Deliverable number:	D8.1
Deliverable title:	Dissemination and Communication Plan

Delivery date:	2009/07/31
Submission date:	2009/07/31
Leading beneficiary:	University of Amsterdam (UVA)
Status:	Version 06 (final)
Dissemination level:	PU (public)
Authors:	Jose Manuel Gómez-Pérez, Paulo Salles , Michael Wissner, David Mioduser, Bert Bredeweg, Richard Noble, Yordan Uzunov, Andreas Zitek, and consortium members.

Project number:	231526
Project acronym:	DynaLearn
Project title:	DynaLearn - Engaging and informed tools for learning conceptual system knowledge
Starting date:	February 1st, 2009
Duration:	36 Months
Call identifier:	FP7-ICT-2007-3
Funding scheme:	Collaborative project (STREP)

Abstract

This document presents DynaLearn's dissemination and communication plan in the context of a methodology that embraces dissemination but also provides the necessary mechanisms for a well-defined exploitation strategy of DynaLearn's results, considering issues like Intellectual Property Rights (IPR). Such methodology is described, followed by a description of the individual dissemination assets of each consortium member. We also propose a number of specific project-wide measures and mechanisms that provide a uniform position of the consortium towards dissemination and exploitation and define a number of key performance indicators (KPIs) in order to measure project impact. The document finally provides specific plans and actions to be done by consortium members in order to maximize performance with respect to the previous KPIs.

Document History

Version	Modification(s)	Date	Author(s)
0.1	Write-up bootstrap	2009-07-06	Jose Manuel Gómez-Pérez
0.2	First, incomplete draft. Contribution from FUB added.	2009-07-09	Paulo Salles, Jose Manuel Gómez-Pérez
0.3	Added input from FUB, UAU, TAU, and UPM	2009-07-14	Paulo Salles, Michael Wissner, David Mioduser, Jose Manuel Gómez-Pérez
0.4	Added input from UvA, UH, and CLGE. References on Innovation Funnel and Technology Adoption LifeCycle added. Added specific section on dissemination plan	2009-07-21	Bert Bredeweg, Richard Noble, Yordan Uzunov, Jose Manuel Gómez-Pérez
0.5	Updates from CLGE to section 5 added	2009-07-23	Yordan Uzunov, Jose Manuel Gómez-Pérez
0.6	Added input from BOKU to section 3.8	2009-07-29	Andreas Zitek, Jose Manuel Gómez-Pérez
1.0	Complete version ready	2009-07-30	Jose Manuel Gómez-Pérez

Contents

Abstract 2

Document History 3

Contents 4

1. Introduction 7

2. Methodology 8

2.1. The innovation funnel vs. the innovation spray 9

2.2. The technology adoption lifecycle 10

2.3. DynaLearn dissemination and exploitation strategic dimensions 11

3. Individual dissemination and communication plans 13

3.1. University of Amsterdam (UVA) 13

3.1.1. Target community 13

3.1.2. Competitors 13

3.1.3. Target publications and key dissemination events 14

3.1.4. Licensing schema 15

3.2. Universidad Politécnica de Madrid (UPM) 15

3.2.1. Target community 15

3.2.2. Competitors 15

3.2.3. Target publications and key dissemination events 15

3.2.4. Licensing schema 16

3.3. University of Augsburg (UAU) 16

3.3.1. Target community 16

3.3.2. Competitors 16

3.3.3. Target publications and key dissemination events 16

3.3.4. Licensing schema 17

3.4. University of Brazilia (FUB) 17

3.4.1. Target community 17

3.4.2. Competitors 18

3.4.3. Target publications and key dissemination events 18

3.5. Tel Aviv University (TAU) 19
3.5.1. Target community 19
3.5.2. Competitors 19
3.5.3. Target publications and key dissemination events 19
3.6. University of Hull (UH) 20
3.6.1. Target community 20
3.6.2. Competitors 20
3.6.3. Target publications and key dissemination events 20
3.7. Bulgarian Academy of Sciences (CLGE) 21
3.7.1. Target community 21
3.7.2. Competitors 21
3.7.3. Target publications and key dissemination events 21
3.8. University of Natural Resources and Applied Life Sciences (BOKU) 22
3.8.1. Target community 22
3.8.2. Competitors 22
3.8.3. Target publications and key dissemination events 22
4. Consortium-wide communication and exploitation mechanisms 25
4.1. Marketing and communication tools 25
4.2. Public relations and communication strategy 25
4.3. Impact indicators 25
4.4. Licensing 26
5. Dissemination plan 27
5.1. Dissemination plan: publication milestones 27
5.2. The educational perspective 27
5.3. The community awareness perspective 28
6. Conclusion 29
References 30
Appendix A: A survey on open source licenses 31
Appendix B: Template for partner dissemination and exploitation input 35

