Persuasive Learning Objects and Technologies

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Education and Culture DG
Lifelong Learning Programme

Persuasive Learning Objects and Technologies
for Lifelong Learning in Europe

Final Report   Public Part

Project information

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Executive Summary

EuroPLOT has developed a pedagogical framework for active engagement, based on persuasive design, demonstrated its value by creating authoring tools for, and exemplars of, **P**ersuasive **L**earning **O**bjects and **T**echnologies (PLOTs). This project has addressed the issue that learning objects and technologies are often limited in both their adaptability and how far they support active engagement from the learner. The EuroPLOT project has aimed to improve the use of technology to enhance creativity and interactivity in learners and to make it easier for teachers to create, adapt and share high quality, engaging digital learning resources internationally. The EuroPLOT framework incorporates persuasive design principles for designing technologies that change behaviour or attitude, for example, by using fun, simulation, competition or peer influence. This is based on the framework of *persuasive design* which had been developed by BJ Fogg (2003). Applied to learning, the concept of *persuasive design* encapsulates particular learning activities and associates them with these persuasive principles. In the EuroPLOT project, the guidelines for creating learning content based on *persuasive design* have been incorporated into two previously existing content authoring tools, GLOmaker and 3ET, to allow teachers to create new e-learning resources that embed persuasive learning design principles as well as to re-purpose existing resources. These modified tools, together with persuasive learning designs, have been made available as PLOTMaker and PLOTLearner, and the PLOTs created with them have provided learning resources which attempt to be more persuasive than conventional learning objects. The tools and the learning designs are available online as Open Educational Resources (OER). The main sectors targeted in this project were those of tertiary and vocational education; in order to widen the benefits of this project to other sectors, we also demonstrated the application within the adult and school educational sectors. Our target groups have included researchers, content designers, teachers and learners, including distance learners. In four specific case studies, we have created exemplar PLOTs to support language learning, archival studies, environmental assessment and business computing. These were applied with user groups and evaluated regarding effectiveness, engagement, and persuasiveness with feedback from 713 learners. Through workshops, webinars and publications we have established an international online community of teachers and trainers interested in PLOTs to extend the use of the tools and resources, and have made the authoring tools and a collection of reusable PLOTs freely available.

The Consortium comprises five universities and a research organisation, all engaged in the innovative use of online communication technology for lifelong learning: Leeds Metropolitan University (UK), Aalborg University (Denmark), DHI (Denmark), London Metropolitan University (UK), Danube University Krems (Austria) and University Hradec Králové (Czech Republic). The partners have combined expertise in the key areas of the project, which include persuasive design, learning design patterns and frameworks, learning object authoring and tools, open educational resources, repositories and evaluation.

During the course of the project, the theoretical framework of persuasiveness was defined, and sets of persuasive learning designs were created. These persuasive elements were implemented in the two software tools PLOTMaker and PLOTLearner in a staged approach and methods for developing PLOTs were embedded in these tools within the context of four specific case studies,. Evaluation of these case studies was completed, and the conference IWEPLET 2013 was organised to further disseminate the results. All the results of the project, in particular the tools (PLOTMaker and PLOTLearner) and the learning objects are available on the EuroPLOT web site www.eplot.eu for access beyond the completion of EuroPLOT. During the project, a series of free public webinars has shown project progress and user engagement. A series of exploitation workshops has addressed around 700 stakeholders and disseminated to the wider community the knowledge and expertise gained during the EuroPLOT project.

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1. Project Objectives

The overall aim of this EuroPLOT project has been to improve the use of learning technology, to enhance creativity and interactivity in learners, and to make it easier for teachers to create, adapt, and share high quality, engaging digital learning resources, internationally, as open educational resources (OER). In 2003, BJ Fogg outlined the concept of "Persuasive Technology" (B.J Fogg, 2003) which since then has inspired researchers and developers in technology-enhanced learning to explore the possibilities of this paradigm (e.g. Tran, 2008). The main objective of the EuroPLOT project was to develop a framework that incorporates the persuasive design principles, introduced by BJ Fogg, into pedagogical design.

