information, and creations.	Blogs, Audio blogs, Video blogs, IM-type tools, Podcasts, Webcams
Collaborative	To work with others for a specific purpose in a shared work area.	Editing/writing tools, Wikis
Documentative	To collect and/or present evidence of experiences, thinking over time, productions, etc.	Blogs, Video blogs, E-portfolios
Generative	To create something new that can be seen and/or used by others.	Mashups, Virtual Learning Worlds (VLWs)
Interactive	To exchange information, ideas, resources, materials.	Learning objectives, Social bookmarking, VLWs

Fig. 1. Web 2.0 applications [4]

According to Désilet and Paquet [5], “Wikis are simple to use, asynchronous, web-based collaborative hypertext authoring systems” (p. 1). Recently, Wikis have been widely

used in educational settings, as they can enhance collaborative learning processes. In a Wiki-based learning scenario, students co-write and co-edit web pages. When contributing to a web page, they must read related materials carefully and therefore yield high achievement. Furthermore, being aware of the fact that articles can be read by the public, students may read critically and write responsibly [6]. During such learning processes, peer interaction can motivate participants, who collaboratively construct shared knowledge. Such benefits encourage more and more educators to adopt Wiki-based collaboration. Indeed, these settings are reported to be able to form effective collaborative learning processes.

## III. SOCIAL SOFTWARE ENHANCED STORYTELLING

According to Alexander and Levine [7]:

“A story has a beginning, a middle, and a cleanly wrapped-up ending. (...) It follows a trajectory, a Freytag Pyramid—perhaps the line of a human life or the stages of the hero's journey. A story is told by one person or by a creative team to an audience that is usually quiet, even receptive. (...). Today, with digital networks and social media, this pattern is changing. Stories now are open-ended, branching, hyperlinked, cross-media, participatory, exploratory, and unpredictable. And they are told in new ways: Web 2.0 storytelling picks up these new types of stories and runs with them, accelerating the pace of creation and participation while revealing new directions for narratives to flow” (p. 40).

Currently, collaborative writing is the most common application of educational use of Wikis [8]. Among others, tasks can be storytelling. As an example, Désilet and Paquet [5] present a case study in which primary school students used a Wiki for collaborative storytelling. By using Wikis to write hyperlinked, non-linear stories in teams, children could learn through practice on several fronts. To Alexander and Levine [7], Wikis have emerged as storytelling tools, as they can constitute “platforms for a new form of writing” and “shared writing spaces for authors separated by space and time”. Furthermore, “their accretive function, whereby content piles up over time, is well suited for world-building exercises” (p. 52).

Thus, Wiki enable multiple authors to co-design and co-edit a story, integrating various types of media (pictures, videos, sounds, texts), and using a multilinear style (hypertextual), thus promoting new ways of creating and experiencing narrative, often nonlinear and increasingly media-rich.

## IV. NEEDS AND INTERESTS OF SPANISH RURAL SCHOOLS

Two focus group sessions conducted with four rural schools teachers within SoRuraLL project, enabled to formulate several interest and needs of Spanish rural schools, as listed below.

### A. Need for communication with other rural communities.

According to teachers, there is a need to communicate and to participate in telematic-based projects with other rural schools featured by the same context and needs. They stress

that social networking tools can help in enhancing common educational projects.

*B. Need for support, guidance and familiarization to ICT tools.*

Teachers stress that they need training to keep pace with new pedagogical approaches, deal with diversity, and use ICT in the classroom and for professional development. Moreover, they need to find tools that promote the autonomy of students when using computers. They also value the fact of building ICT-based educational resources and share them with other teachers so resources are not lost.

*C. Need for language learning.*

Teachers stress that social networking tools constitute a perfect context for language learning. Indeed, they could use such tools in order to communicate with other Spanish schools, thus practicing the different Spanish regional / national languages, as well as to learn English in a context of collaboration with schools located in other countries.

*D. Need for sharing teaching methodologies.*

Teachers stress that social networking tools can enable them to exchange teaching / learning resources and activities with peers.