1. Introduction

This document presents DynaLearn's dissemination and communication plan in the context of a methodology that embraces dissemination but also provides the necessary mechanisms for a well-defined exploitation strategy of DynaLearn's results, considering issues like Intellectual Property Rights (IPR). Such methodology is described, followed by a description of the individual dissemination assets of each consortium member. We also propose a number of specific project-wide measures and mechanisms that provide a uniform position of the consortium towards dissemination and exploitation and define a number of key performance indicators (KPIs) in order to measure project impact. The document finally provides specific plans and actions to be done by consortium members in order to maximize performance with respect to the previous KPIs.

the remainder of the document is structured as follows. The methodology is described in section 2, followed by the specific dissemination assets of each individual consortium member in section 3. Such assets include an identification of their target communities, expected competitors in the achievement of the KPIs, and the dissemination events and publications which are objectives for their particular area of expertise. Section 4 proposes a number of consortium-wide mechanisms for dissemination and exploitation and section 5 presents a dissemination plan aligned with the objectives of the project. Finally, section 6 concludes the document.

2. Methodology

An effective dissemination and exploitation strategy needs to build on top of a well-established methodology, which observes the different parameters with an influence on the impact awareness that can be achieved and paves the path towards the exploitation of the results produced by the project. Figure 1 graphically represents one such methodology, which establishes the following steps.

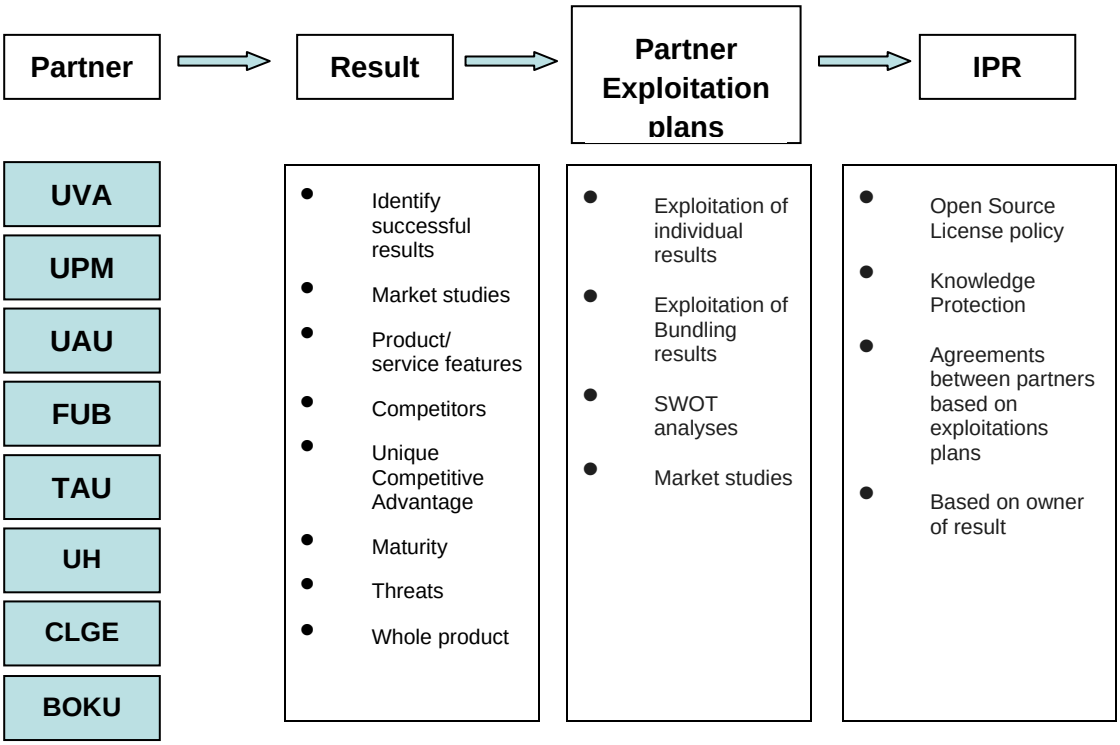

Figure 1: Overall dissemination and exploitation methodology

In a nutshell, this methodology can be summarized as follows. First, preliminary market and domain studies are performed that help define exploitation objectives. In the case of DynaLearn such objectives focus mainly on achieving an impact on the educational methods for the natural sciences in order to stimulate the learning process across the communities of learners and teachers. For that purpose, it is necessary to obtain an insight on the current educational situation through the lenses of the case study partners in the project (WP6 and WP7 partners) and their domains.