In order to make use of this persuasive framework, it was initially assumed that it would need to be described as a series of persuasive learning design patterns (PLDs). This objective had to be somewhat modified, as it became clear that the use of such design patterns would be highly context-dependent.

Within this project, two tools were developed and extended, using this persuasive framework, to support the creation of persuasive learning objects and technologies (PLOTs). These tools were based on existing tools for creating learning objects, GLOmaker and 3ET. Within EuroPLOT, these have been re-branded as PLOTMaker and PLOTLearner respectively, together with the included PLDs.

With these tools, exemplar PLOTs (learning objects) were created to support the teaching areas of language learning, archival studies, environmental assessment, and business computing.

These tools and the developed PLOTs were applied in four exemplary case studies which relate to the above four teaching areas. The PLOTs of these case studies were adapted for other sectoral contexts and for the use in different European and African countries.

The PLOTs of these four case studies were evaluated with learners, including distance learners, and the tools were evaluated with teachers. Overall, feedback from 713 learners was collected to provide a thorough evaluation of the PLOTs.

A website is available which provides access to the project and its results at www.eplot.eu. Within this site the results (tools, PLOTs, reports, and publications) of the EuroPLOT project are disseminated and will continue to be available after the duration of the project. Licensing of these resources is based on the Creative Commons Licensing, except when otherwise noted. A series of webinars was held, the recordings of which are available online. Each partner held a number of exploitation workshops, where teachers and members of the learning community were trained in the principles of persuasive design and in developing PLOTs with the tools. The conference **International Workshop on EuroPLOT Persuasive Technology for Learning Education and Teaching (IWEPLET)** was held at the end of the project, which brought together international experts with an interest in persuasive learning design. The proceedings of this workshop are available on the website, and a subset of papers was published in a Special Issue of the International Journal of Conceptual Structures and Smart Applications (2014).

2. Project Approach

Persuasive Principles

Persuasive technology is broadly defined as technology that is designed to change attitudes or behaviours of the users through persuasion and social influence, but not through coercion or deception (Fogg 2003). Fogg designates a list of persuasive principles, which if implemented in accordance with the appropriate time and place, will result in persuasive technology. These principles are:

Reduction: Reduction refers to the design strategy of simplifying what would otherwise be a complex process. E.g. Amazon's 1-click purchase which lets you skip a lot of time consuming navigations and tedious form filling, in order to make an instant purchase.

Tunnelling: Tunnelling is a design strategy which places the user inside a process that has a pre-determined direction. E.g. most installation processes require that the user completes several steps before the installations process is completed.

Tailoring: Tailoring is the degree to which a site or a program presents relevant content to individual users or user groups. Navigational options, filtering mechanisms and labelling systems can all be adapted to reflect user demographics.

Suggestion: Suggestion is the persuasive design strategy of delivering a message at the opportune moment. E.g. when Amazon suggests extra books which are closely related to the one you were just about to buy.

Self-Monitoring: Self-monitoring is the design strategy which allows you to monitor progress. E.g. sites which require a log-in and then enables the user to monitor the progress of weight loss.

Surveillance: Surveillance is closely related to self-monitoring; however the monitoring is not done by the user but by the system or the owners of the system. E.g. when using a weight loss website, users may be motivated not only by monitoring their own progress, but also by sharing experience and receiving feedback from other users who are struggling with similar issues. By sharing statistics, diet-plans etc. users feel more related to each other and may be inspired by actions taken by others.

Conditioning: Conditioning refers to the strategy of embedding emotional feedback into a design. It is often expressed as praise and rewards, but in a slightly more subtle manner than be the case with Persuasive Social Actors. E.g. when forums reward users with increasingly lofty titles (or user rights) in correlation to the number of posts made by the user.