*E. Need for a better visibility of rural schools*

In the words of teachers, it is important that the public administration (both at a national and regional level) can see that rural schools can do a lot of things if they are well equipped. Teachers consider rural schools as islands which need tools to be linked.

*F. Need for common goal-driven educational scenarios*

A need for conducting common educational projects, enhanced by goal-driven scenarios, among distant rural schools, has been identified. Indeed, schools need to be involved in a contextualized collaboration process as they look for meaningful activities adapted to their specific context. They seek for fruitful interactions with concrete and well defined goals and outcomes.

According to the needs identified, the University of Barcelona research team, together with rural schools' teachers, co-designed a new learning scenario, so called "collaborative storytelling with Wiki". Indeed, teachers had previously expressed their curiosity towards the Wiki tools, and stated that they often conduct activities related to storytelling. Thus, the scenario consists in involving several distant schools in co-writing a story type "Choose your own adventure", in order to work on several learning subjects, such as Spanish, reading, writing and digital literacy.

This scenario aimed at answering to the above specific interests and needs of Spanish rural schools. Indeed, this telematic-based activity would represent a meaningful context to share educational project among different rural schools. Moreover, using a wiki within the classroom would enable

teachers to discover a new tool for pedagogical purposes, as well as promoting the autonomy of students when using ICT. As an answer to the need for language learning, the scenario would offer an opportunity, for students, to practice Spanish (most of the students of Catalan schools only use the Catalan language). It was expected that the activity would enhance the visibility of rural schools, as the story would be made public from the SoRuraLL VLW. Finally, the scenario constitutes a common educational project in which different distant schools would interact in order to achieve specific goals, in the context of an activity adapted to their specific context.

More specifically, the specific learning objectives were the followings:

- to practice creative writing skills, artistic skills;
- to practice linguistic communication skills (Spanish);
- to practice reading skills;
- to practice digital skills, such as Internet search, video and image editing, etc.;
- to improve social and collaboration skills, both face-to-face and virtually.

The scenario was designed to enhance the curricular objectives of schools. Indeed, the organic law of education (LOE 2/2006) integrates basic skills in primary education curricular objectives, in order to enable students to reinforce their personal development, social abilities, artistic sensibility, creativity and affectivity, as well as to acquire basic cultural skills related to expression and oral understanding, reading, writing, counting, etc.

## V. IMPLEMENTATION OF THE SCENARIO

Two schools participated in the design of the story:

- the CEIP Sant Serni (<http://www.xtec.cat/ceipsantserni-prats/>); 16 students, aged between 6 and 12, participated in the weekly sessions.

- CEIP Rellinars (<http://www.xtec.cat/ceiprellinars/>); the school has 63 students aged between 3 and 12. The Wiki storytelling activity was organized through a weekly workshop in which all interested students could participate freely. An average of 10 students attended the workshop each week.

The activity has been organized within weekly sessions of one-two hours conducted during a three month period. Students were assigned to small groups of two-three kids guided by their teacher. Each group wrote a section of the story and illustrated it with pictures and / or videos which they could either make themselves, or search in the Internet. The story was developed through the Wiki application of the SoRuraLL VLW. It was organized in different nodes (each node constitutes a place of the story, in which a specific action takes place) and actions (that go from a place to another). Each node corresponds to a Wiki page. Thus, the story constitutes an interactive hypertextual environment.

The activity was conducted according to the following steps:

- a. The first school designed the beginning of the story, by

answering the following questions (brainstorming among teacher and students):

- What is the story about?
- When does the story take place?
- Who is the hero (age, appearance, etc.)?
- What is the objective of the story?

On this basis, students wrote the first section of the story (the first node) in a collaborative way in the VLW Wiki platform, with texts and videos. Moreover, they wrote three possible actions between which the hero would have to choose.

b. The other participating school read the story through a projector. Afterwards, students were assigned in groups and wrote the continuation of one of the actions set by the first school.

c. Phase B repeated until each path arrived to the predefined objective of the story (i.e. the end).