Then, individual results expected by the end of the project need to be identified by the different partners, whose exploitation potential can be analyzed. Such results can include software, methods, algorithms, courses, and training materials. The outcome of this process is usually a measure of the strengths, weaknesses, opportunities, and threats of the results towards a successful exploitation in the target market.

Furthermore, the process towards the exploitation of such results needs to be articulated through individual and bundling exploitation plans, which may involve results owned by other partners. This requires IPR agreements between the involved partners. Mechanisms like a memorandum of understanding provide means to agree on exploitation strategies involving results whose ownership is shared by several partners.

DynaLearn's dissemination and exploitation strategy uses such methodological framework as a reference of the key issues to be addressed, adapting it to its specific case. At this stage of the project

we focus on a number of strategic dimensions in order to maximize impact awareness and community widespread.

We foresee the utilization of a number of tools in order to better describe the target scenario. Such tools include the *Innovation Funnel* and the *Technology Adoption Lifecycle*. In the case of DynaLearn, since community uptake is itself an exploitation dimension, we have added an element which helps situating the different results of the project along it: the *Innovation Spray*. Additionally, in DynaLearn, we have used a specific template to collect information on individual exploitation plans from the partners.

Throughout the lifetime of DynaLearn, the results of the project shall evolve along the appropriate segments of both the funnel and the spray. In this document, we mainly focus on: i) defining a methodology that allows keeping track of DynaLearn results towards actual exploitation, ii) identifying the strategic dimensions that need to be addressed in order to reach the target communities of the project, and iii) defining the plans of consortium members and the voerall project to do so.

Next, we describe the above mentioned tools and provide an overview on DynaLearn's strategic dimensions.

2.1. The innovation funnel vs. the innovation spray

When one plans to bring some piece of technology to the market, it is necessary to assess the maturity of the technology. It is not uncommon for the academic world to trivialize this point, thinking that once there is a working prototype, the rest is easy; a misconception. A useful instrument to approach this problem is the so-called "Innovation Funnel",[2] a tool to manage the innovation process.

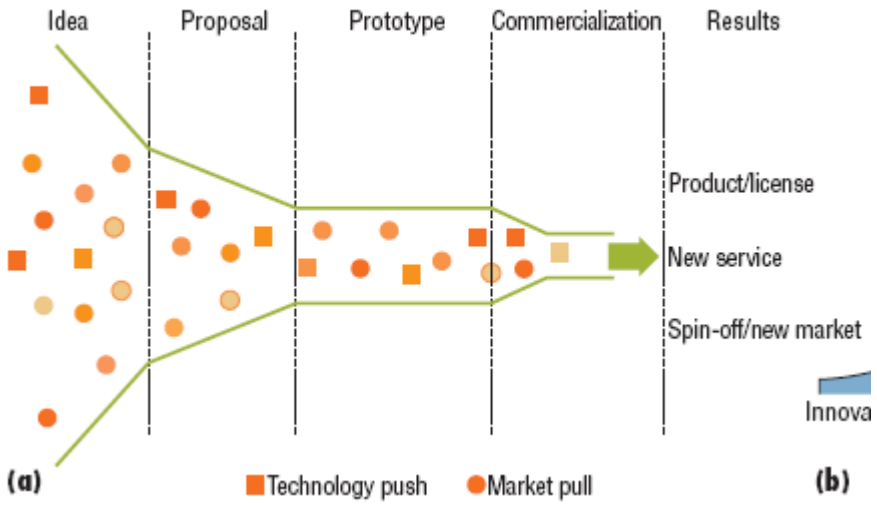

Figure 2: The Innovation Funnel (subsequent phases require increasingly more budget.)

Figure 2 shows the funnel. An innovation starts with an idea, which if interesting, is turned into a proposal. Once accepted, a prototype is built, which if successful, can be commercialized. The result of an idea having successfully gone through the funnel is a new product, service or company. Whereas it is easy and cheap to have ideas, it is important to realize that with each move to the right, increasingly more investment is required. Thus, whereas the development of a successful prototype may be costly, its subsequent commercialization will be an order of magnitude more costly. In the case of DynaLearn, the integrated architecture is an example of prototype (technology push), while the educational sector is clearly a potential candidate for commercialization (market pull).

At this stage of the project, where the architecture is being designed, we are moving from the area of ideas to that of proposals through the specification of such architecture. Next, with the first prototypes that demonstrate the technology, we will transit from the proposal phase to the prototype phase. A challenge for DynaLearn will be to incarnate the largest amount possible of the original ideas into prototypes, and then into exploitable results.

However, not all prospects of exploitation results can be measured in terms of the innovation funnel. In a project like DynaLearn, whose impact is mainly focused on the target community comprised by players in the educational sector, community uptake is itself an exploitation dimension. The Innovation Spray helps us to measure such impact.

