# *CREATING VIRTUAL WORLDS WITH MEANING: CASE STUDIES OF WEB 2.0 TOOLS IN HIGHER EDUCATION*

---

**Hilde Brox,**
Department of Teacher Education and Pedagogy - University of Tromsø
hilde.brox@uit.no, + 47 77 66 05 07

**Chiara Ghezzi,**
IPC « Zenale e Butinone » - Università di Bergamo
chiara.ghezzi@unibg.it + 39 36 38 47 64

**Summary**: The interest in web 2.0 tools to support collaborative learning in higher education represents a confluence of different trends: the development of new web 2.0 tools to support online collaboration, the emergence of constructivist-based approaches to teaching and learning, and the need to create powerful and engaging learning environments. This paper presents two cases where theoretical principles from Storyline Method pedagogy are applied through the use of Web 2.0 technology. Two groups of English learners have developed their fictitious web 2.0 universe corresponding to their different learning goals: A group of Teacher Training students in Norway has created a fictitious school where task-based challenges have set a narrative in motion in which a fictitious community has grown to include sports groups, a newspaper and a toiletries company (Wikiwonder Inc.). The storyline has extended to Italy, where an English class at a graphic design school has been hired as the advertising agency to develop the advertising campaign for Wikiwonder's products.

**Abstract:** L'interesse per la tecnologia web 2.0 a supporto dell'apprendimento collaborativo nell'educazione superiore rappresenta la confluenza di differenti tendenze: lo sviluppo di nuovi strumenti a supporto della collaborazione online, l'emergere di approcci costruttivisti nell'insegnamento e nell'apprendimento, e la necessità di creare ambienti di apprendimento altamente motivanti. Questo testo presenta due casi in cui i principi teorici derivanti dal metodo pedagogico *Storyline* vengono applicati attraverso la tecnologia web 2.0. Due gruppi di apprendenti di lingua inglese hanno sviluppato un universo virtuale (ciascuno in base ai propri obiettivi didattici) all'interno di un ambiente web 2.0. Un gruppo di insegnanti specializzandi in Norvegia ha creato una scuola fittizia. Attività *task-based* hanno messo in moto una narrazione all'interno della quale una comunità fittizia è cresciuta al punto da includere gruppi sportivi, un giornale e una ditta di prodotti per l'igiene (*Wikiwonder Inc*.). Il filo rosso della narrazione si è quindi esteso all'Italia, dove una classe di studenti di un istituto grafico è stata « assunta » come agenzia pubblicitaria con l'obiettivo di sviluppare una campagna per i prodotti *Wikiwonder.*

**Key Words**: web 2.0 tools, constructivist approach, storyline method pedagogy, higher education, fictious communities

**Parole chiave**: web 2.0 attrezzo, approci constructivisti, metodo pedagogico storyline, educazione superiore, comunità fittizia.

# Creating virtual worlds with meaning: case studies of web 2.0 tools in higher education

## 1. INTRODUCTION

In this paper we present and discuss two cases where learners of English as a foreign language have applied wikis and other web 2.0 tools in collaborative projects. The projects – one for students of graphic design in Treviglio, Italy, the other for teacher trainees in Tromsø, Norway – were developed and initiated separately but became connected towards the end of the project period. Each project was specifically developed and aimed towards creating realistic and relevant learning environments in which both the mastering of English and of digital tools had a central place without being the main focus in the learning process.

The main objectives of the projects were both intellectual and social: for the intellectual part we aimed at enhancing digital competence and awareness by incorporating features from Web 2.0 technology in teaching; secondly we wanted to create motivating, task-based and realistic learning environments for learners of English as a foreign language where they could practice the language while doing "other things". In terms of social objectives we aimed at letting the internet world and culture enter the traditional learning/teaching environments to create new and different occasions for connection and collaboration with other learners in meaningful and realistic ways. Finally, we intended to improve inter-group relations by increasing trust and friendliness inside the traditional class.

## 2. THE DIGITAL GENERATION

Today's teenagers have grown up with technology and technology is "natural" to them[1] (e.g. internet access and Instant Messaging[2]). The internet is becoming an increasingly important social arena for young people; a place where they create, share and distribute media content. It is a place for entertainment, socializing and learning, and the distinctions between these purposes are often blurred. If we ask teenagers what they want from the internet (Oblinger/Oblinger, 2005) the most common responses are: to get "new information" and to "learn more or to learn better". But the use of internet to learn is not limited to school work: students are often informal learners, seeking information on a variety of topics, participating in online communities, showing others what they can do, or voicing their opinions (e.g. the explosion in the last years of Facebook among teenagers both in Norway and Italy). While their parents were consumers of media, today's teenagers are active creators of media content. They search, read, chat, comment, vote, tag, organize and share; in short, they participate on the web.

