



***Evaluating the education of interpreters and
their clients through virtual learning activities
(EVIVA)***

Final Report

Public Part

Project information

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Executive Summary

This report focuses on the objectives of project EVIVA and the outcomes that have been achieved during the lifetime of the project. EVIVA addresses the use of virtual learning environments (VLEs) for the education and training of interpreters and users of interpreting services, drawing on blended learning and flipped classroom approaches. The project was developed as a response to research that had been conducted into the use of VLEs in interpreter training and that had shown positive results but which had not been evaluated systematically. Alongside their use in training settings, ICTs are now being used to provide interpreting services, and financial pressures are likely to create a shift away from traditional on-site interpreting towards 'remote interpreting'. Future interpreters and their clients must therefore be able to work with ICTs and using ICTs in their training will help them acquire the necessary digital competence. Accordingly, the overall aim of the EVIVA project was to evaluate the educational opportunities of three types of VLE—3D virtual worlds, videoconference tools and video corpora—in the contexts of interpreter training and training for clients of interpreting services.

To this end, the EVIVA consortium brought together the expertise of four higher education partners and one consultancy company from four countries (CY, GB, GE, PL) and included interpreter trainers, interpreting researchers and computer scientists. EVIVA also drew on the outcomes of previous co-operations amongst the partners in which relevant VLEs were developed (e.g. the LLP projects IVY and BACKBONE).

The overall aim of the project was subdivided into three more specific objectives, namely

1. To investigate the efficiency and user experience of the selected VLEs, their ability to simulate real-life conditions and the acquisition of digital competence;
2. To develop innovative evaluation methods for this purpose, by combining traditional methods of interpreter assessment with introspective, corpus-based and visual methods;
3. To use the results of 1 and 2 to formulate design recommendations and guidelines for VLEs in an interpreter training context.

The first set of activities in year 1 laid the foundations for the project, namely the creation of a *project website* for dissemination,¹ a SharePoint site for internal project communication, and the preparation of the *quality assurance plan*. A second set of activities focused on preparing the Evaluation Studies. The *development of evaluation methods* included a review of existing evaluation methods for VLEs and the development of appropriate research methods for EVIVA (Objective 2). Drawing on this work, the *adaptation of the selected VLEs for use in the Evaluation Studies* began. The 3D virtual environment available from the IVY project was updated and extended to include a dedicated Evaluation area on the IVY virtual island. At the same time, the *preparation of content for the Evaluation Studies* started. Multilingual content available from the BACKBONE project was annotated to mark up specific interpreting challenges. Role play outlines were developed to support live interaction in the VLEs. Thirdly, the *Evaluation Studies* themselves started with the collection of initial data from role plays simulating interpreting practice in the 3D and videoconference environments.

The second year of the project finalised the development work that was started in the first year and was thereafter largely devoted to conducting the Evaluation Studies, which constituted the core activity of EVIVA. Firstly, the *preparation of the VLEs and content* was completed. Secondly, a series of rigorous *empirical studies* was conducted to address the project's research questions (Objective 1) and these studies involved joint activities with trainee interpreters and (potential) clients of interpreters. Thirdly, two seminars—an *evaluation seminar* with VLE developers in early 2014 and a *dissemination seminar* towards the end of 2014—were organised and held to engage with stakeholders (e.g. European

¹ <http://www.virtual-interpreting.net/>

interpreter training institutions, interpreter associations, professional associations, researchers, VLE developers) and to serve as a forum for discussion and dissemination of best practice. Tying together the outcomes from the Evaluation Studies and dialogue with stakeholders, an exploitation plan and guide for best practice for the use of VLEs in the context of interpreter training were drawn (Objective 3). Each phase of the project of the monitored using quality assurance processes, and these were written up in the *quality assurance report*. Finally, all partners were engaged in dissemination activities (e.g. presentations at conferences, publications, internal dissemination activities, use of social media) to raise awareness of the project throughout the lifetime of the project.

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1. Project Objectives

The EVIVA project set out to evaluate virtual learning environments (VLEs) for the training of interpreters and for the education of professionals in business and public service contexts who (may) have to work with interpreters in their daily lives. Because of migration and mobility across Europe, there is currently a high demand for interpreting in business and public service contexts. One example is the increasing demand of legal interpreting as a result of Directive 2010/64/EU on the Right to Interpretation and Translation in Criminal Proceedings, which had to be transposed into national law by the end of 2013. There is, however, a lack of training available for interpreting in these contexts, primarily because of the traditional focus of interpreter training institutions on conference interpreting and because of the broad range of language combinations and contexts in which business and public service interpreting is required.

In addition to a need for training interpreters, training for ‘clients’, i.e. those who work with interpreters, has been advocated. Recognising the particular requirements for interpreting in public service contexts, the final report of the European Language Council Special Interest Group on Translation and Interpreting for the Public Services (SIGTIPS) recommends to public service providers that “staff should be trained to work with translators and interpreters (SIGTIPS: 2011: 22). Similarly, Article 6 of Directive 2010/64/EU states that the training of legal practitioners should include training on how to work with an interpreter.

Using ICT-based solutions can address the need for greater provision of training for interpreters in business and public service settings, not only from the point of view of providing wider access to training opportunities, but also from the point of view of making teaching resources in digital form (e.g. audio or video recordings in multiple languages) available and easily reusable. Although Ertl and Pöllabauer (2010) and Valero Garces (2009) rightly emphasise the importance for interpreting students to experience practice in real-life situations to complement classroom-based training (e.g. through internships), real professional practice is not always accessible for trainee interpreters. In such situations, ICTs can offer solutions for simulating real-life practice and can thus offer learners a similar experience of situatedness and authenticity. In particular, the use of ICTs in interpreter training also provides greater opportunities for interpreting students and their potential future clients—e.g. students in HE and vocational training studying law, medicine, hospitality, business and other subjects—to train together, by enabling them to interact live and simulate professional practice and thereby leading to a greater awareness of each other’s role in the communication. Moreover, the use of ICTs in their training will help students to acquire digital competence.

It is clear that using ICTs—and particularly VLEs—in interpreter training has benefits, but many questions still remain unanswered about how efficient these different technologies are in the context of interpreter training and how the affordances of the different technologies can best be harnessed and maximised.

In accordance with this, the **overall objective** of the EVIVA project was to evaluate the educational opportunities that different types of VLE, which were deemed to be particularly useful in the interpreter training context, can offer trainee interpreters and users of interpreting services.

This overall objective was divided into a number of **specific objectives**, namely:

- i. To investigate:
 - a. the efficiency and affordances of the VLEs chosen, i.e. how they support different types of learning activities
 - b. the learning processes, i.e. what and how learners from diverse backgrounds learn by using the specified types of VLE
 - c. the user experience, i.e. the ability of the VLEs to simulate real-life/professional conditions to bridge the worlds of work and education
 - d. the ability of the VLEs to support the acquisition of digital competence as an important 'by-product' of their use;
- ii. To develop innovative evaluation methods for objectives 1a-d by combining traditional methods of assessing interpreter performance with research methods such as introspection, corpus analysis and visual analytics;
- iii. To use the results of (i) and (ii) to formulate design recommendations and guidelines for best practice for VLEs in the context of training interpreters and their clients, drawing on blended learning and flipped classroom approaches.

As a **wider aim**, EVIVA sought to improve the education and training of interpreters and their clients. Given the current role of ICTs in professional interpreting, the evaluation of relevant VLEs was considered a key step towards achieving this aim. By evaluating educational solutions that reflect real-life situations, EVIVA aimed to contribute to bringing together the worlds of work and education. Using the context of educating and training interpreting students and their clients as a test bed, the outcomes of the project will inform the development and design of future VLEs and will enhance the learning opportunities for learners across different educational sectors.

In accordance with this, the main target groups of the project were interpreting students, users of interpreting ('clients'), trainers of interpreters and clients as well as VLE developers.

