

VIRTUAL REALITY FOR LANGUAGE LEARNING: AN INTERNATIONAL ON-LINE PROJECT

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Abstract: This paper focuses on the main goals, as well as the planned and actual output of Vill@ge (Virtual Language Learning through Edutainment Activities), a European, multilateral, language-learning project. The paper offers an overview of the on-line environment, describes a variety of learning tasks and their effectiveness; furthermore, it outlines some possible future applications.

Keywords: Edutainment, virtual environment, language-learning

1. INTRODUCTION

One axiom all language educators and learners are familiar with is that total immersion is the most efficient form of language acquisition, since learners in this environment are exposed to native language use and are surrounded by the target culture all the time. Since the possibility of living and learning or working in a foreign country is, unfortunately, not very common for the majority of language learners, especially for those who live and study in the countries of Central and Eastern Europe, educators have been increasingly eager to find alternative ways to create a near-native language learning environment. Such options include the introduction of various forms of bilingual education, CLIL or the organisation of short stays in the country of the target language; some schools may also offer field trips, may be engaged in international project work, initiate and implement student exchange programmes, or have their teachers co-teach with native speakers from partner schools. Some teachers also try to simulate a near-native learning environment in their own language classroom by using authentic supplementary materials, films, videos or foreign language websites, to mention just a few alternatives.

Although these efforts might bring some 'real life' into the language learning process and into the language classroom, still, they are not expected to lead to the desirable, 'ideal' outcome. Language classroom activities - no matter how well-organised or communicative they are - do not substitute for real-life language learning experiences. Research findings are available that support the inferiority of classroom-based language learning to real-life experiences. Notable authors and conference contributors in the US, the U.K., and in many other countries, have pointed out on several occasions, that textbook language learning and classroom-based teaching, in general, may limit the progress of language learners in terms of effective language use. The inadequacies of traditional textbook- and classroom-based teaching are best seen in the areas of vocabulary acquisition, fluency, spontaneity of speech and speakers' sociolinguistic and

intercultural competencies.[1] These inadequacies underline, on the one hand, the significance of learning environment for effective learning and, on the other, the central role learner motivation plays in language acquisition. Consequently, the identification of new and motivating language learning environments, including virtual reality and 3D environments, and the application of meaningful and engaging, socio-linguistically and culturally loaded teaching materials are crucial for the overall success of the language learning process.

It can be concluded, from the above, that both language learning environments and language teaching materials are of key importance for success in language learning. When designing or using instruction materials, in addition to their general features, mostly teacher- and learner-related factors should be considered. For teachers, their educational background and experience, motivation, cultural background and teaching style and, for learners, their preferred learning style, needs, interests and motivation are to be taken into account.[2] Motivation and environment, we have seen, are contained in both lists. The combination of education and entertainment - 'edutainment' - addresses these new challenges of language teaching and learning. It is one of the new teaching methods which has more recently been used to provide for new learning environments, at the same time, catering for new needs by aiming at enhancing learners' motivation, keeping them interested and making learning highly enjoyable.

Edutainment as motivation

Our society is often dubbed a 'knowledge-based society', and people - young and old alike - live, study and work in a highly demanding world. Improving achievement is one of the common aims of parents and teachers at all educational levels, from kindergarten to secondary and higher education. Today, extracurricular activities, extra sports, arts and music lessons, and language sessions with private teachers are available for learners and these help them to achieve the desired aims. On the other hand, as has been validated by research (primarily in the US), our ambitious and over-scheduled learners - young and adult

alike - in the 21st century, have almost no free time at their disposal. Children are often robbed of free play and the chance to use their imaginations, take initiatives on their own and be creative.[3] As a result, learners too frequently develop an aversion to learning in general, and to the highly demanding job of learning foreign languages in particular. Edutainment activities might provide an answer to these recent problems by making learning attractive, entertaining and engaging.