Present day teenagers have changed faster than the previous generations, above all in learning

[1] A study cited in Oblinger/Oblinger (2005) reports that 20% of today's high school students began using computers between the ages of 5 and 8, most of them use computer at home (e.g. 96% in Norway and 84% in Italy) and, as far as beliefs in relation to the importance of technology in education, they think that it "is embedded in society, helpful in grasping abstract concepts, in learning virtually any topic, and useful in helping other students". By the teenage years, students use the Web extensively for school research (94%) and believe it helps with schoolwork (78%). Nevertheless students seem to perceive, among others, that "computers can never replace humans", that "learning is based on motivation, and without teachers that motivation would cease to exist" and that "a major part of school is building social skills. If we were to always communicate through technology and not in person, then the way we would view life would change dramatically". For other *data* on the research see Oblinger / Oblinger (2005).

[2] Instant Messaging has become over the last few years a major and common communication and socializing tool used by 74% of teenagers against only 44% of online adults. See Oblinger / Obliger (2005) for further *data*.

strategies[3]. One of the most relevant causes of these changes is probably related to improvements and developments in technology, yet at school many teachers are reluctant to incorporate internet use in their teaching. Partly, this may be due to their real or imagined lack of skills and qualifications, and partly because they feel a necessity to censor or restrict internet-based information. It may seem as if the internet is regarded as a threat rather than a potential in many educational settings. So, although there are now computers in nearly every classroom, there seems to be an increasing gap between the computer world of the pupils and that of school.

Having grown up with a widespread access to technology, the new generations have acquired the ability of using intuitively a variety of IT devices and navigate the internet even though their understanding of the technology may be shallow. According to Oblinger/Oblinger (2005) what characterizes this new generation from a pedagogical point of view is:

- → visual literacy: they can easily weave together images, text, and sound in a natural way;
- → connection: they seem to have seized the potential of networked media moving from classes to recreational activities in constant connection;
- → immediacy: they seem to have fast response (placing generally more value on speed than accuracy), they naturally multitask moving quickly from one activity to another and sometimes performing them simultaneously;
- → experientiality: their preferences as far as learning strategies are concerned lean towards learning by doing rather than by being told what to do. They seem to learn well through self-initiated discovery (alone or with their peers) and thus to better retain and eventually re-use what they have discovered in a creative[4] and meaningful way;
- → group work: they prefer activities that promote and reinforce social interaction—whether IMing old friends, teaming up in an internet game, writing a wiki or a blog. Many exchanges on the internet are emotionally open and sharing very personal information, and interaction with others is central (whether in their personal lives, their online presence, or in class). Often interaction is through an alternative identity.

Oblinger / Oblinger (2005) underline furthermore that this digital generation exhibits learning preferences that are closely related to these characteristics and that should be taken into consideration especially in higher education. Among those we have found particularly relevant:

- → group-work preference: peers are generally considered more credible than teachers when it comes to determining what is worth paying attention to[5];
- → achievement-oriented: "They want parameters, rules, priorities, and procedures … they think of the world as scheduled and someone must have the agenda" (Pahlen, 2002);
- → inductive discovery-oriented: the rapid pace with which they like to receive information means they often choose not to pay attention if a class is not interactive, unengaging, or simply too slow[6], they rather need be encouraged to stop experiencing and spend time reflecting;
- → visual and kinesthetic: they seem to be more comfortable in image-rich environments than with text. Researchers[7] report students disprefer read large amounts of text, whether it involves a long reading assignment or lengthy instructions. In other words they like *doing* things, not just thinking or talking about things.

[3] For further insights into learning strategies and specifically for foreign language learning see Mariani (1987).

[4] See Crittenden (2002).

[5] See Manuel (2002).

[6] See also Prensky (2000).

[7] See Oblinger / Oblinger (2005).

All this information should be taken into consideration on a pedagogical level while developing *curricula* in order to create alternative settings and teaching models where the web 2.0 technology plays a much more important role.

What we know for certain is that learning styles, preferences and strategies of the digital generation are changing really fast; if we consider for example their preferences as far as receiving information go, we notice that they tend to favor graphics, a rapid pace, and immediate responses. As far as activities go, technology *per se* doesn't seem to be relevant in making learning engaging, what makes the difference is the learning activity: if today's students are experiential learners, lectures may not be an optimal learning environment; if they are community oriented, providing opportunities for peer-to-peer experiences or team projects may be preferable to individual activity.