2. Project Approach

2.1 Rationale

The vocational nature of interpreting necessitated a professional approach to training in which constructivist principles of learning and especially the concept of situated learning play a crucial role. Many VLEs for interpreter training satisfy *cognitive* constructivist principles insofar as they foster self-guided learning and knowledge construction from relevant learning activities and resources. A smaller number of solutions also provides opportunities for interaction with peers and tutors and arguably satisfies the principles of a *social* constructivist approach, which highlights the role of social interaction and participation in the learning process (Vygotsky 1978, Wenger *et al.* 2002; cf. Kiraly 2000, Tymczyńska 2009 for translation/interpreting). However, little is known about how interpreting students learn in any type of VLE and how this can be evaluated. Furthermore, interpreters' clients are a group of learners that has received extremely little attention to date. Despite attempts at using ICTs for their training (Kalet *et al.* 2002, BMT2 project,² IVY project), there had not been much research into the contribution that VLEs make to their learning experience.

At the same time, ICTs are now used regularly to provide interpreting services in business and public service interpreting ('remote interpreting'), and financial pressures, as well as the need for timely access to qualified interpreters, are likely to create a shift away from traditional on-site interpreting towards 'remote interpreting'. Future interpreters and their clients must therefore be able to work with ICTs and using ICTs in their training will help them acquire the necessary digital competence.

These considerations formed the basis for the design of the EVIVA project and its core element, the Evaluation Studies. The project therefore aimed to investigate how and what learners learn in VLEs in the interpreter training context; how different VLEs can support different types of learning activities and different constructivist principles; how they are able to simulate real-life conditions to bridge the worlds of work and education; how VLEs work for learners from diverse backgrounds; and how VLEs can support the acquisition of digital competence as an important 'by-product' of their use. The EVIVA partners recognised the need for developing "assessment literacy" in this area (Tsagari 2011, Floros 2013) and for combining traditional and novel methods to achieve this.

In line with this, the project's approach to evaluating VLEs in the context of interpreter training included, as a first step, a review of evaluation methods for VLEs, and the subsequent development of appropriate research methods for the evaluation (2.2). Alongside this, selected VLEs, mostly available from previous projects, were adapted for their use in the evaluation (2.3), and relevant learning content was prepared (2.4). The Evaluation Studies themselves (2.5) consisted of a series of empirical studies designed to answer the project's research questions. The evaluation was supported and indeed enabled by the continuous involvement of, and collaboration with, the different target groups. A strong dissemination strategy was therefore an integral part of EVIVA. This was complemented by the development of an exploitation plan which supports the long-term impact and sustainability of the project results and which includes a continuing close collaboration between the EVIVA partners (2.6).

² Please see section 2.3 for details of all projects mentioned in this report

2.2 Developing evaluation methods

The first phase of the project ('preparatory phase') focused on developing appropriate research methods to be used for the Evaluation Studies, i.e. methods that could be used to answer the research questions outlined in the previous section (regarding the efficiency of VLEs, learning processes, user experience and acquisition of digital competence). This work was based on:

- A comprehensive review of tried and tested research methods for VLEs in general and specifically with regard to interpreting;
- The literature review conducted in the IVY project, in which a review of educational uses of 3D virtual worlds was undertaken;
- The outcomes of the BACKBONE project, specifically with regard to using the BACKBONE video-based environment in the field of interpreter training;
- The outcomes of the IVY project regarding the uses of the 3D virtual environment by interpreters and those who use interpreting services;
- The outcomes of the AVIDICUS 1 and 2 projects on the use of videoconferencing in connection with interpreting;
- Pedagogical argument and the consortium's expertise in developing research and evaluation designs.

In accordance with the objectives of EVIVA, one important aim was to develop innovative methods for evaluating the chosen VLEs, by combining traditional methods of assessing interpreter performance with introspective, corpus-based and visual methods. The main challenge was to develop methods that take into account the latest insights into the uses of VLEs while focusing on parameters that are particularly relevant for the education and training of interpreters and those who work with them (as a specific use case). This was completed in the first year (see chapter 3 for outcomes) to lay the foundations of the Evaluation Studies.

Furthermore, the preparatory work also included decisions regarding how the different VLEs were to be used during the evaluation (see section 2.3) and the content that was required for the purposes of the evaluation (see section 2.4).

2.3 Adapting existing VLEs for the Evaluation Studies

One key aspect of the project's approach was that the EVIVA project built on the outcomes of a number of projects and co-operations with which the consortium members are involved. These are related to developing ICT-based solutions for language and interpreter training (BACKBONE³ and IVY⁴), assessing videoconference technology in legal interpreting and training interpreters and legal practitioners in the use of this (AVIDICUS 1 and 2⁵), and developing video resources for legal practitioners on how to work with an interpreter (Building Mutual Trust 2⁶). Specifically, the EVIVA project used the outcomes and experience available from these projects to evaluate the following VLEs:

³ Lifelong Learning Project 143502-LLP-1-2008-1-DE-KA2-KA2MP, 2009-10

⁴ Lifelong Learning Project 511862-2010-LLP-UK-KA-KA3MP, 2011-12

⁵ European Commission, Criminal Justice Programme, projects JLS/2008/JPEN/03 (2008-11) and JUST/2010/JPEN/AG/1558 (2011-13)

⁶ European Commission, Criminal Justice Programme, project JUST/2010/JPEN/AG/1566, 2011-13

Type of VLE	Specific VLE(s) selected for evaluation
3D virtual world	<ul style="list-style-type: none"> • IVY 3D virtual environment (trainee interpreters and users of interpreting services ['clients'])
Video-based environment	<ul style="list-style-type: none"> • BACKBONE video corpora (trainee interpreters); • Building Mutual Trust 2 project video clips (clients)
Videoconference environment	<ul style="list-style-type: none"> • Google+, a common videoconference environment capable of multi-point conferencing (trainee interpreters and clients)



Image 1: VLEs evaluated in EVIVA – IVY 3D environment (1, 2), BACKBONE video-based environment (3, Google Hangout videoconferencing environment (4)

The adaptation of the IVY 3D environment was based on the findings from the IVY project (cf. IVY Deliverable 6.3, Pedagogical evaluation report). The specifications for the adaptations were derived from IVY user feedback and decisions about how the environment would be used in the evaluation (see below). To prepare the BACKBONE environment—which contains natural narratives in several languages—for the evaluation, samples of the corpora were analysed and annotated in terms of the challenges they would present for interpreting (see 2.4). The annotated content was integrated into the BACKBONE search interface to allow data retrieval for an analysis of student interpreting strategies in relation to the challenges. The video-based environment available from BMT2 was reviewed in order to create appropriate user guidance for its use in the Evaluation Studies. With regard to the videoconference environment, it was anticipated that this would not require much adaptation, but different environments were assessed in terms of their appropriateness for EVIVA, focussing especially on whether they are web-/cloud-based, rather than being based on proprietary hard-/software solutions, and whether they are capable of multi-point videoconferencing (for three-way role plays).

A decision was also made about *how* the VLEs would be used in the evaluation. It was agreed that the evaluation would focus on two learning scenarios, i.e. *learners' use of prepared content* and *live role play*. The former involved individual learning, e.g. interpreting students practising interpreting with recorded content. The latter took the form of collaborative learning, involving interpreting students and/or 'clients'. The VLEs were used as follows:

Learning scenario	VLEs to be used
Learning with prepared content	<ul style="list-style-type: none"> • IVY 3D environment ('Interpreting practice' mode for trainee interpreters and 'Exploration mode' for clients) • BACKBONE video corpora (trainee interpreters) • BMT2 video environment (clients)
Conducting live role plays	<ul style="list-style-type: none"> • IVY 3D environment ('Live interaction' mode for both trainee interpreters and users of interpreting services) • Google+ videoconferencing (both trainee interpreters and clients)

The content for the evaluation was prepared in accordance with these scenarios. The approach to content development is described in the next section.

2.4 Preparation of content for the Evaluation Studies

The preparation of content for the evaluation had two strands focusing on the preparation of ready-made content for individual learning and the preparation of role play content for collaborative learning.

1. *Prepared content for individual learning*

Annotation of source text material: Given that one of the aims of the evaluation was to gain insights into the learning processes of **trainee interpreters** using VLEs, the aim here was to reveal links between their interpreting processes and strategies, the difficulty of the task and the features of the relevant VLE. To gauge the task difficulty, selected samples of DE, EN, ES and PL from the BACKBONE video corpora were analysed and annotated in terms of the difficulties they pose when used as source texts for interpreting. A set of annotation categories reflecting different types of interpreting challenges was developed (based on Braun & Kohn 2012) and was used to annotate the selected corpus sections. Since the BACKBONE corpora were also used to create the prepared content for the IVY 3D environment ('Interpreting Practice' mode), this annotation allowed the partners to analyse the strategies that interpreter trainees use to cope with the same or similar interpreting challenges in both types of VLE.