Within the educational context the notion of edutainment came into being in the 1980s through the combining of entertainment and learning in order to motivate learners. In other words, making learning fun and at the same time, instructive. Edutainment activities comprise developmentally appropriate, unstructured play; edutainment is actually free-choice learning, guided by the learner's own interest and motivation. Edutainment activities are highly entertaining, learner-initiated and self-directed, imaginative and creative, and they easily lend themselves to both autonomous and participatory learning styles.

The notion of edutainment is closely linked to the issue of lifestyles and learning styles, and is increasingly gaining importance in the age of modern technologies. In the 1980s, when the term 'edutainment' was coined, the term was used to describe films, videos and individual software games with educational content. Today, more sophisticated IT systems and a variety of e-learning materials fall into this category and are at the educators' and learners' disposal. *The Virtual Language Learning through Edutainment Activities* project [4], or, as it is better known, by its acronym the Vill@ge project, is one of those recent EU projects which tried to make language learning enjoyable and highly effective at the same time.

2. VILL@GE PROJECT

Today, there are several edutainment sites available for learners, but Vill@ge takes advantage of a virtual world, a feature not very common in other edutainment programmes. Other innovative features of Vill@ge are as follows:

- It has created a 'virtual world' of its own, a dedicated space in Second Life, which is solely used for language learning.
- It has virtually linked learners and teachers from 5 different schools in three different European countries
- It has enabled users to arrange for real-time virtual encounters with the aim of communicating with native and non-native speakers.
- It has enabled learners to choose from and work on a variety of tasks independently.
- It has been developed for use in a variety of learning environments ranging from the traditional language classroom through semi-structured forms that may take place in a library or a language club, to unstructured self-directed activities done mostly in learners' homes.

The project was part of the Lifelong Learning Programmes of the European Union, a Key Activity 2 project (project number: 143370-LLP-1-2008-1-GR-KA2-KA2MP) in the area of languages. The Project was co-funded by the Education, Audiovisual and Cultural Executive Agency within the Lifelong Learning Programme. Officially the project spanned the period from January 2009 to December 2010, although project outcomes are far more outreaching; they are still in the stage of assessment, dissemination and conversion into other projects.

The project was coordinated by EXODUS, a software company, based in Athens, Greece. Project partners were two institutions of higher education (Swansea University, U.K. and The University of Szeged, Gyula Juhász Faculty of Education, Hungary) and, as end-users, three primary schools from the three participating countries (Doukas School, Athens, Greece, Dunvant Primary School, Swansea, U.K. and Gyula Juhász Primary School, Szeged, Hungary). EXODUS was in charge of the technical development of the project. Swansea University was one of the content developers, the dissemination activities leader and an end-user with the task of piloting and assessing both the methods and the content. The University of Szeged, Hungary, was a content-developer, and the leader of the needs analysis and the testing phase, as well as an end-user. The three primary schools were all end-users.

Aims and objectives

The main objective of the project was to develop a virtual reality language learning platform enabling primary school children and higher education students from different European countries to electronically communicate with each other and practise a foreign language as in a real world. In this virtual environment all the participating students and teachers could come together, talk and do things as if they were physically present in the same place. It is also an important aspect that communication did not take place in a 'vacuum' or in a neutral environment, but it took place in a virtual world which, like our real world, poses a variety of challenging communicative situations, and, in addition, is rich in cultural and social content, as well. Consequently, in addition to improving learners' communicative skills, the project can be described with a complex system of aims and objectives. The additional project aims can be listed as follows:

- Enhancing multicultural and multilingual interaction.
- Facilitating knowledge about and the learning of less-spoken European languages (Greek and Hungarian).
- Preparing learners for real-life experiences including shopping in a clothes shop, visiting a zoo, or preparing more mature learners for situations in which they experience and communicate in special circumstances which are very likely to be part of their own lives in the future when travelling on business, or studying and working abroad. Vill@ge examples include situations like renting a room, giving directions

and information, changing money, applying for a job, serving customers in a shop/ in a bank etc.

- Offering users multi-lingual support material (multi-purpose dictionary, collections of pictures, lyrics of songs etc.)