The realm of Web 2.0 thus provides free, easy-to-use, authentic arenas for pupils to create, publish and share their work for real, and to really experience their learning. Blogs and wikis are two particularly interesting Web 2.0 tools that can be purposefully applied in pedagogical contexts[8]. Both blogs and wikis resemble traditional web pages, but are characterized by the fact that they are user-controlled. Wikis are especially relevant for educational use as they are collaborative products (thus group-oriented). All members of a wiki site may be given equal admissions and rights to write, edit, and add to the content. This is realized through the unique wiki functionality of parallel documents; the main article that is visible to all, and the pages behind it; the edit page, the history page, and the discussion page. Another wiki feature is the possibility of linking to pages that do not yet exist, and that way invite to further collaboration. These wiki features provide a series of useful pedagogical tools for a collaborative, dynamic and flexible learning process on which the learners have the opportunity to simultaneously monitor, comment and reflect. Not long ago, a common class project meant a collection of separate papers, individually written, then stapled together at the end to comprise a collection. Now, a class may use a wiki to really co-write and co-edit a product that is genuinely collaborative in nature. There are numerous ways to exploit a wiki in school contexts; typically it has been tried out with group projects where the aim is to build a common knowledge base, Wikipedia-style, or for common learning management platforms.

## 3. COOPERATIVE LEARNING AND THE STORYLINE METHOD

Web 2.0 technologies have many properties and characteristics which make them particularly suitable for constructivist learning: "meaning is personally defined and this implies a strong interlacing of content, context and understanding, the individual negotiation of meaning and the construction of knowledge on the student's side" (Jonassen, 1991). "On a practical pedagogical level this means that we should favor rich and authentic learning contexts over isolated, decontextualised knowledge and skills, student-centered and goal-directed inquiry over externally directed instruction, and supporting personal perspectives over canonical perspectives. Technology tools support the individual identification and manipulation of resources and ideas" (Jonassen / Reeves, 1996). Nevertheless individualization and customization are laudable goals for instruction but they are also time intensive. With the appropriate use of technology and pedagogy, learning can be made more active, social, and learner centered—but the uses of ICT are driven by pedagogy, not technology. Cooperative learning, which in its turn has a constructivist theoretical base, in its many different realizations, goes towards this direction and represents, among the many different teaching paradigms, the most obvious and effective when combined with the use of web 2.0 technologies. This approach to learning and teaching has first of all proved to be an effective strategy on an intellectual level in helping students understand and retain information as well as improving their basic skills[9]. Literature on cooperative learning in

[8] As far as blogs and wikis as educational tools see also Goodwin-Jones (2003).

[9] Numerous studies have compared the effectiveness of cooperative groups to traditional methods in teaching as for example Johnson /

any case (see Johnson / Johnson 1989, 1994) states that there are some conditions under which cooperative learning is more effective than traditional methods of instruction; in particular whether or not groups are effective depends on factors such as the choice of task, whether or not students are willing to help each other, what motivations members have to become engaged in group activity.

Cooperative learning has also proved to be effective on a social level since there seems to be a number of desirable social effects when groups engage in cooperative tasks[10]. Sharan / Sharan (1976) point out that when teachers delegate authority to a student group and allows that group to make decisions as to how it will proceed on its task rather than telling them exactly what to do, there is a special socializing effect[11]. Another important social goal which the cooperative group achieves is that when working cooperatively, students learn how to carry on a rational, organized discussion and how to plan and carry out a task as a result of that discussion (see Cohen (1994: 19)).

Further favorable effects are given to high school and college teaching on an organization level; in particular it seems to solve common discipline problems (especially in high school settings), the problem of "what the class should be doing while the teacher works intensively with one group". Moreover it helps the teacher solve the problem of low achieving students since if the group is held accountable for its work, there will be strong group forces that will prevent members form drifting off task. In other words peer interaction in itself is engaging and interesting to students, as underlined in a study by Ahmadjian (1980). Last but not least is the problem of mixed ability classrooms (and in particular English language proficiency) especially relevant in professional high school (such as IPC "Zenale Butinone") which serve students from lower socio-economic backgrounds. The most traditional attempted methods, such as ability grouping and individualized seatwork, don't seem to work well in these conditions (see Dar /Resh (1986)), while cooperative work-group does[12].

The Storyline approach that was used for the two projects presented here is based on the main principles of the cooperative learning approach and the more general constructivist learning theory. It is a global role play where teacher and pupils work together to create a story. The story creates the context and framework for the activities that follow. We can find the theoretical foundations of the method in Bruner's approach that identifies different styles which "science" and "humanities" students (or science and humanities subjects/teachers) bring to their studies[13]. Bruner (1986) extends this concept to embrace the constructivist view that such differences are not only localized in individuals, but are also reflected in the fundamental way in which knowledge is structured. Bruner identifies several constituents of a "narrative" approach: plot, tension and character being the most important. The Storyline method (Creswell (1997)) is an operationalization of Bruner's ideas in the teaching of children and teenagers (in a range of ages from pre-school to 16/7).