Additional content for trainee interpreters: Although much of the content for the evaluation was available from the BACKBONE and IVY projects, it was necessary to expand the range of bilingual dialogues integrated in the IVY 3D environment in order to cover the language pairs of the trainee interpreters who participated in the evaluation. This mainly concerned creating content for the Spanish/English language pair. Whilst the BACKBONE environment (from which the bilingual dialogues for the IVY environment are created) contains a Spanish corpus, the IVY 3D 'Practice mode' environment did not contain any Spanish material at the start of the EVIVA project. Selected material from the Spanish BACKBONE corpus was therefore used in EVIVA to create dialogues with English question turns and Spanish answer turns. This was done using the dialogue template method developed in the IVY project, i.e. by inserting (scripted) questions into the (natural) BACKBONE narrative answers. In addition, some of the English BACKBONE narratives were used to create dialogues with Spanish questions and English answers. The procedure allows for cost/time-efficient creation of additional dialogues for other language pairs as need arises.

Creation of guidelines for trainee interpreters: Guidelines were created to enable students to prepare effectively for the interpreting assignments that they would carry out for evaluation purposes using the prepared content in the BACKBONE and IVY environments. These guidelines include an overview of the main functions of the environments (as a reminder following induction sessions), the brief for the interpreting assignment, an overview of potentially useful resources to consult in the preparation phase, and tips for effective preparation.

Content and guidelines for users of interpreting services (clients): As the VLEs used with clients (BMT2, IVY 3D environment) were available from previous projects without requiring adaptation, the preparation of content for clients focused on creating guidelines for using the relevant VLEs. An entry point to the video-based environment for clients (BMT2) was created on the EVIVA website. Furthermore, the website showcases the IVY 3D virtual environment and encourages interpreting

service users to engage with the project team to explore possible uses and customisation for their institutional purposes.

2. Role play content for collaborative learning

Equally important, the preparation of additional material concerned the creation of content for role plays (in the 3D and videoconferencing environments) to enable collaborative learning of **trainee interpreters and clients**. The role plays required plausible communicative situations which can be localised and, where necessary, adapted by users from different lingua-cultural backgrounds. A set of role play outlines was created and complemented by guidelines for localising the role plays in different educational contexts.

2.5 Evaluation Studies

The evaluation phase constituted the core of the EVIVA project and used a series of empirical case studies to address the project's research questions for the different types of VLE and user groups. The empirical studies focused on:

- the analysis of interpreting processes and strategies of trainee interpreters in relation to the features of the VLEs;
- the study of how learners from different backgrounds (clients) approach the VLEs;
- analyses of collaborative learning in role-plays using VLEs.

As pointed out in section 2.3 above, the empirical studies were based on two different **learning 'scenarios'**, i.e. individual learners' work with prepared content and collaborative learning through role play simulations. Both scenarios were designed to meet basic constructivist principles of learning, especially the requirement of 'situated learning', for example by providing students with briefings to enable them to contextualise the learning content and immerse themselves in a plausible situation. However, the scenarios differed with regard to some important parameters, notably the level of interaction required. It was therefore anticipated that these different learning scenarios would serve to draw out the affordances as well as the potential drawbacks of different types of VLE.

The studies involved the **participation of interpreting students** from HE institutions and **interpreter clients** from different backgrounds (HE, vocational training and adult learners from businesses and public services), and combined different methods to gain an insight into learning processes and how these are linked to the design of different VLEs. The **evaluation methods** that were developed in year 1 of the project included a questionnaire-based participant survey as well as corpus-based and qualitative analyses, which relied on learning/discourse analytics and visualisation in order to analyse student performance in relation to different VLEs and learning scenarios. This was complemented by a series of case studies to explore selected aspects of learner behaviour in more depth. The outcomes were drawn together in a comprehensive **Evaluation Studies report** (see also Ch. 3 below).

The Evaluation Studies were mainly conducted in the second year of the project. The methodologies, content and outcomes of the evaluation were the focus of dissemination activities throughout the lifetime of the project, culminating in the dissemination seminar towards the end of the project in November 2014. The outcomes and processes used in the evaluation also served as input data for the Best Practice guide and future work was mapped out in an Exploitation Strategy. Dissemination and exploitation strategies are reported in section 2.6 below.

2.6 Dissemination, exploitation and sustainability

Dissemination activities took place throughout the lifetime of the EVIVA project. The objectives were to provide information about the project, its aims, methods and outcomes, to recruit evaluation participants and to initiate long-term collaboration across institutions and targeted sectors.

1. *Reaching the target groups*

The EVIVA project had three target groups, namely (1a) students of interpreting in higher education; (1b) potential clients of interpreters in business, HE, vocational training and adult learning contexts; (2) trainers of groups 1a and 1b; (3) designers of VLEs. All of these target groups were reached during the lifetime of the project.

The consortium had direct access to **interpreting students** working with a variety of languages, and **interpreting tutors** at the three evaluation sites. 35 interpreting students participated in a total of 56 individual learning sessions and 26 role plays.

To ensure a maximum of visibility of the project, the EVIVA partnership forged close links with the European key stakeholders in the **interpreter training community**. Both the DG Interpretation of the European Commission (SCIC) and the European Parliament DG Interpretation showed considerable interest in the predecessor project IVY. By invitation from SCIC, the coordinator presented the IVY environment and the EVIVA evaluation strategies at the 17th DG Interpretation-Universities conference (Brussels, Mar 2013) to 160 interpreter trainers and academic colleagues in charge of interpreting programmes at all major European HE institutions. The contacts with the European institutions were consolidated through an in-world meeting on the IVY 3D island (Jan 2014), a subsequent demonstration meeting in Brussels (Feb 2014) and at the EVIVA dissemination symposium (Nov 2014).

The EVIVA team presented the project at major international **conferences** on translation, interpreting and language education to reach the European language and interpreter education and training community and published papers on different aspect of ICT-based interpreter training (e.g. InDialog: Mapping the Field of Community Interpreting” (Berlin 2013), “Interpreter-Mediated Interactions: Methodologies and Models” (Rome 2013), didTRAD (Barcelona 2014) and Translata II, Innsbruck 2014). STC gave a number presentations primarily targeting language instructors and teacher trainers, incl. at the Online Educa in Berlin in 2013 and 2014.

This dissemination work led to **expressions of interest** by translation & interpreting departments of several European universities in trialling especially the IVY 3D environment. In **collaboration** with other European Universities, the project coordinator is also designing videoconference-based role plays for integration into legal interpreting modules. STC used the outcomes of the project to create synergies between the EVIVA project and the LLP project TILA, in which STC participates and which explores the use of 3D virtual worlds in secondary education. This has led to **cross-fertilisation** of the insights between the two projects.

As far as **clients of interpreters and trainers of such clients** are concerned, a total of 28 (potential) users of interpreting services participated directly in the EVIVA evaluation. They were recruited through the partners’ networks and came from the fields of law, science and medicine. For example, a **workshop** on “Using new Information and Communication Technologies to Prepare Legal Professionals for Multilingual Proceedings” was held in Surrey in May 2013. It targeted trainers and

included demonstrations of the IVY 3D environment, videoconferencing and the BMT2 video clips. The workshop was attended by representatives of the Advocacy Training Council (ATC) in London and the project leader of BMT2 from Middlesex University, and led to a joint project involving the ATC, Surrey and Middlesex with the aim of developing a training module for advocates on how to work with interpreters.

Surrey also presented the EVIVA project at the annual **conference** of Applied Linguistics and Professional Practice specifically with the aim of engaging with potential client groups (e.g. in healthcare). This was an appropriate forum as the conference focused on the theme of 'Learning through and for professional practice' and aimed to explore relations between language use and institutional practices with a view to creating opportunities for inter-professional collaboration. Furthermore, the insights that EVIVA generated in relation to videoconference-based learning were disseminated in the AVIDICUS3 project, which is coordinated by Surrey and focuses on the use of videoconferencing and interpreting in legal proceedings.