Vill@ge island layout

Vill@ge is based on the existing state-of-the-art solutions in virtual multi-user environments. It constitutes a designated area in Second Life, accessible only for Vill@ge users. Thus, the Vill@ge environment is a safe environment, even for young users. All participating students, primary school children and teachers needed and were given accounts to enter the Vill@ge island, called Vill@ge LLP with an area of 65,536 sq. m. The island is partitioned into three smaller areas corresponding to each participating country. Thus Vill@ge visitors can tour a virtual England, a virtual Greece and a virtual Hungary.

Picture 1. The Vill@ge island



All country sites are implemented to offer the same services and linguistic support tools in a unified form, so that end-users would be able to navigate in any of these sites in the same way. Edutainment activities and language content are different and vary according to the age and the background of the user.

A ‘neutral’ meeting place can be found in the centre of the island, where visitors can meet other visitors with their avatars, or can leave or read messages or do other forms of collaborative activities including poster presentation, gaining information about the individual countries, looking up words etc. The dominant buildings in each section are emblematic of each country. (Big Ben stands for London, the ancient ruins symbolise Greece, while the castle in the heart of Hungary is a reference to Visegrád Castle, north of Budapest, which is one of the country’s most famous sights.) The other buildings in each section are residential homes and functional buildings - including a bank, a travel agency, a real-estate agency, a zoo, a supermarket, a clothes shop and a museum. In addition to activities designed specifically for primary school and university learners, there are also common activities in the language-supporting application: a multilingual picture dictionary, for example, and interactive tools have also been designed for all visitors, irrespective of their age or level of language proficiency. These applications include museum-related activities, a poster generator, and a karaoke bar. In the common section learners have access to a picture dictionary via

virtual computers in the programme. In Vill@ge dictionary learners can find a relevant picture and they can read and hear the unknown word in the language selected by them. Currently, the dictionary works in three languages, English, Greek and Hungarian.

Content development

The texts and activities written and designed by the university teams fall into 3 different categories: controlled, uncontrolled and creative tasks. Controlled tasks were pre-written and pre-recorded. In the controlled activities primary school learners (aged 10-12) are allowed to wonder around the countries of the Vill@ge island, find their individual landmarks, buy items in a supermarket or clothes shop, and visit a zoo or a museum. In uncontrolled tasks young learners are able to meet and interact with fellow learners from Britain and Greece. As far as the creative tasks are concerned, children can create posters, and exhibit them in the museum; they can work on the appearance of their avatars, too, by changing its clothes or hairstyle. One of the favourite creative activities is singing, teaching and learning songs in different languages in the karaoke bar. As was noted by J. Milton, project co-ordinator in Britain, the use of the island with primary school learners ‘offered a tremendous opportunity but also a real challenge for second language learning.’ He further explained that it was an opportunity, because children of this age demonstrate enormous enthusiasm for 3D environments and they also have the necessary IT skills to try out and do almost everything virtual realities call for.[5] The challenge for content developers was to get them to speak and use as much language as possible. This challenge was addressed by designing special tasks that would make language use a requirement for interaction. On each site the users’ avatars are allowed to interact with other avatars or pre-programmed bots, or with learners from other native and non-native countries only if some actual language use was involved.

Adult learners and university students, on the other hand, in general, already had the necessary language skills to cope with everyday language tasks, like shopping or museum visits, but they also needed to practise specialist language including language for catering and tourism, banking and finance, and real estate. Thus, the controlled activities for university students are built around typical workplace situations in these areas; demonstrating and practising specialist vocabulary is also an important aim. Thus, controlled activities for university students included three modes of interaction, namely the demonstrator mode, the answering mode and the two-player mode.

The demonstrator mode is a situation in which bots act out a scene in or near a bank/travel agency/real estate agency involving the target language and demonstrating the use of relevant words and structures. One bot is usually expected to be a customer (or prospective customer) and the other is the service provider, or a person knowledgeable in the relevant area. Vill@ge users first watch this interaction which begins as he/she is

approaching or enters the building. The user listens and learns.