Simulation: Simulation is a design strategy which enables the user to explore and experiment in a safe, nonthreatening environment. It shows a link between cause and effect clearly and immediately, and may appear as a subtle type of persuasion, as the user builds personal experience though the simulation

Social Signals: Social signals is the type of design principles which – like conditioning – embeds emotional feedback into a design, but which may be considered more direct. E.g. rewarding users with positive feedback and providing social support. Examples of persuasive social actors are the chat bots which are seen on websites such as SAS and IKEA, where the computer gives advice and feedback in a human like manner. Social signals also include the impact of physical attractiveness.

These persuasive principles can be applied by computing technology in a variety of situations. Computers provide the technologies which can be used for conveying such persuasiveness, as shown in Figure 1.
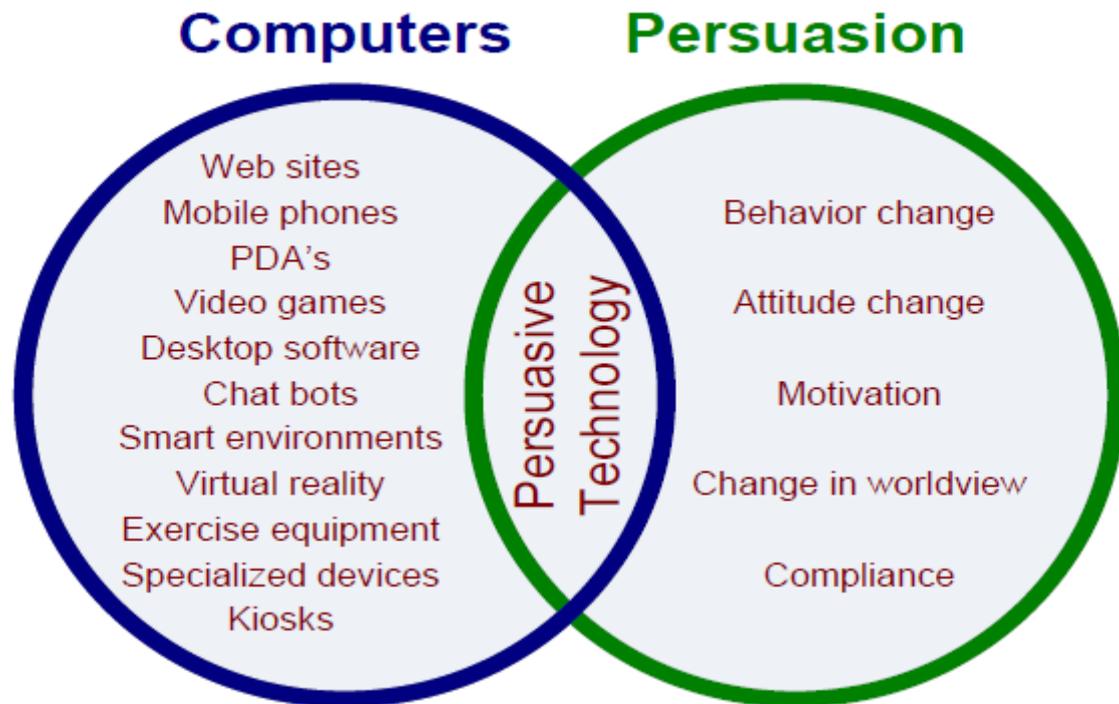

Fig. 1: Persuasive Technology at the intersection of computer technology and persuasion.

Application for Learning

In striving to make these persuasive principles applicable to learning, the EuroPLOT project used the following approach:

1. Theory. An analysis of the persuasive concepts was undertaken which was supposed to lead to a theoretical framework of persuasive learning. We had envisioned that these principles would be implemented in the tools for creation of the learning objects, to allow learning content authors to embed "automatically" these persuasive principles within their learning objects. However, as this analysis was done, it became apparent that the persuasive principles could not be generalised to cover all possible situations, but were highly context-sensitive. This is explained in our report **D3.3** in more detail. As a consequence, it became necessary to involve the case studies at an earlier stage as planned, so as to be able to concretely apply the persuasive principles to the situations and scenarios for which these case studies were set up. Following this analysis, a 6-step guide for creating persuasive learning was developed and published (Dyrby-Kristensen, 2013).