---

Johnson / Maruyama (1983), Johnson / Maruyama / Johnson / Nelson / Skon (1981).

[10] For further information on the "social" effects of group-work see Deutsch (1968), Sharan *et alii* (1984). In particular it seems that cooperative groups and teams are particularly beneficial in developing harmonious interracial relations in desegregated classrooms (see also Slavin (1983)).

[11] The groups working for the creation of the advertising agency definitely engaged in this socializing effect experiencing many ranges of real-life group exchange from quarrelling to feeling part of a close knit community.

[12] The two studies cited above show that low-achieving students seem to benefit from heterogeneous groups and classrooms where there are more academic resources available to them.

[13] Bruner (1986) exemplifies these differences through the examples of Physics and Literature and he characterizes the views they represent as "logical-paradigmatic" and "narrative". Logical-paradigmatic subjects can always (at some stage must always) be tested against some reality or real world event; this is a world-view that is familiar and comfortable for example in graphic design subjects (such as graphic planning) since students get satisfaction from building something that works (e.g. in building websites), that is graphically elegant. Narrative subjects, on the other hand, can not be falsified. They have a different quality of truth. A story is never wrong. No combinations of events, however unusual or unlikely to exist "in the world" are forbidden.

In Storyline, teachers construct a setting and, collaboratively, students and teachers create and populate the story, covering all curricular areas. The key features of the success of this approach are that the story (plot) is the backbone, which builds and develops over a long period of time (from 6 weeks to 6 months) and, as the pupils collaborate in its development, their collective ownership increases interest and sustains motivation. The story generally begins with a question where the main objective is to draw out of the class all the collective knowledge on the subject (or subjects) to be studied. This kind of information is generally used to create the context of the story. The most important principle (see Creswell, 1997: 7) of this method is in fact that "pupils create their conceptual model first" and "through the imagination they fill in the gaps of their knowledge in the beginning of the topic study". The combination of imagination and prior knowledge on the subjects motivates the students and make them feel in control since while using prior knowledge they begin to ask themselves questions as they see what they do not know and what they need to know in order to complete the task (e.g. *if my role is that of an accountant in an advertising agency, than what do I need to know in order to create an advertising campaign?*).

After setting and characters are created and brought to life, incidents occur where characters have to deal with an acute situation. The objective, from the teacher's point of view, is to create an opportunity to build in specific pieces of required content from the curriculum. The storyline generally then concludes with a special occasion or event that makes it clear the study is complete.

## 4. *WIKIWOOD*: A DIGITAL STORYLINE

This academic year, a class of English students[14] at the Teacher Training program at Tromsø University started a project that combined wikis and other web 2.0 tools with the principles of the Storyline method. Together, they created a fictitious universe on the Web. In the centre of the fiction lay *Wikiwood Secondary School*; a school that was gradually filled with characters in the form of teachers, administrative staff and pupils. The school soon found itself placed within a growing local community – *Wikiwood* in Wikishire – with shops and pubs, sports groups, choirs, and various social clubs, and even a company manufacturing toiletries. The pages were created on a wiki site, and contained many links, both internal and external, as well as various types of embedded material like pictures, videos, maps, sound, and so on. Some of the fictitious characters also set up their own blogs outside, yet attached to, the wiki platform[15]. This way, a small user-fabricated universe took form, pieced together by mixing existing real-world components and purely fictitious creations.

Both the inventory of the school, the community and the newspaper were inventions of the students. Only the basic set-up and a list of names were made by the teacher beforehand. These names, meant to be Wikiwood teachers, were then given to the students, one to each. Their first task was to flesh out their teacher character, by adding a random portrait from Flickr.com and writing a personal text. Another requirement was to highlight keywords that at some later point could be developed as links to new internal or external pages. This proved enough to set an active process in motion; soon colorful personalities came to virtual life, such as the middle-aged male teachers whose main interest in life is to watch soap operas while dreaming of that special someone to bring home to his mum. Or Janice Jones, who enjoys long walks,

[14] The 15 Norwegian students participating in the digital storyline were either in their 3rd or 4th year of their teacher training, specializing in English as a main subject. This 1-year course of English qualifies them to teach English in both primary and lower secondary schools. English is not an obligatory subject in Norwegian teacher training programmes, so generally the students are motivated and relatively skilled as far fluency is concerned; ranging from fluent to near-native competence. The 15 students were all native speakers of Norwegian. Yet, although culturally homogenous their ages differed widely; from 19 to 48. As a consequence, so did their professional backgrounds, teaching experience, and, crucially, their computer skills.