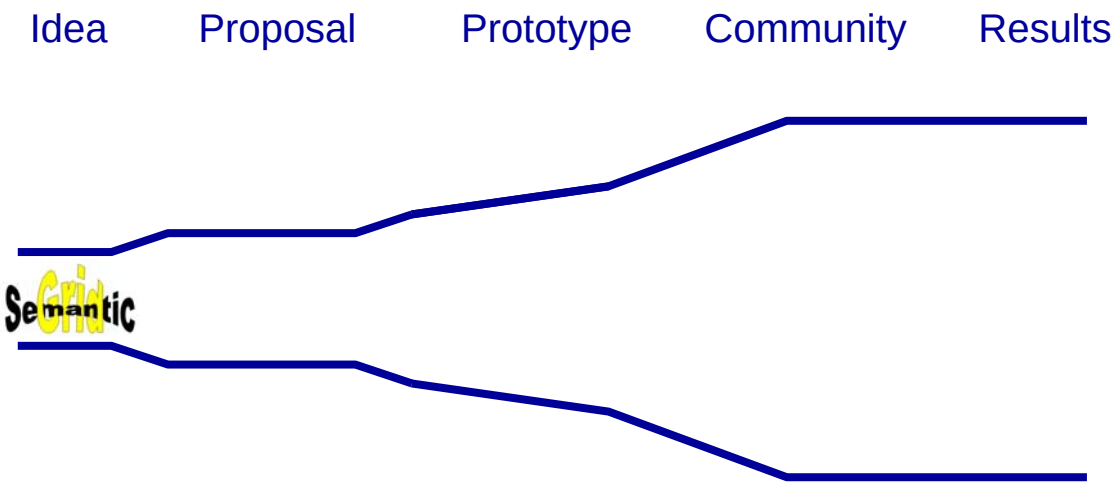

Figure 3: The Innovation Spray

According to the Innovation Spray, everything starts with an idea, in our case learning about natural sciences by modeling, which is presented to the community and becomes the seed for a number of proposals whose vision is the eventual fulfillment of the original idea. From the proposals we step into a prototype stage where software and specifications intend to demonstrate the concepts comprised in the idea. Some of these proposals and prototypes are eventually successful and have a large impact in the community, influencing on or becoming themselves standards. The end of the spray, at its wider part, represents maximal uptake by the community in the form of actual adoption of the results as (part of) widely used solutions.

2.2. The technology adoption lifecycle

Once ready to be launched in the market, things do not automatically get going. There is a well-known Technology Adoption Life Cycle, [4] which divides target markets into five categories:

- **Techies (innovators)**: people interested in technology (alpha and beta testers)
- **Visionaries (early adopters)**: influential high-level persons that recognize technology as enables for a business breakthrough
- **Pragmatists (early majority)**: people wary of risk looking for a percentage improvement based on proven solutions
- **Conservatives (late majority)**: people who only use technology if not using it causes them a problem
- **Skeptics (laggards)**: people who only use embedded technology

It is clear that, in economic terms, the most interesting parts of the technology adoption lifecycle are the early and late majority (together referred to as mainstream market). However, many technology companies are struggling with the innovators and the early adopters. In the case of the technologies addressed by DynaLearn (roughly conceptual modeling, semantic technology, and virtual characters) in the educational sector, we are clearly in this stage. Innovators, people interested in the particular technology and the advantages it may bring, are our main audience.