2. Preparing the tools. After the theoretical considerations were completed, the software tools for authoring learning content, PLOTmaker and PLOTlearner, were modified in stages so as to implement the features which allow learning content authors to embed persuasive design in the learning objects. Each of the two tools was released in three stages. The first two stages V1 and V2 were evaluated by EuroPLOT partners internally and were tested within the context of the case studies. Feedback from the partners related to usability and functionality led to a spiral-based development of these tools. The final version (V3) of both PLOTmaker and PLOTlearner was used for conducting the overall evaluation.

3. Developing the case studies. In parallel to the development of the authoring tools, the four case studies which had been proposed, were planned and designed. These four case studies are: Kaj Munk Museum, Learning of Ancient Hebrew, Exposure Scenarios for Chemical Handling, and SQL Teaching. More details about these case studies are given below in the next Chapter. These case studies cover archival studies, language learning, environmental science and business computing. They include both vocational and tertiary education. Specifications and requirements from those case studies were determined, based on the learning scenario, learning content, and learner group. These requirements were considered in the development of the tools, so as to provide the adequate and appropriate methods for embedding the persuasive design.

4. Conducting the case study evaluation. The authoring tools were used by the partners to develop learning objects for each of the case studies. These were then applied and tested. The evaluation took place in two stages: a pilot evaluation was conduction between November 2011 and December 2012, with the scope of improving the authoring tools and the learning objects with regards to usability and learning content. The evaluation was done internally and fed back into the final versions of the tools and the learning objects. The final stage of the evaluation was conducted from April 2013 and September 2013 and generated summative feedback with regards to the persuasive strengths of the learning objects. Feedback from 713 learners was evaluated and was published in the evaluation report **D7.3.**

3. Project Outcomes & Results

The EuroPLOT project created the following outcomes and results:

- Development of two authoring tools for persuasive learning objects (PLOTMaker and PLOTLearner).
- Creation of several learning objects for a variety of specific application scenarios.
- Execution of four case studies which cover a wide range of learners and learning domains.
- Evaluation of the tools and the learning objects through these case studies.
- More than 40 publications at conferences and in journals, describing the progress and achievements of this EuroPLOT project.

PLOTMaker

PLOTmaker is one of the two software tools, developed in EuroPLOT for creating learning objects. It is based on the software *GLOmaker*, which had been earlier developed by London Met. Since PLOTmaker is based on the existing tool GLOmaker, these two terms are often used interchangeably. PLOTmaker implies the added capability of the persuasive elements, which were not in the original GLOmaker versions. As well as being used for three of the EuroPLOT case studies, the new PLOTmaker has also been extensively used in additional projects. In particular PLOTmaker was used to improve the student induction experience at Ravensbourne. The project developed an innovative adaption and rollout of bring your own devices (BYOD) and student-produced content to promote active learning. It signalled the importance of digital literacy to new students on the first day of their induction at Ravensbourne. It improved the student experience of a standard generic academic induction normally delivered through passive PowerPoint slides presented by support staff. It was a user-centred, co-created design project, researched and created by existing FE and HE students, in collaboration with the Ravensbourne Student Union. The development of the assets was run as a live project where current students worked alongside academic and support staff, as well as researchers. Therefore the project contributes to the learning of both

the present and the future students at Ravensbourne and provides a learning resource that can be re-used and re-purposed in-house and externally.