VLE designers were mainly reached by Bangor. The team organised meetings with, and demonstrations for, key professionals from the industry, the Welsh Government, the Serious Games Institute and key researchers in several European countries in the field of 3D virtual environment technology. In May 2014, Bangor organised the EVIVA developer seminar with participants from academia, industry (Unity3D, Daden Technology Ltd) and professional associations (e.g. the Chair of the British Computer Society Animation and Games Specialist Group). The workshop showcased the project's technical achievements and generated a stimulating discussion about future directions in 3D virtual environment technology.

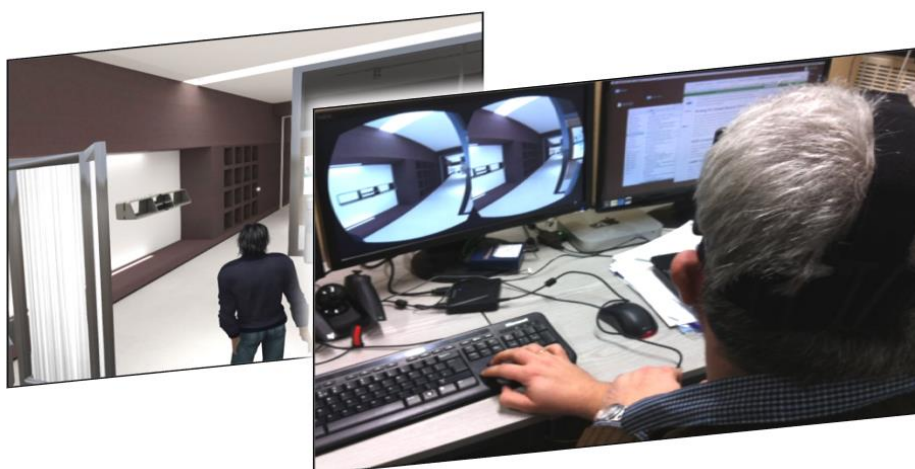


Image 2: Demonstration of IVY 3D environment through Oculus Rift at the EVIVA developer seminar

The Bangor team also presented the EVIVA project at a number of academic **conferences** and were thus able to target designers, developers and researchers.

The final **dissemination seminar** in Brussels on 28 November 2014 was designed as a forum for disseminating the outcomes of the EVIVA project to key stakeholders, against the backdrop of a growing interest in the use of ICTs in interpreter training and developments in 3D virtual environment technology for pedagogical purposes. The event included representatives of the interpreter training departments of the DG Interpreting (SCIC) and the European Parliament, as well as representatives and tutors from interpreter training institutions across Europe, and researchers from the field of interpreting and 3D VLEs.

2. Dissemination and exploitation channels

In addition to direct contacts through the partners' networks and participation in conferences, a range of other dissemination channels were used to reach the target groups. A **project website** was set up early on in year 1. As the EVIVA project was a follow-up project to the IVY project, and built on and developed the IVY 3D environment, the website which was used for the IVY project, www.virtual-interpreting.net, was extended to integrate the EVIVA project and achieve continuity for the public. The website includes information about the project and the partners, public reports and resources, and demo video clips. Moreover, information about the project has been integrated into the partners' institutional websites.



Image 3: Project website www.virtual-interpreting.net

Website presentations were complemented by the use of a range of **social media**. A Twitter account (@vr_interpreting) is used to raise awareness for the project and its related themes. The Twitter feed, which also appears on the home page of the project website, has attracted nearly 150 followers to date. The Twitter Storify site was used to archive Twitter feeds relating to the final dissemination seminar (#EVIVAseminar). Project partners who have LinkedIn accounts also used their accounts to disseminate information about the project and to send updates on project progress and activities to their respective networks. Furthermore, the project has its own YouTube channel which serves as a repository for video clips that were developed to demonstrate different aspects of the project, especially of the 3D virtual environment.

All partners furthermore contributed **publications** during the project lifetime (for full list, see chapter 3). Further academic publications are currently being prepared to present the rich findings of the EVIVA Evaluation Studies to academic audiences in the different fields (especially interpreter education, working with interpreters, learning technologies, 3D virtual technologies and human-computer interaction).

The dissemination strategy was complemented by the preparation of an exploitation plan (see chapter 5) which built on the exploitation plan for the IVY project and the findings of the EVIVA Evaluation Studies.

2.7 Management and quality assurance

To ensure the smooth and timely progression of the project, a Microsoft Office SharePoint site was set up to manage the coordination of the project and communication between partners. In addition, meetings via videoconference and in the IVY 3D environment were used to discuss ideas and share information. As the EVIVA project was a follow-up project to the IVY project, it was decided that the existing IVY website (www.virtual-interpreting.net) would be used as the public-facing website for the EVIVA project too. Given that the EVIVA project built on and developed the IVY environment and took many of its findings as its starting point, it was considered advantageous from both the project's perspective and from the website visitor's perspective to have all the information in the same place. To this end, the existing content on the website was reorganised so as to incorporate the new EVIVA project content.

To ensure high quality and consistency across the project activities and tasks, a quality assurance plan was set up. This plan adopted a Plan-Do-Study-Act cycle and required all partners to report on their activities and tasks for each phase of the project. This reporting took the form of considering and reflecting on any challenges or problems that occurred during all phases of the project and stating the solutions that were found, and their rationales. Given that the EVIVA partners had a highly collaborative work style, the reflective reports helped address quality issues as soon as they arose. Quality monitoring was thus a natural part of the everyday work routine. The quality assurance report drew together the partners' input at each phase of the project and reflected on the quality assurance procedures and outcomes.

3. Project Outcomes & Results

The EVIVA project has produced the following outcomes and results.

1. The **review of relevant literature, available VLEs and learning content** drew on the literature relating to VLE evaluation and focused on eliciting parameters that could aid the evaluation of VLEs in the context of interpreting. In addition, a comprehensive review of the VLEs, the learning content and the pedagogical insights available from the projects on which EVIVA builds (IVY, BACKBONE, AVIDICUS and BMT2) and other projects was undertaken. The outcomes of this review fed into the design of the evaluation methods. They also provided a framework for interpreting the EVIVA evaluation results and they were used to inform the Best Practice Guide.
2. **Evaluation methods:** The development of an appropriate set of research methods for the evaluation of the selected VLEs was one of the major milestones of the project. In relation to **interpreting students'** individual and collaborative learning with different VLEs, the main methods of *data collection* included student observation, tracking and recording of student activity using screen capture tools and external video recordings, complemented by introspective methods (reflective sessions) and a questionnaire survey (user experience questionnaire [UEQ] with additional questions about learning experience). *Data processing and analysis* included the methods show in image 4 below. The analysis of the questionnaires, corpus-based methods, multimodal and visual methods, and methods borrowed from learning/discourse analytics were combined to aid the qualitative exploration learning processes and strategies students use in the respective VLEs and to ascertain how conducive (or otherwise) a given VLE is to supporting the application of these.