[15] A teacher's blog was set up outside the wiki in order to providing technical aid, point to parts of Wikiwood that needed seeing to; and to support and comment on the work process and developments.

jazz music and can recite every single US President in chronological order. And the dance teacher, whose pages soon were picked up by others and linked up to new pages describing various dance styles, local competitions complete with results and tournament schedules. The technically-minded immediately picked up ways to incorporate video clips from sites like You Tube, maps from Google, and other, similar gadgets. As they assisted each other, even the more reluctant ones discovered the simplicity of the tools, and were able to create and publish professional-looking pages. And after just the very first 45-minute session, an intricate web of profiles, pages and links made up the fast developing *Wikiwood Secondary* and its surrounding Wikiwood community.

During the first weeks, Wikiwood grew rapidly, especially during the monthly sessions in the computer lab, but also in-between, when students were working from home. All the students contributed and added to pages they themselves or others had started. The "About the School" pages was one such example of how the narrative developed collaboratively at high speed between sessions. After a rather ordinary description of its geographical setting, one student invented a set of unusual creatures that also happened to inhabit the territory. A series of science-inspired pages naturally followed soon, and these species were further described and given "proper" Latin names. And very soon another sentence was added that really got their creativeness going: "…these animal activities are influenced by the school's philosophy, which has its origin from the German Philosopher and author Heimlich Dunk, who was raised by wild cows…" Within the next day, excerpts from Heimlich Dunk's famous book *The Polish Wild Cow – a soulful creature* from 1851 were available online.

Although the students embraced the wiki project with much enthusiasm and quickly developed pages, the activity declined noticeably after the first two weeks. Now, the Storyline principles of adding a new and unexpected turn by introducing certain tasks – or key questions - came in handy. On the third session, therefore, the mysterious multi-millionaire and ex-Wikiwood Patsy Paddington entered the stage. The computer lab transformed to a newspaper meeting room, and students realized they were now cast in the roles as journalists. Ms Paddington, presently a US citizen, had returned to her hometown to get the local newspaper *Wikiwood Weekly* restored to its former glory after some rough years. The students/journalists quickly divided into various editorial offices and went straight to work, first covering local stories picked up from the Wikiwood site.

The relevance and usefulness of the Digital Storyline project for the teacher students involved was manifold. Needless to say, their English writing skills were practiced; the fact that the students found it amusing motivated them to the extent that they wrote a lot more text than they normally would (especially since the writing was not a part of their assessed, obligatory work). The lack of formality made many of them loosen up, stretch their vocabularies, and experiment with genres in new and playful ways.

Secondly, the project provided ample opportunities for content-related learning. That the fiction revolved around a school naturally encouraged research into English educational practices; what are common teacher qualifications, what subjects are generally taught, what are the ages of the various classes? Similarly, the growing fictitious local community inspired research into real-life English culture, on anything from traditional cooking recipes to sports organizations. Although there was no control of the course of exploration there were numerous cases where the development of the fiction naturally linked up to their curriculum as students of English (in which British civilization studies is an integral component). The introduction of the newspaper *Wikiwood Weekly* was the only conscious attempt to bring in more parts and topics of their regular curriculum, from international news (e.g. covering the US presidential election) to literature (e.g. by writing book reviews). In addition, it allowed for a close study of the common elements, genres and conventions of digital newspapers, and an exploration of real-life newspapers feature articles, commentaries, agony aunts, classifieds, and so forth.

The experiences the teacher students gained from monitoring the project on a practical level also tie up directly to the realities of their future professions. As with implementing any other large-scale project, the Wikiwood project work required teamwork and organizing skills. Questions of whether it would be fair and sensible to correct each other's texts, and

whether the teacher or the peers should hand out feedback since the work was collaborative were frequently raised in the process. The students gained first-hand experience in the logistics of organizing computer-based classes, and how to deal with the uncontrollable and unpredictable aspects of the media. Moreover, working with both web 2.0 tools and storyline pedagogy involves allowing for a series of possible outcomes, which to some extent means a loss of control. Although the teacher provides a basic framework for the story, and may suggest which tools to start off with, he or she has no absolute authority or control over the process. Allowing for the students to find their own paths, to discover their own learning with their teacher as guide and supervisor, challenges traditional views of the teacher as all-knowing and all-seeing. That a student may possess better computer skills than the teacher should be turned into asset rather than threat; that the students apply unexpected or alternative methods in their way to solving their task should be encouraged and appreciated if such a project is to succeed.

All in all, the main aim of initiating the Digital Storyline project was to have these future teachers discover and reflect on the pedagogical potential involved in web 2.0 tools. As such, the learning value was equally relevant for the parts that worked as for those that didn't. The students acted as both participants (co-writers) and as planners; they were frequently taken "behind the scenes" to discuss future developments and to evaluate the success and learning value of the project. A main goal was therefore to inspire the students to initiate similar projects themselves with pupils in secondary schools[16].