PLOTmaker was used to develop the prototype induction trail which was trialled in September 2013 with 800 new students. The emphasis was upon using mobile Augmented Reality to deliver information and knowledge in the physical space where it is most relevant to the learner. Drawing on their own experiences of academic induction and their acquired knowledge of what is necessary for successful induction, the students devising the location based resources created an enhanced tour or 'induction trail' of the building, which engages the learners through challenges and analogue gamification. Relevant locations in the Ravensbourne building were 'augmented' by tagging them with audio/film/visual content created by the students which then required the new students to engage in a series of tasks. The content was triggered on the fresher student's phone or tablet when s/he entered a particular location. The aim was for students to respond to the content and create new content of their own in small groups hence the emphasis on co-creation.

The induction trail also enhanced the digital literacy of the new students during induction. It required them to draw on their existing digital literacy and acquire new skills in collaboration with their peers. In addition, it showed them that mobile devices can be important tools in their learning. Instead of 'trapping' new students in one room and making them passive receivers of information that they will not necessarily retain, the induction trail allowed the new students to engage in an experiential and social learning experience, which makes use of the whole building. It helps to signal to new students that the learning experience they are about to begin at college will be enabled by digital resources and methods in group and/or conversational learning situations.

PLOTLearner

PLOTlearner is the second of the two software tools, developed in this project. It is based on the previous software 3ET, and is used both for developing the learning content as well as for delivering it. In contrast to PLOTMaker, it has a sole focus on working with large corpus-based annotated texts, which are stored in the Emdros database. The primary applications of this tool are language learning, but it also can be used to access large amounts of text, for example the works of an author. In EuroPLOT, we have primarily used the corpus in the ancient language of Biblical Hebrew, but have also experimented with Ancient Greek and German. The persuasive learning technology enhances tutoring of self-directed learners using a database to drive engagement and outcomes. Facilitators can adapt it to any culture, institution, learner group or level of ability and it supports online collaboration.

The first major prototype D5.1 was released in October 2011 and allowed for the testing of persuasive language learning functionality in small test groups. Version 2, was delivered in June 2012, and implemented within teaching in Copenhagen and Madagascar. Version 3 was released in March 2013 and PLOTLearner user guides and support have incorporated a good community support system and will maintain access for this produce and documentation through Ezer.

The PLOTS created by the Case Studies

Each of the four case studies were chosen to provide direct benefits to the target user groups.

1. Archival studies

The **Kaj Munk Research Centre** involved tertiary learners in teaching about the work and significance of Kaj Munk, who was a Danish playwrights and pastor, and is commemorated for his role in the Danish resistance against Nazism. This case was developed with the aim on enhancing learning and engagement in the life and works of Kaj Munk. A user of the tools created in PLOTLearner may find them persuasive in that it supports the writing process by suggesting many attractive possibilities for new perspectives on the available materials The assumption is that this writing environment will persuade the user to carry on writing and also convince him or her that he or she will be able to create a product of high quality.

EuroPLOT has also made use of geocaching which may be seen as special kind of so-called mobile persuasion. Within the project a system of four geo-caches related to Kaj Munk were established in co-operation with the Kaj Munk Museum in Vedersø, which is located in Kaj Munk's former vicarage. The four caches were installed in June 2011 and the use of the system has been studied over a period of two years. There is strong evidence to support the claim that geocaching can in fact serve as an effective persuasive technology. Promising feedback from the Geocaching system in Vedersø, has led to the development of multimodal persuasive learning design, which was implemented and tested in the small village of Vester Hassing in Northern Jutland in June 2013. http://kajmunkivesterhassing.weebly.com/

The tools developed with PLOTlearner for accessing Kaj Munk's works can currently not be made publicly available, because Kaj Munk's works are still under copyright. However, in January 2015 they will become freely available in public domain.

In addition, a tool "Conceptual Pond" has been developed as a simple tool for gathering user input to a specific topic. It can be used online freely: http://realize.morethanjustanapp.com/

2. Language Learning

This case presents the learning content developed by **Aalborg University** for introductory Hebrew Language Learning. The development of PLOTLearner, a computer program that automatically selects random sentences from the Hebrew Bible and poses grammatical questions to the student, is an important tool in enabling the learner to read and understand texts and use them in interpretation, teaching or translation. The PLOTs developed in EuroPLOT are aimed at increasing the learner engagement and student motivation, looking to resolve the challenge of bringing alive a basically non-spoken (dead) language.