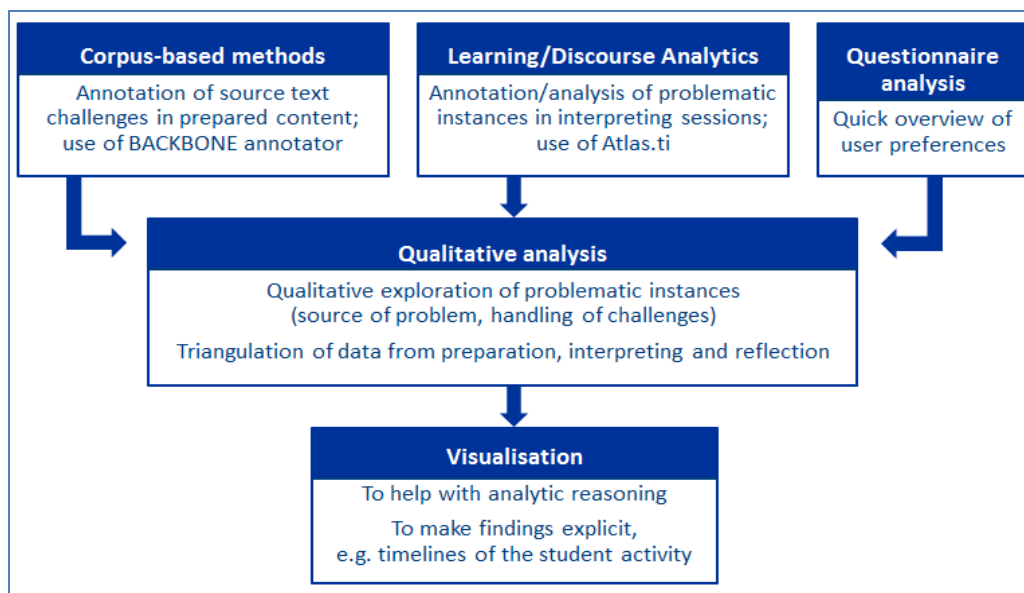


Image 4: Summary of data processing and analysis

The combination of the above methods enabled the research team to understand the impact of different VLEs on learning and the extent to which the participants are able to adapt to the specifics of the VLE they use (i.e. acquisition of digital competence). The evaluation of how **clients of interpreting services** work individually with prepared content involved an online survey, paying particular attention to previously observed difficulties of engaging clients of interpreting services in face-to-face

training (cf. IVY project, 2011-2013). The evaluation of how clients of interpreting services can use the VLEs for collaborative training with interpreting students was conducted via role play in the different VLEs, using the same combination of methods of data collection and analysis as those outlined above.

3. **Adapted and enhanced 3D virtual environment:** Based on the outcomes of the IVY project and in collaboration with the partners responsible for carrying out the Evaluation Studies, the IVY 3D environment was adapted further with regard to navigation, animation and photo-realism. Navigation through the 3D world and user self-selection of mixed-media material via a bespoke heads-up display (HUD) system was refined. Animation objects were developed for delivering mixed-media information displays. Photorealistic 3D objects and scenery, corresponding to the specific requirements of the interpreting context, were developed to ensure user acceptance and experience.

4. The core of the adapted environment is the **EVIVA Evaluation Centre**. This new, purposely designed virtual building is based loosely on the IVY Visitor Centre design but with twice the available space for the evaluation scenario rooms. One part was developed as the 'Live' mode area where interpreting students and other users can practice role playing; the other part hosts the 'Interpreting Practice' mode, where interpreting students work individually with prepared content. The room designs for the 'Live' mode and 'Interpreting Practice' mode areas are identical and are based on the role plays and bilingual dialogues that were used for the evaluation, i.e. they include virtual locations that were required for situating the role plays and the individual work with prepared content. The rooms for the 'Interpreting Practice' mode were populated with 'puppets' to represent the speakers in the bilingual dialogues.



Image 5: The EVIVA Evaluation Centre (top left); a medical room in the EVIVA Evaluation Centre (top right); one of the meeting rooms in the EVIVA Evaluation Centre (bottom left); the EVIVA Evaluation Centre tourist office (bottom right)

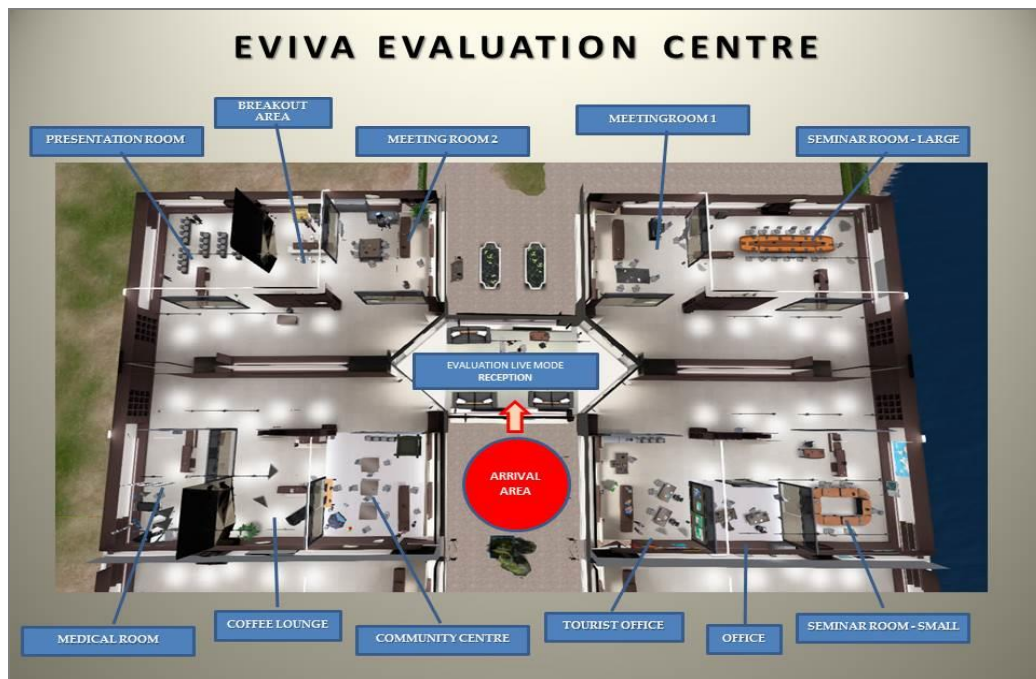


Image 6: Map of EVIVA Evaluation Centre (Live mode – for role play live interaction)

5. **IVY EVIVA Learning zone:** A further 3D building was developed adjacent to the Evaluation Centre called 'The IVY EVIVA Learning Zone' to improve student induction, user experience and dexterity within the environment. The Learning Zone contains sets of comic-style instructional posters that users can read to learn basic controls in Second Life, the virtual world in which the IVY 3D environment was created. The Learning Zone is a spacious virtual 'room' that makes it easy for users to try out walking and other movements.

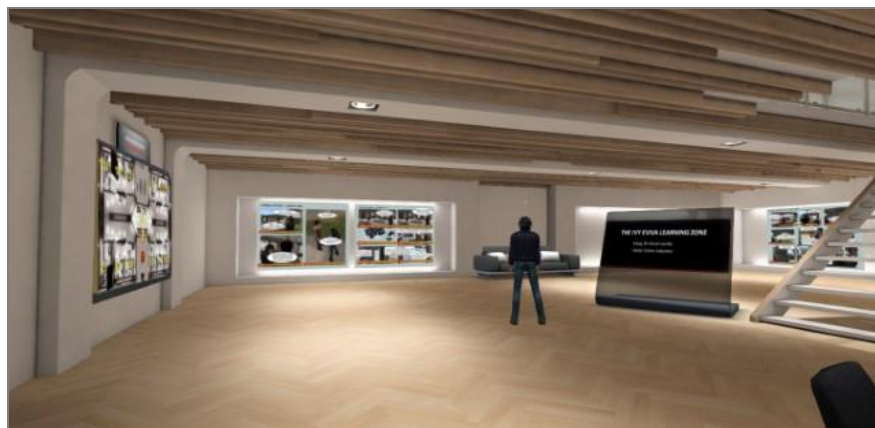


Image 7: The IVY EVIVA Learning Zone

6. **Seminar with VLE developers:** Bangor organised an evaluation seminar with VLE developers on 15 May 2014, targeting primarily those interested in 3D worlds and in their exploitation for pedagogic purposes. The Bangor team demonstrated their progress with enhancing the IVY 3D environment, and invited speakers provided related technical presentations. A panel discussion was set up to explore the project's development work and future options. The workshop showcased the project's technical achievements, elicited valuable feedback for further development of the IVY 3D environment and generated a stimulating discussion about future directions in 3D virtual environment technology.

7. **Comparison of videoconference environments:** As the EVIVA project was interested in exploring the affordances of videoconference tools as a further type of VLE, a decision had to be made about the most appropriate VC tool in this context. The focus was on web-/cloud-based solutions, as they tend to be free and/or incur only small subscription fees, making them more accessible for students than proprietary VC systems. Another important prerequisite was that the tool should be capable of multi-point conferencing to have maximal flexibility with regard to participant distribution. Google+ Hangout was selected for the EVIVA evaluation.