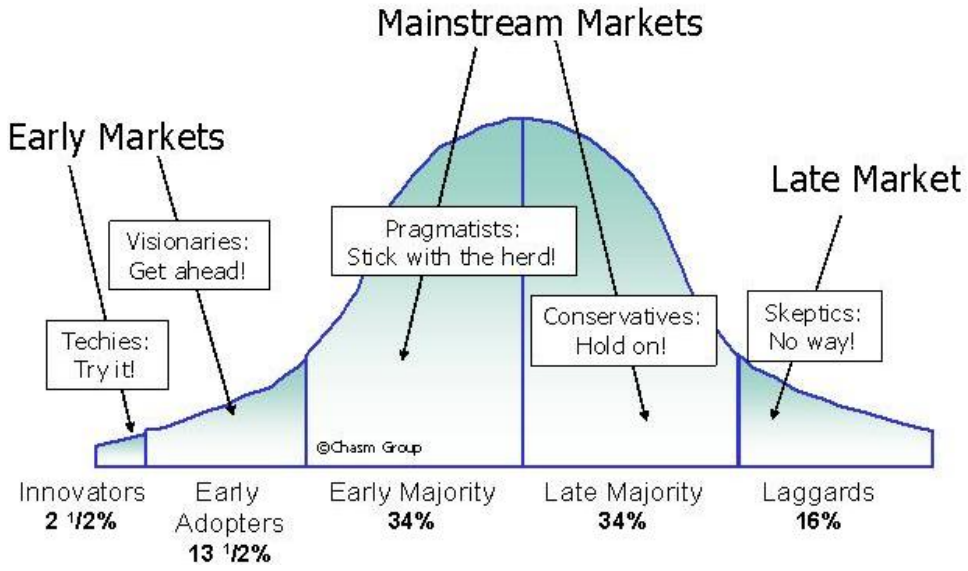

Figure 4: The Technology Adoption Life Cycle

There are different ways to address the market of early adopters and the mainstream market (early and late majority), also referred to as “The Chasm” in marketing literature. Whereas early adopters are sensitive to product-centric features, e.g. fastest product, ease of use, elegant architecture, price, unique functionality, etc, mainstream markets take decisions based on market-centric arguments such as largest installed base, most third party supporters, de facto standard, quality of support, and cost of ownership. People devoted to technology development tend to think product-centred rather than market-centred.

Another relevant factor for deciding what market to enter is whether the technology relates to a continuous or discontinuous innovation. For continuous innovations it is much easier to enter directly the mainstream market, whereas for discontinuous innovations the technology adoption life cycle has to be followed. A continuous innovation improves the solution of a recognized problem; it does not change our current mode of working. Examples include: hard disk size, ram, more economic cars, and more pixels in digital cameras. Technologies improving either of those examples rapidly find their way in the mainstream markets. Discontinuous innovations, on the contrary, imply a change of our current mode of working. The introduction of hydrogen-fuelled cars, mobile phones, PDAs, digital cameras, Internet, all have required significant change of our behaviour. E.g. a digital camera is useful if it is easy to obtain printed copies of your photos.

As it can be seen, discontinuous innovations are much harder to bring to the market, as they require all kinds of side things to happen as well. On the other hand, they can create a completely new market where you can play a dominant role (e.g. Blackberry, Google). To our understanding, this can be the case of DynaLearn in the education sector.

2.3. DynaLearn dissemination and exploitation strategic dimensions

From the dissemination and community perspective, the strategic dimensions aimed by DynaLearn include the following main aspects: target community, target dissemination events, marketing and communication tools, public relations and communication strategy, and impact indicators. We have collected such information from DynaLearn partners, focusing on the following, more specific aspects (the complete template used to collect such feedback can be found in):

- **Target community.** We have asked partners, especially case study partners from WP6 and WP7, to identify and describe their target communities in terms of educational situations. This includes the different groups where partners expect and pursue to create impact awareness through the dissemination and awareness of DynaLearn's results, community sectors, and stakeholders in different geographical areas.

- **Competitors.** Partners should identify similar or related approaches either already in the community or under development, which may compete against DynaLearn's individual and bundling results.

- **Target publications and key dissemination events.** Journals, books, conferences, and workshops target for publication by DynaLearn's partners. Key dissemination events will also be considered**:** Planned organization of tutorials, presentations to potential users, demonstrations, courses, conferences, and workshops, including participation at sector-specific events e.g. in the education domain and organization of public workshops at major scientific and education events e.g. EC-TEL where it is possible to discuss, disseminate, and promote DynaLearn's results and achievements to a wide audience.

- **Marketing and dissemination tools.** Other planned dissemination activities like press releases where partners expect to disseminate DynaLearn's goals amongst the target communities.

- **Licensing schema.** For technical partners (WP3, WP4, WP5), the license under which they plan to release their individual results. For case study partners (WP6, WP7), the mechanism partners consider to use in order to protect the intellectual property rights of the pedagogical material resulting from the application of DynaLearn's technology e.g. curricula representations and formalizations and models.

3. Individual dissemination and communication plans

In this section we summarize the individual plans and assets of DynaLearn member partners along the more relevant of the above-mentioned dimensions for each specific case. Table 1 and Table 2 summarize this for each partner group i.e. technical and use case partners, respectively.

3.1. University of Amsterdam (UVA)

3.1.1. Target community

Three communities van be identified: (i) learners in science curricula who have to establish conceptual knowledge of systems behaviour, (ii) teachers in science curricula, who teach learners about systems behaviour, and (iii) the scientific community working on Artificial Intelligence and (Science) Education.