The material was tested in teaching at the Fjellhaug International University College Denmark in Copenhagen (FIUC-DK) in the course Persuasive Technology for Introductory Biblical Hebrew for students studying Biblical Hebrew in tertiary education and adult learners in vocational training at seminaries or studying Hebrew language and texts for translations jobs or for leisure. The course was repurposed for vocational and tertiary learners in Madagascar at the Graduate School of Lutheran Theology, where it was adjusted to a situation without fast and affordable internet access.

3. Environmental Science

The company **DHI** (in Copenhagen) developed and tested PLOTs using PLOTmaker, which teach adult learners about dangers of chemicals in professional and industrial context. When the chemical regulation REACH entered into force 1 June 2007, the scenario for the marketing and use of chemical substances within the European Community was totally reformed. Not only manufactures and importers of chemical substances were facing new obligations but also other actors in the supply chain like formulators of chemical mixtures were met with new requirements. One of the most challenging issues for the formulating industry is how to compile and communicate information on safe use of chemical mixtures down the supply chain using the so-called exposure scenarios. Guidance and different

practical approaches have been developed but taking the step from a set of single substance exposure scenarios to a consolidated exposure scenarios for a mixture of substances is still a big challenge for the majority of the formulating industry.

A persuasive e-learning resource is a beneficial tool for teaching individual employees in formulating industries how to develop correct exposure scenarios for mixtures in an appropriate way. These example simulations would enable the student to gain first-hand experience without imposing any real danger on anyone. Self-assessment and simulation take up a large part of the learning sessions, allowing the learner to learn through interaction. The Multiple Choice Questions, Matching Quiz and Drag and Drop components of PLOTMaker have been used several times throughout the course to encourage learners to test their knowledge.

4. Business Computing

Distance learning of Business Computing is offered to adult students in the business sectors who are not used to using computers on a daily basis. The aim was therefore to improve the existing approach to include persuasive design, allowing students to experience their learning with added support and help features about how to operate IT. Academic learners and teachers at higher education institutions **Leeds Met** and at **University of Hradec Kralove** were engaged in developing PLOTs using PLOTmaker to support the teaching and learning of the relational database design and the database query language SQL

The main purpose of each PLOT is to activate the learners while learning the topic through stand-alone learning objectives. Each PLOT can be best used for recall or revision of a clearly defined topic that is embedded into an appropriate curriculum, and can be used independently in various environments. The basic approach to the design of the PLOTs was based on constructive alignment and followed the persuasive principles of Reduction, Suggestion and Self-monitoring.

4. Partnerships

This project has drawn together research and development from different member states. This offers the benefit of sharing different approaches and mentalities in learning and teaching helping to ensure that the "persuasiveness" is not linked to only one country or culture. The consortium comprises partners with expertise in the key areas of the project: persuasive design, learning design patterns and frameworks, learning object authoring and tools, Open Educational Repositories (OERs) and evaluation. The collaboration of institutions from different countries has given real opportunities for the transfer of knowledge and experience, and the sharing of different approaches and practices widened the general understanding of the application of technology for teaching and learning. Building into the test cases the need to transpose the outcomes both trans-nationally and trans-sectorally has really encouraged a wider applicability of the EuroPLOT approach.