8. **Adapted video corpus environment for trainee interpreters:** The preparation of the VLEs also focused on preparing the BACKBONE video-based environment for use in the Evaluation Studies. One aspect of this involved developing a set of annotation categories focussing on source text related challenges for interpreting. The annotation categories refer to the different levels of language and communication that are relevant in an interpreting context, ranging from features of the discourse as a whole to utterance-level features, lexical issues, challenges for memorisation and other difficulties that (trainee) interpreting students are likely to encounter. The annotation categories were also translated into German, Polish and Spanish (the languages needed in the evaluation). In parallel, the Annotator tool, which underpins the content on the BACKBONE video corpora and search site, was adapted so that the new annotation categories could be added, and this in multiple languages.

9. **Annotated video corpus samples for trainee interpreters:** The annotation categories were used to annotate the transcripts of selected samples from the BACKBONE video corpora (and the IVY prepared content, which is derived from the BACKBONE corpora), which were used during the evaluation to investigate how interpreting students work individually with prepared content.

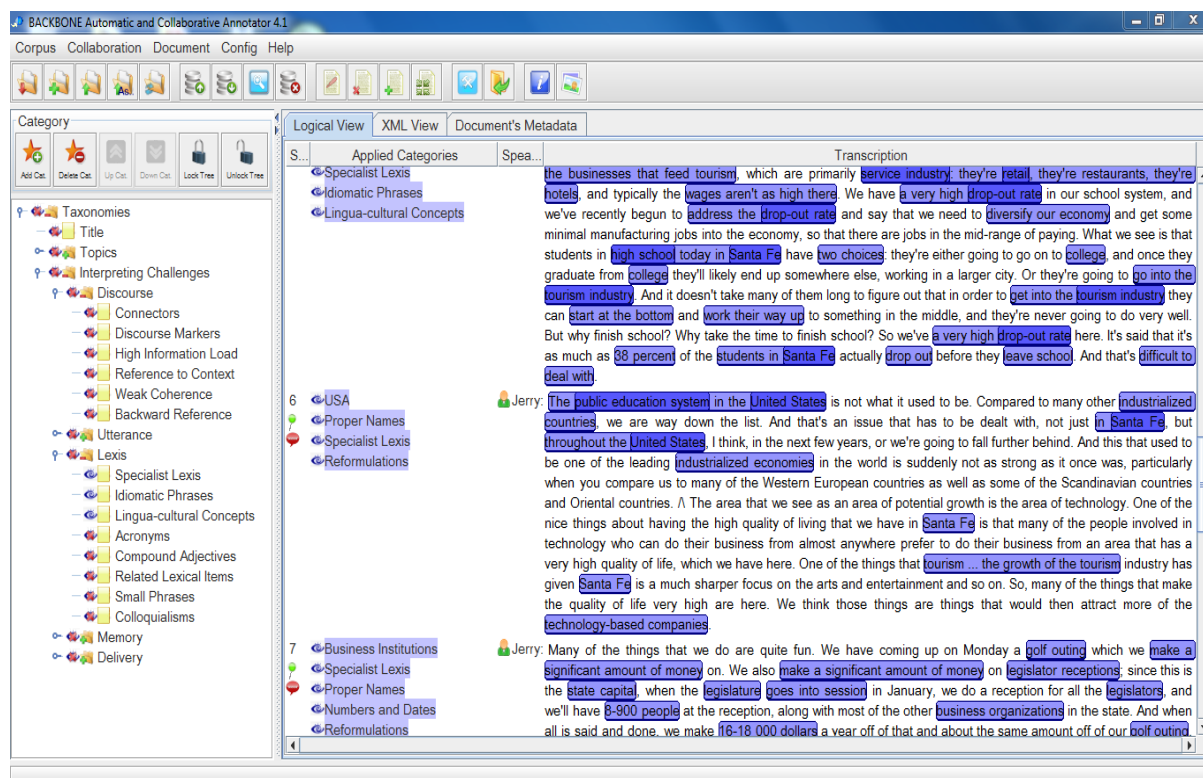


Image 8: Annotation category trees implemented in the BACKBONE tool (L) and English BACKBONE corpus sample annotated for potential interpreting challenges (R)

10. Additional content for the 3D virtual environment for trainee interpreters:

Another aspect of content preparation was the creation of additional audio content for inclusion in the IVY 'Practice mode' environment. Following the approach for creating bilingual dialogues that was developed in the IVY project, i.e. using a 'master' English template and translating the question turns in the dialogue into another language, a set of Spanish-English dialogues was created (cf. also Braun & Slater 2014). The Spanish turns were then audio recorded, linked to the English answer turns using the IVY Administration Panel (see Ritsos *et al.* 2012) and incorporated into the repository of bilingual dialogues available in the IVY VLE. In addition, English-Spanish dialogues were created on the basis of Spanish BACKBONE corpus. The method can be apply to other language pairs as the need arises.

11. Material for role plays: Role play outlines were created for collaborative work by interpreting students and/or their potential clients. The original plan was to create role plays for different language combinations. However, as the project evolved, it became apparent that it would be more useful to create generic role plays (in English) and that the evaluation participants would then localise the role plays to their own language pair requirements. This was thought to introduce greater flexibility in the sense that all evaluation participants, as they all use English as one of their working languages, could use all materials.

Role play: A meeting between a long-term visitor to the University and a local lettings agent

Scenario description

This dialogue takes place between a visiting lecturer (**Speaker 1**) and a local lettings agent (**Speaker 2**). The lecturer is visiting the University on a six-month teaching and research exchange. For the past two weeks, the lecturer has been living in temporary University accommodation and is now looking to rent a flat or house near the University where s/he can stay for the remainder of the visit. The local lettings agent is trying to find out the lecturer's requirements and use this information to suggest suitable options.

The University is settling

Brief for Speaker 2: Visiting lecturer

Your role	You are a lecturer visiting a University on a six-month teaching and research exchange. For the past two weeks, you have been living in temporary University accommodation and you are now looking to rent a flat or house near the University where you can stay for the remainder of the visit. You intend to bring your family over to join you and therefore
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Brief for the interpreter

General information	You have been asked to interpret for a lecturer visiting the University while s/he is settling into the area. You have interpreted for the lecturer before but have never met the lettings agent. Today you are interpreting a meeting between the lecturer and a local lettings agent because the lecturer wants to move out of temporary University accommodation into a more permanent home.
Aspects / questions that might be addressed	<ul style="list-style-type: none">• Property and location requirements• Rent, deposit and fees• Appointments to view properties• Process for a property accommodation (e.g. viewing properties, deciding on a property and paying a deposit, arranging references, arranging how and when rent will be paid, signing a tenancy agreement, moving in and arranging the inventory, period of tenancy, landlord visits, maintenance issues, leaving the property at

Image 9: Role play outline with guidelines for speakers and interpreter

Three types of role play were created, **information-oriented** (e.g. job interview); **topic-oriented** (e.g. a discussion about university tuition fees); and **problem-oriented** role plays (e.g. a dispute between a tenant and a landlord). Each role play outline consists of a general description of the situation and briefs for each of the speakers. In addition, the role play outlines provide a short brief for the interpreter; it is part of the preparatory tasks for the role players to provide the interpreter with a

more detailed brief. Additional role plays were designed for use in the evaluation with the clients of interpreting services. The outlines for these role plays were more specific in that they were written with the specific expertise of the speaker in mind.

12. Guidelines for trainee interpreters: In addition to the learning content, a range of guidelines was created to enable the students to prepare effectively for the interpreting assignments. The guidelines include an overview of the main functions of the environments as well as a brief for the interpreting assignment, references to relevant resources and recommendations for good practice.

13. Guidelines for users of interpreting services (clients): The VLEs that were selected for use with clients of interpreters in the EVIVA evaluation, i.e. the BMT2 video-based environment and the IVY 3D virtual environment, did not require adaptation. The preparation of content for clients therefore focused on guidelines for using the relevant VLEs and creating information about the VLEs on the EVIVA website to promote their use by clients of interpreters.