The answering mode is a situation in which the learner becomes the service provider or a knowledgeable person responding to questions and/ or prompts. A bot, which had been preprogrammed with questions and relevant prompts, enters the building and speaks to the learner who has to respond intelligently using the language he/she has available.

The two-player mode is a situation in which the learners meet another person's avatar (in this project we envisaged a native-speaker). The two 'avatars' are engaged in free conversation on the relevant topic. Depending on language needs, prompts are sometimes also given to them. The two players can alternate roles but it is expected that initially at least the learner (non-native speaker) plays the service provider or the knowledgeable person, or is the respondent to questions and prompts.

Similar to young learners, when performing tasks, university students were also keen on getting to the stage of fulfilling uncontrolled and creative tasks including exhibiting and describing their own posters or guiding fellow avatars through the country site and/or its museum and other buildings. When doing uncontrolled tasks, the most promising and enjoyable situations were those when native and non-native speakers' avatars were engaged in a variety of free activities and conversation.

User Needs analysis

During the project lifetime, needs analysis was carried out and feedback (prototype evaluation and project evaluation) was also needed on several occasions. The University of Szeged team was responsible for needs analysis and piloting. Preliminary needs analysis was carried out as early as March, 2009. Questionnaires were developed and used to map the needs of primary school learners and university students. The questionnaires, originally written in English, were translated into Greek and Hungarian, as well, to avoid possible misunderstanding. All questionnaires had three sections. Section A was to map both the learners' awareness of languages in general and their background. Section B was designed in order to have a clear picture of learners' current language learning environment. Section C was to get information on their actual language needs as well as their approach to and familiarity with IT, in general, and 3D virtual environments, in particular.

Primary school teachers were interviewed to identify further – IT, curricular, methodological and language – needs they thought would be necessary for the project to be successful. Language, IT and other subject-teachers of participating primary schools were interviewed to collect data relating to:

- IT knowledge and experience of school staff,
- IT equipment and software available in schools,
- Learners' ages and levels in school,
- Learners' previous foreign-language-learning experience and levels,

- Details of timetabling and use of the system and materials,
- Techniques which are favoured by learners and their teachers,
- Current syllabus needs of the schools into which the Vill@ge system and materials must fit.

The interviews revealed that schools involved with this project in general had the necessary IT equipment, but most teachers expressed their need for participating in an orientation session, or sessions, before the validation of the materials when learners would be using them. They said they would also need a methodological session or workshop which would prepare them for the project and allow them to handle the materials properly and supervise and help the young learners in the validation element of the project. It was also emphasized that the project would have to be capable of delivery to small groups, as well as individual users, in the classroom as well as in less formal settings.

On the basis of student questionnaires, it became clear that the students who would be involved with this project appeared to represent from pre-intermediate to intermediate and/or to upper intermediate level in language; they were interested in developing their formal skills in language, including the ability to read and write fluently and use professional terminology effectively with foreign and native English speakers. University students also seemed to be consciously preparing for their future, i.e. the professional language examination awaiting them at the end of their training programme and, most importantly, they seemed to care about their future career in the internationalised world of work. Interestingly, there was another by-product of the evaluation; this was the special enthusiasm and motivation of Hungarian students. Many of them added that they were well aware of the fact that they live in a basically monolingual country, where only the national language, Hungarian, is spoken by the majority of the population. Accordingly, participation in a multilingual language project, and the opportunity to interact with native and foreign speakers on a regular basis, were extremely beneficial for them. Furthermore, topics were also suggested both by students and teachers for inclusion in the Vill@ge materials.