Moreover, two videos of the schools conducting the activity can be found at: <http://daisy.cti.gr/sorurall/drupal/es/node/277> and <http://daisy.cti.gr/sorurall/drupal/node/251>

## VI. EVALUATION OF THE ACTIVITY

Observation sessions in the schools, as well as interviews with the teachers of the two participating schools, enabled to evaluate the implementation of the scenario.

The overall evaluation has been generally positive. Benefits, both for teachers and students, have been observed in relation to various educational aspects, such as the familiarization with 2.0 technologies, increased collaboration skills, increased language learning and narrative skills, boost of the motivation, and developing ethical behavior:

### A. Familiarization with 2.0 technologies

The activity provided the schools with a context to use 2.0 technologies in learning settings. Indeed, students could experiment new social software applications, such as Wikis. Moreover, they had the opportunity to practice their previously acquired skills with 2.0 tools (e.g. Youtube), and discover new ways of their possible utilizations in educational settings. Indeed, they could appreciate new possibilities of such tools, such as communication, achievement of a common project, co-construction of knowledge and rapprochement.

### B. Collaboration skills

As students were aware of the fact that what they wrote would be read and edited by other students, they felt more involved in the activity. Indeed, they realized that they had to adapt their discourse, language and narrative to the other school's students.

### C. Language learning and narrative skills

The activity enabled students to practice Spanish reading and writing, which is important as the two participating schools are located in Catalonia, and most of the students do not have the occasion to practice Spanish.

Moreover, the narrative aspect of the activity enabled students to develop reading, writing and imagination skills, in reaction to what the other students had written.

### D. Motivation

The collaborative aspect of the activity increased students' motivation, who were aware of the fact that their contributions would be read by other students. They were very impatient to see the other school's feedback. Furthermore, the complete story is open for view from external audiences (i.e. the Internet). This represents a motivational element for students and teachers when conducting the activity. Indeed, as students and teachers are aware that they have an audience which goes outside the classroom, they feel more responsible and involved with the content they publish, and adapt this content according to the type of audience, thus increasing the quality of the produced content.



Fig. 2. Screenshot of the Wiki storytelling activity in the SoruRALL VLW



Fig. 3 and 4. Photos of a storytelling session in Rellinars school

The result of the activity (i.e. the final story) is a consistent multi-ending narrative composed of 23 Wiki pages, including 14 possible endings. Nine pages have been posted by CEIP Sant Serni, and 14 by CEIP Rellinars. The story is available at the following link:

<http://daisy.cti.gr/sorurall/drupal/es/taxonomy/term/27>

### E. Ethics

As an unexpected outcome, students have learnt and developed ethical behaviors towards external peers. Indeed, it has been observed that schools did not edit the pages posted by others, in order to not offend at each other.

Certain aspects of the activity might further be improved. As an example, the story has evolved in many ramifications, which caused difficulties for students in perceiving it globally. Students sometimes got confused and lost in its structure.

## VII. CONCLUSIONS

Learning occurs in a socio-cultural system in which learners use various tools and multiple forms of interaction to create collective activities. Social software tools such as Wikis are also pedagogical tools that stem for exchange, communication and information discovery.

The implementation of the Wiki storytelling scenario has enabled to match the main needs and interests of rural schools. Indeed, it enabled teachers and students to communicate with other rural communities featured with similar interests and contexts. Schools could also get familiarized with the use of software tools in educational contexts. Regarding learning, students could practice Spanish and acquire reading / writing skills in a creative manner. Regarding visibility of rural schools, schools were able to show the story to external audiences. Finally, they were able to develop innovative activities with creative content, in which schools collaborated to reach common results.

The implementation of this 2.0 enhanced storytelling scenario has demonstrated a positive approach for integrating innovative tools in learning activities adapted to the specific characteristics of Spanish rural schools, thus contributing to including rural education within the actual Information

society.

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