### 4.1 The story develops: *DotnDot*

As the Wikiwood project gradually took form it soon became evident that the project would benefit from being extended. We then began to explore ways to connect to other learners around the world and incorporate them into the fiction. In our case, this opportunity presented itself coincidentally when the two teachers in Norway and Italy got in touch via an online teacher's platform. Together, the teachers discussed possible ways of including the group of Italian graphic design students in a natural way. What if the Wikiwood community also included a company that manufactured toiletries? What if this company – *Wikiwonder Inc* – had just created a new range of product aimed at British youth, and that they now were on the look-out for a trendy advertising agency to create a catchy campaign and market strategy to attract attention and customers? Could the Italian students[17] handle such a task? The Italian teacher seized this opportunity to have the students first set up a fictitious agency – *DotNDot* – and a wiki website that soon was filled with the students' alter egos: accountants, designers and copywriters. Only the name of the agency and the different characters in the story were given by the teacher, the students did all the rest inventing their CVs, finding a picture, and describing their studies and specializations, their previous work experiences, their role in the agency and their professional "portfolio". The agency was soon given a life of its own with a proper philosophy, logo and staff which included a variety of different personalities, some of which really matched their real "owners" (as the introverted accountant Silvia White who is a "really hard worker"), or others that were completely different (as the friendly Otto von Grüder who understands too late why "school is so important for life"). Shortly after, the assignment letter arrived,

[16] Two student groups did in fact try out similar wiki projects in their practice periods with 10th graders. One created a school where the pupils created their alter egos as pupils the same age as themselves; the other created a digital "gossip magazine" for adolescents.

[17] Italian students taking part to the Wikiwood Storyline include 18 teenagers (between 17 and 19); 15 students are native Italian speakers, 2 are bilingual (Italian/German, and Italian/Arabic) and 1 student is native Portuguese speaker. They all belong to a 4th class of a Graphic Professional School (IPC "Zenale e Butinone") based in Treviglio (BG). The students have an English as foreign language *curriculum* starting from the 1st year of high school which includes 3 classes (one hour each) a week. Their English *curriculum* for the 4th class mainly regards English for Special Purposes relating to some basic principles of graphic design such as colors and type, advertising, packaging, posters. Their proficiency level of the English language ranges from A1+ to A2 (see also the *Common European Framework of Reference* for details on levels and descriptors).

penned by Wikiwonder's Chief PR consultant Lydia Lobster, and a new storyline was set in motion. The students worked in three different groups[18] creating three advertising campaigns for the new Wikiwonder line of grooming products aimed at British teenagers, according to the specifications and requirements given by Ms Lobster.

The work with the Italian teenager students had much more to do with creating a scheduled scaffolding where they could understand while experiencing (and discussing) the different steps to take in creating an advertising campaign. This involved direct and indirect market research, target analysis, research on similar companies advertising campaigns and advertising techniques, brief writing, brainstorming sessions, creating an advertising strategy, first drafts discussions, presentation to the client, and so on.

The students soon felt really involved in their new roles (they included in their market researches their Italian peers inside and outside school, and even stayed behind late at school "to finish the job").

In true storyline spirit, the project became finalized through a special event – an online video conference, where the two groups of learners met face to face for the first time. The conference was staged as a role play, where the Tromsø students acted as Wikiwonder staff to announce the winner of the advertising campaign. The Treviglio students had sent over three competing suggestions that were all individually commented on by the Wikiwonder jury. Unfortunately, it turned out that there was no reward for the winning team, as Wikiwonder due to the current financial crisis had found itself bankrupt. Nevertheless, the encounter between the students became a memorable event for all participants.

For the Italian students, the very first relevance of the project concerned their use of English[19] in a more natural and factual environment: they used the English language to accomplish a situational authentic task (or so perceived by the students) where the object was not the use of language per se, but the creation of an advertising campaign. So in other words the language was the means rather than the end. They also got the chance to read, listen, watch and write authentic texts including specialized topics such as market statistics and research, advertising samples selections, and advertising specialized sites. This approach to teaching proved to be effective on a proficiency level because students were tested comparatively with other "traditional" classes on the same topics and proved to manage better on average.[20].

The second important and yet not direct (or so perceived) objective of the project was to gain confidence with digital tools and web 2.0 technology (some of the Italian students involved in the project did not have access to computers at home, did not have email addresses and most of them had never used or created a power point presentation). They had to learn to complete their task to write a wiki, to collaboratively use a whiteboard[21] to create a brainstorming session or to collaboratively create a power point presentation with classmates, to use online mind mapping software[22] and so on.