Consortium Participants:

Leeds Metropolitan University (P1) is the lead partner on this project and has expertise in developing learning objects (participation in 2 other European projects), practical experience in OER (institutional OER and repository projects), expertise in learning design patterns (led national project), and in natural language processing and artificial intelligence applied to education (national project). www.leedsmet.ac.uk

Aalborg University (P2) hosts the Centre for Persuasive Design (held the Fifth International Conference on Persuasive Technology in 2010), is the originator of the EMDROS database and the 3ET tool. P2 also provides target groups of teachers in archival work, language learning and environmental science. http://www.en.aau.dk/

The University of Hradec Kralove (P3) has led several European projects on learning objects, particularly on their creation and distribution through repositories (for example, e-dilema.uhk.cz), and is experienced in using e-learning in teaching business computing. http://www.uhk.cz

DHI (P4) is an international consulting and research organisation, and brings expertise in the development of technical guidance and courses for vocational training, including the application of e-learning resources and tools and represents the target group on environmental science. http://www.dhigroup.com/

London Met (P5) brings experience from the Learning Technology Research Institute with an international reputation in research on learning objects and learning design, and they are developers of GLOmaker, a generative learning object authoring tool. http://www.londonmet.ac.uk/

Danube University Krems (P6) has a large interest in OER, the development of e-learning taxonomies and learner centred design approaches related to learning environments, and has significant experience of evaluating educational projects and expertise in learning design and pedagogic frameworks. http://www.donau-uni.ac.at

Partnerships outside the Project Consortium

The project partners have links to other organisations through their professional network, which bring additional users into the case study evaluation.

At **Gothenburg University Oriental Institute** it has been demonstrated how learning of small languages can continue online through persuasive learning technology using the self-tutoring text. Unfortunately, only during the initial phase of the project could this be done, because from 2012 on, this institute no longer taught Biblical Hebrew, and the further planned testing had to be abandoned.

Graduate School of Lutheran Theology, Madagascar tested for the EuroPLOT project, implementing the PLOTLearner for learning language from a text-database, and worked to reuse PLOTs in Malagassy with adult learning of Biblical Hebrew. Students have been selected who potentially may become future teachers and instructors and perhaps even specialise in research. This project has here been used for capacity building and training of future teachers of the Hebrew Bible and specialisation in eLearning.

In addition to these two testing groups, PLOTlearner was also repurposed for other languages, one of them being Greek. This has not formally been evaluated, but is one of the outcomes of the project as well.

5. Plans for the Future

The EuroPLOT project is concluded; the case studies and the evaluation have been completed. All the public results of this project have been made available on the web site www.eplot.eu where they are available to download under the Creative Commons License.

This website will remain open indefinitely. The above alias URL points to the actual web site at Google Sites here: http://sites.google.com/site/llpeuroplot/.

The work that has been triggered by this project continues: the study of persuasive technology applied for teaching will be further pursued, and further questions regarding the theoretical foundations of persuasive design for teaching and learning will be further investigated. The publications that have been created in EuroPLOT will provide the basis for this further work, as they are now in the public domain and have been disseminated at conferences and in journals. This can stimulate further discussions, also through the Linked-In group which has been setup specifically for this project.

The tools PLOTmaker and PLOTlearner will be developed further, with new funding being sought for adding additional capabilities and re-purposing it for new applications.

We are now in the process of seeking further funding for building on the technology and capability that has been developed through EuroPLOT.

6. Contribution to EU policies

EuroPLOT has primarily promoted European cooperation in the areas covered by Erasmus and Leonardo Da Vinci (tertiary and vocational education), but has also demonstrated the application of the tools in the sectors covered by Gruntvig (adult education) and Comenius (school education). Leonardo is complemented as one of our key target groups which has involved vocational learners and trainers, and the tools that are applicable to vocational contexts can be repurposed for another area as well. Erasmus is complemented as tertiary learners and teachers have been our second key target group, where we have worked with them in four subject areas and sought to apply experience here to vocational learners and others.