14. Evaluation report: This is the major EVIVA deliverable, drawn up to document the evaluation aims, methods, processes and outcomes based on the evaluation with two of the target groups, i.e. trainee interpreters and clients. It presents the outcomes of a) the User Experience and Learning Experience surveys, b) the qualitative analyses based on a macro analysis of all learning sessions, and c) in-depth, corpus-based analyses of selected learning sessions, supported by Atlas.ti, a software package for multimodal analysis. The report reflects the results of using different types of VLE and different learning scenarios (individual study with prepared content and collaborative work using role play). In relation to learning with prepared content, the in-depth analyses focused, for example, on links between the students' level of awareness (gathered from the questionnaire and the reflective session), their preparation of the interpreting task (observed in the video recording of the session), the handling of given interpreting challenges during the interpreting session (using the recordings and observation) and the reflection upon this process (based on the notes and recording of this session). A case study approach was used to report on specific foci of the evaluation at the different test sites (e.g. the flipped classroom concept, the role play with clients, and the development of professional competence through the use of the VLEs). The conclusions drawn from the evaluation outcomes served as input data for the Best Practice guide and were also used to inform discussion about how the VLEs and content could be sustained and exploited in future activities.

15. The EVIVA website started out as a simple static website but was then reorganised and upgraded to a dynamic, interactive site presenting information about the project as well as reports, resources and demo material. The website is complemented by partners' websites and the use of social media (e.g. Twitter feed).

16. The EVIVA dissemination seminar in Brussels on 28 November 2014: This was designed as a forum for disseminating the outcomes of the EVIVA project to key stakeholders, against the backdrop of a growing interest in the use of ICTs in interpreter training and developments in 3D virtual environment technology for pedagogical purposes. The event included representatives of the interpreter training departments of Europe's two largest interpreting services, i.e. the DG Interpreting (SCIC) and the European Parliament, as well as representatives and tutors from interpreter training institutions across Europe, and researchers from the field of interpreting and 3D VLEs.



17. Publications and papers: All partner institutions contributed publications during the project lifetime. Further publications are in preparation, based on the outcomes of the Evaluation Studies.

Academic papers and articles:

- Braun, S. & Slater, C. (2014) "Populating a 3D virtual learning environment for interpreting students with bilingual dialogues to support situated learning in an institutional context". *The Interpreter and Translator Trainer* 8(2). Special issue: "Dialogue interpreting in practice: Filling the gap between empirical research and interpreters' training", 469-485.
- Braun, S., Slater, C. & Botfield, N. (2015) "Evaluating the pedagogical affordances of a bespoke 3D virtual learning environment for training interpreters and their clients". In S. Ehrlich & J. Napier (eds) *Interpreter Education in the Digital Age: Innovation, Access, and Change*. Special volume of the Interpreter Education Series. Washington, D.C.: Gallaudet University Press.
- Kajzer-Wietrzny, M. & Tymczyńska, M. (forthcoming) "Integrating technology into interpreter training courses: A blended learning approach". *InTRAlinea*.
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- Kritsis, K. & Floros, G. (forthcoming, 2015) "Εικονικά περιβάλλοντα εκπαίδευσης διερμηνέων: IVY – Interpreting in Virtual Reality" ["Virtual learning environments for training interpreters: IVY – Interpreting in Virtual Reality"]. *Proceedings of the 4th Meeting on Greek Translation Studies*. Thessaloniki.
- Kritsis, K. & Floros, G. (forthcoming, 2015) "Εικονικά Περιβάλλοντα Εκπαίδευσης Διερμηνέων: IVY – Interpreting in Virtual Reality" [Virtual Learning Environments for Interpreter Training: IVY – Interpreting in Virtual Reality], στο/in Loupaki, E. & Kourdis, V. (eds) Πτυχές της Ελληνόφωνης Μεταφρασολογίας – Αφιερωματικός Τόμος προς τιμή Τ. Νενοπούλου/Facets of Greek Translation Studies – Festschrift for T. Nenopoulou. Thessaloniki.
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- Ritsos, P.D., Mearman, J.W., Vande Moere, A. & Roberts, J.C. (2014) "Sewn with Ariadne's Thread – Visualizations for Wearable & Ubiquitous Computing". In *Proceedings of the Death of the Desktop Workshop, IEEE Conference on Visualization (VIS 2014)*, Paris, Nov. 2014
- Ritsos, P.D. & Roberts, J.C. (2014) "Towards more Visual Analytics in Learning Analytics". In *Proceedings of the Fifth EuroVis Workshop on Visual Analytics (EuroVA)*, Eurographics Association, Swansea, UK, 9-10 Jun. 2014, pp. 61-65.

18. The EVIVA Best Practice Guide: This document synthesises the insights gained during the EVIVA project, which set out to evaluate different types of VLE in the context of interpreter-mediated communication. The focus is on the different but complementary strengths of different VLEs and their specific affordances for different learning scenarios, i.e. individual and collaborative learning. As the VLEs require appropriate learning content, the guide also discusses different types of resources and their potential for customisation to different use contexts.

4. Partnerships

The project consortium constituted a robust partnership, which was made up of five partners from four European countries (UK, Germany, Cyprus, Poland). The team previously collaborated on the IVY project where the foundations for EVIVA were laid. Moreover, several consortium members collaborated in other recently completed projects (see 2.3 above) on which EVIVA built. The consortium brought together expertise from two distinct strands: firstly, interpreter trainers and interpreting researchers who contributed their teaching and research experience including specific knowledge in videoconference-based and remote interpreting; and secondly, computer scientists with expertise in the design of virtual environments and different evaluation methods. Several partners also have expertise in learning technologies and their application to interpreter training and related fields (e.g. language learning).

There has been an immense **transfer of knowledge** between the project partners of this *multi-disciplinary* project, which would have been impossible to achieve by any single partner within two years. Moreover, the transnational co-operation added different and truly insightful country perspectives of business and community interpreting and interpreter training. The co-operation highlighted different needs and led to a more balanced approach. Furthermore, the *multi-country* partnership made it possible not only to adapt existing multilingual resources and add new resources, but also to conduct the evaluation with interpreter students and trainers in different European institutions. Added value is derived from the inclusion of a range of language combinations that would be difficult to achieve at national level.

The project partners are also part of wider networks, which was critical for disseminating the project findings and developing exploitation plans to ensure their long-term integration in relevant educational settings and to create sustainable training initiatives. Key stakeholders in the field of interpreter training such as the DG Interpretation of the European Commission and the European Parliament DG Interpretation and Conferences showed considerable interest in the predecessor project IVY and its follow-up through EVIVA, with participation from representatives of the European bodies at the EVIVA dissemination seminar. Interpreting departments of several European universities have expressed an interest in trialling especially the 3D environment (e.g. Bologna (IT), Gernersheim (DE), Helsinki (FI), Leeds Metropolitan (UK), Middlesex (UK), Stockholm (SE)) and in developing further European projects in the area of ICT-based learning.

Concrete links have also been forged with the Advocacy Training Council (ATC) in London, which comprises barristers, judges and others drawn from the Inns of Court, the Circuits, the Bar Council of England and Wales, Specialist Bar Associations and other representative bodies and organisations. This has led to a joint project to develop a training module for interpreter clients in the legal sphere. A further collaboration partner is the Dutch Ministry of Justice, which has expressed a keen interest in developing videoconference-based training of legal professionals in how to work with interpreters. Links with the Serious Games Institute, the Animations and Games Group of the British Computer Society, the Digital Wales Research Hub and other Welsh Government organisations provide a platform for collaborative business-academic R&D activity, especially with regard to developing the project's 3D virtual environment and transferring its use to other educational sectors.

5. Plans for the Future

The dissemination and exploitation activities that have already been carried out have prepared the ground for sustainable action beyond the funding period of the project. The exploitation strategy of EVIVA builds on a model of 'dynamic extension' of the resources developed in EVIVA and the projects on which EVIVA built, and on pedagogical implementation of the solutions that have been shown to be most beneficial in the EVIVA Evaluation Studies. The exploitation strategy has five main strands.

1. Pedagogical implementation of the project outcomes into the educational infrastructures of partner institutions

The first strand involves the integration of the EVIVA findings into the educational infrastructures of the partner institutions offering interpreting programmes and of associated universities which took part in the evaluation. This concerns interpreter training at undergraduate and postgraduate level as well as research at MA and PhD level. The VLEs evaluated in EVIVA will be made available to future student cohorts in the partner institutions. Apart from using the prepared content for individual study, a particular focus for future academic years will be the pedagogical implementation of collaborative learning to simulate situations which would otherwise be difficult to access (e.g. court hearings, police interviews, doctor-patient conversations). This is particularly pertinent to situations of community/Public Service Interpreter training, where training resources are still insufficient in many European countries.