3.1.2. Competitors

There are a number of tools that seem competitors to DynaLearn, notably:

- VModel [1].
- Betty;s Brain[1].
- Stella[2].
- Coach

However, there are significant differences between Dynalearn and each of these tools e.g. the set of virtual characters for learners to interact with. This notion of a character set is a distinguished feature and unique to Dynalearn. Similarly, the embedding of a learner's expression in the context of a repository of expressions as an instrument for individually tailored feedback and model progression is an added value that is also completely new. A further distinction is the important idea of using use-levels in the conceptual modelling workbench. Moreover, there the individual differences between DynaLearn and each of these tools. VModel allows only the expression of a single state phenomenon, in fact of a process, where DynaLearn does also allow simulation of changes over time (using the idea of a state-graph). Betty's brain is also oriented towards a single state, and cannot deal with quantity values and state-garphs. The idea of teachable will also be included in the DynaLearn approach, but DynaLearn goes further by included a set of characters with other roles beyond the teachable agent idea. Stella is a numerical simulator, which by definition is rather different compared to a qualitative reasoning approach and consequently will induce different learning on behalf of a user (for details see DynaLearn Description of Work (DoW), section B1.2). Coach also includes a numerical simulator, but is currently more focussing on sensor data, and measurement, which again is very different from DynaLearn's focus. In fact, all the systems mentioned above are actually very different compared to DynaLearn, and therefore strictly speaking are not competitors. The challenge for DynaLearn project will be to show the unique features of it's products and how that makes a difference in science education.

[1] http://aaalab.stanford.edu/teachable_agents/ta_betty.html

[2] http://www.iseesystems.com

3.1.3. Target publications and key dissemination events

UVA will publish scientific results via journals and events at the crossroads of: Artificial Intelligence, Education, and Environmental science. Typical target journals, conferences and workshops include:

- International Journal of Artificial Intelligence in Education[3]
- International Journal on Human Computer Studies (IJHCS) [4]
- AI Communications[5]
- AI Magazine[6]
- Ecological Informatics[7]
- Ecological Modelling[8]
- International Conference on Artificial Intelligence in Education (AIED)[9]
- International Conference on Intelligent Tutoring Systems (ITS)[10]
- International Workshop on Qualitative Reasoning (QR)[11]
- European Conference on Technology Enhanced Learning (ECTEL)[12]
- International Conference on Knowledge Capture (K-CAP)[13]
- International Congress on Environmental Modelling and Software (iEMSs)[14]
- International Conference on Ecological Informatics (ISEI)[15]

Concerning potential users of the DynaLearn software, UVA will make effort to involve teachers and learners from their own university to use the tools in regular courses. Particularly, the software is

[3] http://ihelp.usask.ca/iaied/ijaied/index.html

[4] http://www.elsevier.com/wps/find/journaldescription.cws_home/622846/description

[5] http://www.iospress.nl/loadtop/load.php?isbn=09217126

[6] http://www.aaai.org/Magazine/magazine.php

[7] http://www.elsevier.com/wps/find/journaldescription.cws_home/705192/description#description

[8] http://www.elsevier.com/wps/find/journaldescription.cws_home/503306/description#description

[9] http://www.aied2009.com/

[10] http://gdac.dinfo.uqam.ca/its2008/index.html

[11] http://www.ailab.si/qr09/

[12] http://www.ectel09.org/

[13] http://kcap09.stanford.edu/

[14] http://www.iemss.org/iemss2008/

[15] https://conference.ecoinformatics.org/index.php/isei/isei6

planned to be used in the course 'Conceptual modelling' (1st year, BSc, 3EC), which is part of the recently established interdisciplinary curriculum 'Future Planet Studies' on environmental science. UVA will be open to further collaborate which teachers (and learners) in secondary and higher in the Netherlands to support them in applying the tools in their courses.

UVA plans to seek collaboration with researchers in adjacent disciplines (notably, Cognitive Psychology, Ecology and Science education) to investigate the possibility of joint research efforts based on the DynaLearn products, but augmenting the research towards these disciplines.

3.1.4. Licensing schema

Though it is yet to be confirmed, the UVA software results on Conceptual modelling, Qualitative Reasoning, Questions Generation, and Diagnosis will probably be released under an open source licence, possibly the LGPL license (see full description in appendix A).

3.2. Universidad Politécnica de Madrid (UPM)

3.2.1. Target community

The target communities of UPM include users of DynaLearn software i.e. university students and lecturers and undergraduate students, but also groups of users from different sectors and domains interested in the development of semantically-enabled applications concerning the results of UPM in DynaLearn. This includes developers in need of semantic repositories, recommender systems, and comparison of formal ontologies in OWL.

3.2.2. Competitors

Members of the Semantic Web community. However, UPM's results in DynaLearn will reuse much of such state of the art technology, especially in fields like Ontology Matching [3].

3.2.3. Target publications and key dissemination events

As WP8 leader, UPM shall coordinate and encourage the appropriate dissemination of DynaLearn results across the different target communities, ensuring that all of them are sufficiently addressed. Dissemination needs to be balanced between academic and industrial forums in order to ensure maximum uptake of the results.