With regards to the LLP objectives, EuroPLOT has contributed to the objective **LLP-Obj-h** and has supported the development of innovative ICT-based services, pedagogies and practice. The application of persuasive design for teaching and learning has been very innovative and has not been investigated to such an extent in any previous project. Furthermore, the project has contributed to objective **LLP-Obj-k** and has encouraged the best use of results, innovative products and processes and has exchanged good practice in the fields covered by the Lifelong Learning Programme, in order to improve the quality of education and training. The resources of this project are shared and freely available, which allows them to be disseminated among any interested stakeholder community. Furthermore, the reports and evaluation documents are available, so that many interested parties can learn from them and can adopt the resources to their own specific needs.

As this project addressed Key Action 3 (KA3), it also addressed objective **KA3-SpObj-a** and promoted European co-operation in fields covering two or more sub-programmes, such as Erasmus and Leonardo da Vinci, but also in Gruntvig and Comenius. By using the authoring tools in a variety of sectors, it has been shown that they can be applied across boundaries. Also objective **KA3-SpObj-b** was addressed by promoting the quality and transparency of member state's education and training systems through the promotion and support of Open Educational Resources. By disseminating the resources, a more open and equal access to educational resources is fostered.

7. Access of Results and Documentation

The EuroPLOT project has created a web site from which all relevant information can be obtained. The page includes links to project-relevant reports, tools, PLOTs, and publications.

www.eplot.eu

An alternative URL to the same site is https://sites.google.com/site/llpeuroplot/ .

Project Documents

The following list of documents describes the public project reports which are available on the EuroPLOT web site.

D1.2: Intermediate Progress Report

D1.3: Final Progress Report (this report)

D2.2: Website www.eplot.eu

D2.3: Recordings of the series of webinars with presentation slides

D2.4: publications (see list below)

D2.5: online resource base (see list below)

D2.6: Conference proceedings for IWEPLET 2013

D2.7: Exploitation workshops

D3.3: Sandra Burri Gram-Hansen: Persuasive Design

D7.3: Erich Herber: Final evaluation report

Resources

The resources which have been made available on the EuroPLOT website are:

PLOTMaker
Software and Documentation.

The installers are provided as well as the Adobe Air framework.

PLOTLearner
Software and Documentation.

PLOTLearner has been deployed as a free, open, and adaptable application for Windows computers, and is accessible through the website with download facilities at http://eplot.3bmoodle.dk/ together with user manuals http://www.ezer.dk/3ETusersguide/PL-2.0.1/en/intro.php. There is also a Moodle news page with recordings of key lectures, http://bh.3bmoodle.dk/ and a resource site for pictures and links http://resources.3bmoodle.dk/img.php

Learning objects for each case study
The website www.eplot.eu provides access to learning objects of the following case studies:

- Kaj Munk Conceptual Pond and learning objects
- Persuasive Bible Learning

- Chemical Handling
- Business Computing

Publications

In this section are all the publications which the project team has published during the duration of EuroPLOT, related to this project. This list is as of 31.December 2013.

Journal Papers

Behringer, R., Gram-Hansen, S.B., Soosay, M., Mikulecká, J., Smith, C., Winther-Nielsen, N., and Herber, E. (2013). Persuasive Technology for Learning in Business Context. *International Journal of Information Systems and Engineering (IJISE)*, ISSN 2289 – 3709, vol 1. no. 1., Kuala Lumpur, April 2013. Also presented at *ASCENT Conference*, 11.-12.April 2013, Kuala Lumpur (Malaysia).

Behringer, R., and Øhrstrøm, P. (eds.) (2014). Special Issue on Persuasive Technology for Learning and Teaching of the IGI International Journal of Conceptual Structures and Smart Applications. SSN: 2166-7292. **In print**. To be published January 2014.

Behringer, R., and Øhrstrøm, P. (2014) Persuasive Design in Learning and Teaching. In Behringer and Øhrstrøm (eds.), *Special Issue on Persuasive Technology for Learning and Teaching*. **In print**.

Gram-Hansen, S.B., and Ryberg, T. (2014). Persuasion, Learning and Context Adaptation. In Behringer and Øhrstrøm (eds.), *Special Issue on Persuasive Technology for Learning and Teaching*. **In print**.

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