The third relevant objective that we were able to easily accomplish through the digital storyline was the creation of an interdisciplinary setting; the subjects involved included in fact English, but also other technical subjects such has graphic planning and advertising planning. This enabled us to

---

[18] The activities relating to the Wikiwonder storyline were thought and carried out together by the English language teacher, the Graphic Planning teacher (Aldo Gorla) and the Advertising Planning teacher (Antonio Cusma') that here we thank for the help and support.

[19] Italy is, among the UE, one of the less skilled states as far as foreign language learning. A research carried out by the European Commission (2006), where the objective was to gather information on the foreign language ability of Europeans, describes the situation of Italy as having 59% of citizens admitting to being monolingual and only 16% who can easily hold a conversation in two other languages.

[20] The same test on the same topics was given to four classes. The other three classes had had a traditional teaching approach. The results show that 83% of students with the storyline project were able to complete positively the test against 74%, 68% and 62% of the "traditional" classes students.

[21] The one used for the present project was found at http://www.skrbl.com.

[22] Among the many options offered online we chose to use Dropmind (http://web.dropmind.com/).

easily incorporate in our programs a *Content and Language Integrated Learning*[23] which in Italy is seldom used, but highly recommended especially in High School where the many different subjects are traditionally taught with very few links between them.

## 5. CONCLUSIONS

The project is still under development, and from the teachers' point of view, there are many technical, logistic and didactic challenges yet to be sorted out. For one, in order to involve a range of participants a detailed plan is required from the start, as well as alternative paths to take if the initial plans fail during the course of the project. Another major challenge is assessment, and how collaborative work processes and products fit in with the traditional school focus on individual work.

Nevertheless, our experiences from this project so far have been positive. After this first, trial-and-error test round, we clearly see a potential for further development. The project could easily be taken further to create and develop and a larger digital storyline. We envisage a network of learners from a wide range of institutions and countries, all in various ways attached to the same fiction. Tasks and assignments could then be given from one group to the other, tasks that would be specifically suited to their particular professional training. One could the have students of tourism create and run a virtual hotel, where realistic and authentic tasks such as communicating with guests, arranging guided tours and running the hotel restaurant would be part of the setup. Meanwhile, these students could rely on students of catering to arrange their menu, business students to handle the financial management, or designers to create their new graphic profile. The possibilities are endless, and the tools readily available.

All the students involved in the project liked the fiction and reported that hiding behind invented personae and being allowed to be creative behind a "mask" made them less inhibited. That everything was authentically displayed instantly and globally on the web proved to be a motivating factor (In Tromsø, the site started off as private, and when the site was made public activity went up rather than down).

We also found that the project handled the diversity of the groups in beneficial ways. As in all groups, the learners possessed widely differing backgrounds, qualifications and skills (technical, linguistic). This was particularly evident in the Tromsø group, with ages differing from 19 to 48. The digital storyline not only encouraged collaboration; collaboration served as its basic principle. The participants benefited from each other in significant ways; the creative ones relied on the good spellers to clean up their texts, the less imaginative ones were helped out with ideas through linking from the texts of their more creative peers. Likewise, the technically inclined initiated new paths for others to follow. We also observed some indications of poorer writers contributing with more text in this project than is the case in more traditional written assignments.

The cases show how web 2.0 tools may be used in pedagogical context to enhance students' digital and linguistic competence, while at the same time incorporating central features from contemporary media practice. The "digital literacy" of the students was brought into the classrooms, and contributed to integrate English as a natural and realistic part connected to their professional training. Beyond the practical level, the project touched on the more profound questions of how approaching the realm of web 2.0 technology challenges traditional views of learning and teaching. Creating a digital society such as Wikiwood involves developing linguistic skills as well as digital skills. But what is more, it involves an exploration, understanding and mastering of the new learning arena that Web 2.0 represents. Through the digital storyline project, we hoped to create a setting in which important contemporary issues could be addressed and explored, such as rules for communication, self presentation, copyright issues and so on. Situated in the boundaries between reality and fiction, the project absorbed many of the characteristics of social internet phenomena where experimenting with information, truth, genre and identity are salient features and where entertainment, knowledge, communication and learning are closely connected.

[23] See also Coonan (2002).

In sum, there are several good reasons why this and similar projects should be of interest to educators. Digital competence involves both mastering tools and equipment as much as developing the skills, knowledge and attitudes necessary in order to successfully part-take in a contemporary society. Educators need to enter this new arena in order to understand how and what our present and future pupils learn outside school; what competences and preferences that characterize the New Millennium Learners. We need to comprehend how modern youngsters acquire information and share knowledge in order to make learning environments in schools optimal. Last but not least, this new field might prove to open up new and valuable pedagogical opportunities.

## BIBLIOGRAPHY


Ahmadjian, J. (1980), Academic status and reading achievement: Modifying the effects of the self-fulfilling prophecy. Unpublished doctoral dissertation, Stanford University, Stanford.