On an individual basis, UPM foresees the following events and journals for publication purposes:

- International Semantic Web Conference (ISWC)[16]
- European Semantic Web Conference (ESWC)[17]
- Asian Semantic Web Conference (ASWC)[18]

[16] http://iswc2009.semanticweb.org

[17] http://www.eswc2009.org

[18] http://www.aswc2009.org

- International Conference on Knowledge Capture (K-CAP)
- International Conference on Knowledge Engineering and Knowledge Management (EKAW)[19]
- Ontology Alignment Evaluation Initiative (OAEI)[20]
- ACM Conference on Recommender Systerms (RecSys)[21]
- International Journal on Human Computer Studies (IJHCS)
- IEEE Intelligent Systems[22]

3.2.4. Licensing schema

Though it is yet to be confirmed, UPM results on Semantic Repository, Collaborative Filtering-based recommendation, and model comparison and analysis will probably be released under the LGPL license.

3.3. University of Augsburg (UAU)

3.3.1. Target community

Targets for the virtual character developments may not only contain students using the DynaLearn software but also other developers who want to integrate supporting avatars into their software or websites. The modular architecture developed by UAU makes it easy to use characters in different projects with low effort.

3.3.2. Competitors

The main competitor of the Virtual Characters is “Betty’s Brain”, developed by Stanford University. Betty acts in a similar way, presenting a model created by the user in a human-to-human interaction experience.

3.3.3. Target publications and key dissemination events

The virtual character concept and technical implementation can be used as exemplar in teaching at UAU. Programming as well as design students meeting in UAU’s multimedia courses can benefit and learn from this project. In addition to UAU’s popular annual event “Girls’ Day”[23] which introduces young people to computer science studies, we will use the communication channels of the Bavarian

[19] http://ekaw2008.inrialpes.fr

[20] http://oaei.ontologymatching.org

[21] http://recsys.acm.org

[22] http://www2.computer.org/portal/web/intelligent

[23] http://www.girls-day.de/

Cluster Audiovisual Media[24]. The cluster is interested in multimedia and has a new focus on serious games which gives a good chance to increase the popularity of the avatar enriched DynaLearn project.

On the other hand, the contents developed by UAU are suitable to be published at the following conferences:

- International Conference on Intelligent Virtual Agents (IVA)25
- International Conference on Artificial Intelligence in Education (AIED)
- International Conference on Intelligent Tutoring Systems (ITS)
- International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)26
- Narrative and Interactive Learning Environments Conference (NILE)27
- International Conference on Digital Game and Intelligent Toy Enhanced Learning (DIGITEL)[28]

and journals:

- Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)29
- The International Journal of Artificial Intelligence in Education (IJAIED)30
- International Journal of Human-Computer Studies (IJHCS)

3.3.4. Licensing schema

The Horde3D engine is licensed under GPL. The graphical virtual character contents will be released under a license like Creative Commons “Attribution-No Derivative Works 3.0 Germany”.[31]

3.4. University of Brazilia (FUB)

3.4.1. Target community

FUB’s target audience for DynaLearn products are (a) public and private secondary schools in Brasilia; and (b) undergraduate courses on Biology, Forestry and Environmental Sciences, first at University of Brasilia.

[24] http://www.cam-bayern.de/

[25] http://iva09.dfki.de/

[26] http://www.cse.yorku.ca/AAMAS2010/

[27] http://judyrobertson.typepad.com/nile_2008/

[28] http://digitel2010.cl.ncu.edu.tw/

[29] http://www.springerlink.com/content/102852/

[30] http://www.ijaied.org/iaied/ijaied/

[31] http://creativecommons.org/licenses/by-nd/3.0/de/deed.en

Secondary education in Brazil is under scrutiny, because of its poor results compared to both national and international standards. Lack of adequate infrastructure in public schools and outdated curricula result in lack of motivation for teachers and students. Some private schools provide better conditions, but they are expensive and the educational results are not very different. The inclusion of deaf students into the classroom, along with hearing students, is one of the most relevant and challenging issues nowadays at secondary schools. Environmental sciences are considered very relevant, but knowledge about this area is scattered among other disciplines. Although computers, video games and internet connection are accessible to large part of the population in Brasilia, modeling is not at all an issue at this level of formal education.

Undergraduate courses at University of Brasilia are in good conditions, compared to similar Brazilian courses. FUB's target in this project are two types of courses in Biological Sciences, Forestry and a new course on Environmental Sciences. These courses have well prepared teachers (among them, more than 90% have PhD degrees), modern curricula, and reasonable good infra-structure of IT services, library, classrooms and laboratories. Scientific research groups are associated to teaching activities, providing up to date knowledge to undergraduates. The use of educational software is nowadays becoming more common, but the use of modeling and simulation models is still lacking. In fact, modeling is slowly entering graduate programs, with few disciplines focusing on the development of modeling skills, the majority of them in mathematical modeling. But these activities are missing in undergraduate courses.