Surrey is already using all of the VLEs in their interpreting modules in the MA Business Translation with Interpreting, and will extend the use of ICTs in interpreter training in 2015/16 when launching a new MA in Interpreting which combines the teaching of traditional modes of interpreting with lesser taught modes (dialogue interpreting) and emerging forms of delivery (remote interpreting). Specific reference is made to the settings of interpreting where there has been a growing demand for the use of ICTs to deliver interpreting services (legal and healthcare settings). Role play scenarios and guidelines in particular will continue to be used in MA interpreting programmes at UAM, in modules such as "Liaison interpreting", "Interpreting Strategies" and "Consecutive Interpreting". Students will be encouraged to use VLEs for self-study and collaborative interpreting practice outside of class. At UCY, the EVIVA findings will be integrated both in undergraduate and postgraduate courses (provided the Masters in Conference Interpreting is reactivated at UCY).

2. Working with clients of interpreters

The collaboration with the Advocacy Training Council in London, which started in the early stages of the EVIVA project, has led to a joint project with Surrey and Middlesex with the aim of developing a training module for lawyers in how to work effectively through an interpreter. Part of this module is a training film, which is modelled on the BMT2 project films and has been developed using the insights gained in EVIVA into video-based environments, which will be piloted in spring 2015. An expansion of this collaboration is planned for mid-2015 to integrate the training module into advocate training, drawing on blended learning and flipped classroom approaches. Surrey is also lead partner of AVIDICUS3, a project relating to legal interpreting, where the EVIVA insights into videoconference-based training will be

used to develop training for legal practitioners in how to work with interpreters. The training will be piloted by AVIDICUS project partners who represent users of interpreting services such as the Dutch Ministry of Justice and an Antwerp-based Belgian law firm.

3. Transfer of the outcomes to other educational contexts

As regards the exploitation of the technological innovations developed in the project, the development work that was started in the IVY project and continued in EVIVA will be continued by Bangor and applied to different educational contexts. Direct applications would include language learning. A bigger step would be to apply the approach to a different domain such as heritage training whereby archaeology students learn to dig archaeological sites through simulation. Insights from the development work in IVY and EVIVA and the EVIVA Evaluation Studies will furthermore feed directly into P5's new Masters programme on Advanced Visualization, Virtual Environments and Computer Animation. STC will disseminate the project results in the wider field of technology-supported learning and educational technologies, thus encouraging a transfer of the project results from the immediate context of interpreter education to other educational contexts.

4. Exploitation of the outcomes in future research and development

The consortium has a strong focus on the further development of ICT-based solutions for interpreter training, especially the further development of the IVY 3D virtual environment and research into its affordances and learning processes. Bangor, the partner responsible for technological development, is particularly interested in developing advanced 3D virtual environments, using next-generation interfaces, on the basis of the experience gathered in IVY and EVIVA, and in an evaluation of the 3D environment with Head-Mounted Display interfaces. Immersive Virtual Reality could be used for interpreter training. Surrey has complementary interests in exploring Virtual Reality for more comprehensive simulations in interpreter training and integrating different modes of interpreting (including simultaneous interpreting), by drawing on and expanding the research into remote interpreting and educational technologies in interpreting conducted in Surrey.

Together with other institutions that have expressed an interest in using the 3D environment, Surrey and Bangor will investigate extensions of the IVY 3D environment into further language pairs, e.g. Welsh/English (with Welsh Assembly Government), and to expand Chinese/English provision (with the Confucius institute). Bangor will provide continued technical support for the IVY 3D environment in Second Life.

All project partners also have a strong interest in continuing to investigate how learners utilise different VLEs. The pedagogical concepts emerging from the evaluation, for example, the insights gained with regard to the use of ICTs as part of blended learning and flipped classroom approaches, and the importance of learner preparation and situated learning will be developed further over the next years. Relevant national and European funding programmes are currently being analysed with regard to their suitability for follow-up projects. A longer-term interest of the partnership is to investigate how the learning models analysed in EVIVA could be applied to other types of learning environments; i.e. in transferring ideas from EVIVA into other domains. Bangor is also interested in exploring the potential of VLEs to

store user data and to create a basis for a powerful learning analytics that can help users learn better.

5. Further dissemination

The public part of the IVY project website (<http://www.virtual-interpreting.net>) will be maintained for future dissemination. It will serve as a point of reference to the resources developed in EVIVA and the projects on which EVIVA builds. In addition, the Twitter feed will continue to be used to disseminate information about project-related topics. Further academic publications are currently being prepared to present the rich findings of the EVIVA Evaluation Studies to academic audiences in the different fields (especially interpreter education, working with interpreters, learning technologies, 3D virtual technologies and human-computer interaction).

Furthermore, a number of upcoming events have already been scheduled to continue the dissemination activities. The project leader will give lectures on new technologies in interpreting (by invitation) at the Universities of Helsinki (April 2015) and Sao Paulo (July 2015), a keynote on the same topic at the next IATIS conference in Belo Horizonte, Brazil, in July 2015 as well as a presentation on remote interpreting technologies to the Biannual Conference of the Institute of Translation and Interpreting (ITI) in the UK in April 2015. Surrey will also run a seminar on multimodality in dialogue interpreting studies where outcomes of the EVIVA project will be presented to key international scholars in the field. UCY will disseminate the outcomes of the project at the 5th Meeting of Greek Translation Studies in Thessaloniki 2015. In addition, dissemination workshops are planned in all three Greek Universities offering interpreter training programmes (University of Thessaloniki, Ionian University, and Hellenic American College), which also participated in the data collection for the EVIVA evaluation.

6. Contribution to EU policies

The EVIVA project sought to evaluate a range of virtual learning environments which use state-of-the art and future-generation ICTs. Using the context of educating and training interpreting students and (potential) users of interpreting services, i.e. learners from different educational settings and backgrounds, as a test bed, EVIVA evaluated the selected VLEs with particular emphasis on how they simulate real-life conditions and support the acquisition of professional skills and knowledge. The outcomes will inform the development and design of future VLEs and will enhance the learning opportunities for learners across different educational sectors.

EVIVA evaluated VLEs that are populated with multilingual content for interpreter training in several language combinations covering 'old' and 'new' European languages as well as non-European languages, which play an increasingly important role in trade and community settings. The outcomes of the project, i.e. the findings of the evaluation and the best practice guide for the design and uses of such VLEs, will contribute to improving the linguistic proficiency of interpreting students and will create learning experiences that promote intercultural understanding and linguistic diversity in Europe.

Given its focus on interpreter-mediated communication and the challenges inherent in this form of communication, the project will increase awareness of the importance of linguistic diversity and intercultural understanding in Europe. The project outcomes will serve to strengthen interpreting as a profession and thus contribute to multilingualism, allowing European citizens and migrants to communicate in the language of their choice and receive the services of a qualified interpreter.

Furthermore, EVIVA addressed the educational needs of learners from different sectors, namely interpreting students in HE and their potential/future clients (students in HE and vocational training, and adult learners). The project contributed to improving the collaborative uses of VLEs by these groups e.g. to simulate situations of interpreter-mediated communication in a European context, enabling both groups to expand their professional skills and increase their employability across Europe.

Through its research into, and dissemination of knowledge about, innovative VLEs, the project aims to contribute to promoting the potential of ICTs as a catalyst for innovation and creativity in lifelong learning. The findings of the EVIVA Evaluation Studies will contribute to modernising interpreter education and will provide an innovative approach to future education of interpreters' clients. The particular appeal of investigating ICTs in this training situation is that virtual collaboration technologies are already being used by a growing number of companies and public services to support communication. By helping learners to gain access to, and experience with, different ICT-based learning opportunities, to develop digital competence and to strengthen their ICT skills, the project will contribute to ensuring that future interpreters and their future clients are well prepared for the use of ICTs in the workplace. This will further contribute to strengthening the employability of future interpreters and their clients in other professions, and enable them to adapt to the emerging communication needs in a digital multilingual Europe.

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