Prototype evaluation

As decided during the needs analysis phase, next a workshop was organized for participating students, teachers and IT staff to have the main objectives of the project and the special features of its delivery explained to them. The prototype was then demonstrated to the potential users who could comment on it, stating their likes and dislikes, contributing with ideas for the designers and materials developers for consideration and inclusion. Workshop participants had the opportunity to move around in the environment, try out its features, and experience its potentials. In the follow-up evaluation session, students and teachers expressed their enthusiasm for the project; they came up with some useful ideas, but they – mostly teachers - also expressed some concerns. The majority of university students was confident when using the application and thus they commented only on

the environment itself. Many students wanted their avatars to wear more fashionable hairstyles and clothes: they would have liked to move around in a more colourful and more appealing environment: they also would have preferred to see more green areas, parks and flowerbeds and they suggested the inclusion of some leisure-time facilities as well. Teachers, on the other hand, tended to comment on content and methodology. On the basis of the prototype evaluation session, it could be concluded that the materials needed to provide authenticity and interactivity, and to address areas of perceived weakness in knowledge. The topics suggested by both students and teachers appeared sensible and could well be incorporated into the Vill@ge materials. In relation to the methodological concerns, it was eventually decided that methodology handbooks would be written for teachers to enable them to use Vill@ge materials for maximum benefit.

Piloting

In the fall semester of 2010 weekly pilot-sessions were organised with the participation of primary school learners in Greece, the U.K. and Hungary, and also at universities in the U.K. and Hungary. On the Hungarian side at primary level 8 learners participated regularly in the sessions (from grades 5 and 6). At the university level 12 university students took part in the piloting sessions. As far as their educational background was concerned, they were from the banking, finance and the teacher-training programmes of the university. The sessions were structured so that all learners (users) could gradually go through all the activities, from the controlled to semi-controlled and, ultimately, to uncontrolled tasks. Forms of work also varied, from group work to pair work and to performing some task individually. Technical problems occurred only during the initial phase, all of which were solved by offering additional, ad-hoc training sessions and distributing handouts to users. In conclusion, it can be said that all participants, young and adult learners, as well as teachers needed detailed written instructions to use the programme confidently. While all the participants expressed enthusiasm for the environment and the embedded activities, younger participants had problems with concentrating on performing controlled tasks. In general, they preferred free activities to controlled and guided ones. In the group of university students, it was the teacher-training students who found the pilot sessions the most useful; in addition to working with the appropriate language content, they understood and appreciated the methodological benefits, as well. All the participants highly enjoyed the part when they were contacting directly with foreign partners and they liked the cultural features, as well. They enjoyed learning new details about foreign countries and other cultures. Both primary school learners and university students thought that the insight they gained through the project - into foreign educational systems and school life - could be extremely beneficial for them in the future.

3. CONCLUSION

Vill@ge, in its current form, has been developed for use in primary schools and universities as a complementary tool for language learning; it also provides the opportunity

for users to log-on from their homes, as well, and to learn and perform tasks independently, or initiate interaction with other users from abroad.

As we have seen, the project has integrated the methodology of communicative approach to a real-time, real-world environment. This method lets the learner take responsibility for his/her own language learning, and consider and build upon his/her own interests, desires, short-term and long-term needs. For these reasons, the complex approach, which was consistently applied throughout the Vill@ge project can now be seen as a milestone in the process of language learning. From here, further research needs to be carried out in several directions - including studies of vocabulary and cultural gains, fluency and the area of e-learning. As far as vocabulary gains are concerned, the results so far are very promising.

Results of pre-test and post-test studies within the project suggest that the rate of vocabulary uptake in Vill@ge context appears to be high, about 30 words per hour. (The average uptake from normal classroom learning can be as low as 2-4 words per hour.) [6]

Considering all the above achievements, Vill@ge partners fully agree in the significance of the sustainability of the project output. Project participants' strengths and specialities will assist in not only keeping project outcomes alive, but also in expanding the scope of Vill@ge aims and activities. The project coordinator, EXODUS, has for long been collaborating with national and international research organizations and has published extensively on project outcomes. It is extremely important that Swansea University is part of EDEN, the European Distance and E-learning Network, and one of the most notable research centres in the area of applied linguistics and vocabulary research. The third project partner, The University of Szeged, in addition to regularly publishing and lecturing on Vill@ge outcomes, has built project results into other international project applications and also contributes to the sustainability of Vill@ge outcomes through numerous international partnerships as well as its participation in educational and research networks.

4. LITERATURE

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