Bruner, J. (1986), Actual Minds, Possible Worlds, Harvard University Press, Cambridge (MA).

Cohen, E. (1994), Designing Groupwork. Strategies for the heterogeneous classroom, Teachers College Press, New York.

Coonan, C. M. (2002), La lingua straniera veicolare, Utet,Torino.

Council of Europe, Common European Framework of reference http://www.coe.int/T/DG4/Portfolio/documents/Common%20European%20Framework%20hyperlinked.pdf

Creswell, J. (1997), Creating Worlds, Constructing Meaning: The Scottish Storyline Method, Heinemann, Portsmouth, NH.

Crittenden, S. (2002), "Silicon Daydreams: Digital Pastimes of the Wired Generation," Virginia.edu, vol. VI, no. 2, http://www.itc.virginia.edu/virginia.edu/fall02/daydreams/home.html.

Dar, Y., Resh, N. (1986), "Classroom Intellectual Composition and Academic Achievement", American Educational Research Journal, 23/3, pp. 357-374.

Deutsch, M. (1968), "The effects of cooperation and competition upon group process", in Cartwright, D. Zander, A. (eds.) Group dynamics, Harper & Row, New York, pp. 319-353.

Duda, R., Riley P. (eds.) (1990), Learning Styles, Presses Universitaires, Nancy.

Ellis, R., 2004, Task-based Language Learning and Teaching, Oxford, OUP.

European Commission, 2006, Europeans and their languages. Special Eurobarometer 243, Brussels, European Commission.

Goodwin-Jones, R. (2003), "Blogs and wikis: Environments for online collaboration", Language Learning & Technology 7(2), pp. 12-16.

Johnson, D. Johnson, R., Maruyama, G. (1983), "Goal interdependence and interpersonal attraction in heterogeneous classroom: A metanalysis", in Miller, N. / Brewer, M. (eds.), Groups in contact: The psychology of desegregation, Academic Press, Orlando FL, , pp. 187-212.

Johnson, D., Maruyama, G., Johnson, R., Nelson, D., Skon, L. (1981), "Effects of cooperative, competitive and individualistic goal structure on achievement: A metanalysis", Psychological Bulletin 89, pp. 47-62.

Johnson, D. W., Johnson, R. T. (1989), Cooperation and competition: theory and research, Interaction Book Company, Edina (MN).

Johnson, D. W. 7 Johnson, R. T. (1994), Leading the cooperative school, Interaction Book Company, Edina (MN).

Jonassen, D. H. (1991), "Evaluating constructivistic learning", Educational Technology, 31, pp. 28-33.

Jonassen, D. H., Reeves, T. C. (1996),. "Learning with technology: Using computers as cognitive tools", in Jonassen, D.H. (ed.), Handbook of research for educational communications and

technology, Macmillan, New York, pp. 693-719.

Manuel, K. (2002), Teaching Information Literacy to Generation Y, Haworth Press, New York.

Mariani, L. (1987), Study Skills Through English, Zanichelli, Bologna.

Oblinger, D. G., Oblinger, J. L. (eds.) (2005), Educating the Net Generation, Educause www.educause.edu/educatingthenetgen/

O'Malley, J.M., Uhl Chamot, A. (1990), Learning Strategies in Second Language Acquisition, CUP, Cambridge.

Phalen, K. (2002), "Self-Assured, Stressed, and Straight: Millennial Students and How They Got that Way," Virginia.edu, vol. VI, no. 2,http://www.itc.virginia.edu/virginia.edu/fall02/student/home.html.

Prensky, M. (2000), Digital Game-Based Learning, McGraw-Hill, New York.

Resta, P., Laferrière, T. (2007), "Technology in Support of Collaborative Learning", Educational Psychology Review 19/1, pp 65-83.

Sharan, S., Sharan, Y. (1976), Small-group teaching, Educational Technology Publications, Englewood Cliffs (NJ).

Sharan, S. et alii (1984), Cooperative learning in the classroom: Research in desegregated schools, Herlbaum, Hillsdale.

Slavin, R.E. (1983), Cooperative learning, Longmann, New York.

Strijbos, J.W., Kirschner, P., Martens, R. L. (eds.) (2004), What we know about CSCL and Implementing it in Higher Education, Kluwer Academic Publisher, Norwell, MA.

**Links**

Wikiwood Secondary School: http://wikiwoodsec.wikidot.com
DotnDot Advertising Agency: http://dotndot.wikidot.com
Teacher students' trying out wiki with 10th graders in their practice periods: http://seeandlisten.wikidot.com
Norwegian teacher's support blog for the project: http://www.hildesteachingblog.wordpress.com