That is why DynaLearn software has a great potential to become used in the classroom, both in secondary education and undergraduate courses. Modern educational software, with pedagogical agents and semantic technology to support learning by modeling with qualitative reasoning techniques, may become a major breakthrough for Brasilia students.

3.4.2. Competitors

There are no competitors in Brazil for DynaLearn software. Some EU projects may be important in research and development, but not in secondary and undergraduate education.

3.4.3. Target publications and key dissemination events

One obvious dissemination target for FUB comprises journals and conferences related to qualitative reasoning and modeling. For the last 23 years, the *International Workshop on Qualitative Reasoning* (QR) has been the most important meeting of researchers and developers in this area. Given that educational activities have been recognized as one of the most promising applications for QR, the DynaLearn project should be presented and discussed in this forum. In fact, the project was presented by partners who attended the QR09, held in Ljubljana, Slovenia, between June 20th and 22nd 2009.[1,2,3] We are now looking forward to participating of the QR10, QR11 and QR12, where the results of this project can be presented.

DynaLearn should also be presented in international conferences on education, being the *International Conference on Artificial Intelligence and Education* (AIED) and the *Intelligent Tutoring Systems* (ITS) the most important conferences on this area. Both are biannual and are held every other year so they do not coincide. This way, the project was presented by partners who attended the AIED2009, held in Brighton, UK, between July 6th and 10th 2009. We expect to present the DynaLearn results in ITS 2010, AIED 2011 and ITS2012. Another interesting outlet for DynaLearn research results is the annual meeting of the Cognitive Science Society of America (CogSci). We are planning to submit the results obtained in the first part of our project in their meeting in CogSci2010.

Conferences focused on ecology are also interesting for DynaLearn, and the two major conferences in the area are the *International Conference on Ecological Informatics* (ISEI) and the *International Congress on Ecological Modelling and Software* (iEMSs). Both are biannual and are held every other year so they do not coincide, and in 2010 ISEI will be held in Belgium.

For example, for FUB, presenting DynaLearn in Brazilian conferences of education and environmental sciences is very interesting. Among them, the *Encontro Nacional de Pesquisa em Educação em Ciências* (ENPEC) and the *Simpósio Brasileiro de Informática na Educação* (SBIE) are the most relevant for discussing DynaLearn with researchers on education. The *Congresso Brasileiro de Ecologia* (CBE) is the most important conference on ecology and environmental sciences in Brazil, and is also a forum where DynaLearn may be presented.

DynaLearn results should also be published in scientific peer reviewed journals. Of particular interest for the project are the *Journal of Science Education, Ecological Informatics, Ecological Modelling and Environmental Modelling and Software*.

3.5. Tel Aviv University (TAU)

3.5.1. Target community

Concerning the target community, we make a distinction between the current stage (development and evaluation stage) and further dissemination stage once the software and its evaluation are completed. Our main target populations during the first stage are university students and university teachers (lecturers, professors). For this purpose, TAU will implement DynaLearn as learning component in a university course. TAU also foresees further dissemination within the undergraduate and graduate student population in institutions in Israel, and with professors and lecturers willing to adopt the software for their teaching.

3.5.2. Competitors

A number of approaches and software packages are already in use with our target populations - students in academic courses- concerning the use of modeling tools. Two common examples, among others, are Stella and NetLogo[32]. These tools are in use in our universities and, in limited scope, in schools. However, we believe that the unique rationale and features of DynaLearn as a conceptual modeling tool offer a different approach with significant pedagogical and learning added value. We will stress these advantages and offer clear and convincing examples of the profit of incorporating DynaLearn into learning packages.

3.5.3. Target publications and key dissemination events

We foresee dissemination events at three main levels:

- **Courses** - following the development of various pedagogical models as part of the project, we consider further implementation of these in a wider range of courses (besides the planned implementation for pilot and evaluation purposes) a powerful dissemination instrument.

[32] http://ccl.northwestern.edu/netlogo

- **Teacher training** - We are considering the possibility to hold a training workshop for teachers. This will depend on collaborations to be established with teacher support and teacher training units at TAU.

- **Education courses** - we plan to incorporate DynaLearn as pedagogical tool in courses in our graduate programs in science education and educational technology. The students are in their majority educators, who will eventually be able to implement the software in their teaching.

3.6. University of Hull (UH)

3.6.1. Target community

Dissemination activities during the project development phase will target different educational groups with the University of Hull and its regional and national networks. Within the Department of Biological Sciences the target audiences will be staff/student committees, teaching/learning committees and other research staff involved in educational research. Within the University, the Department has very close links with the Centre for Education Studies, which delivers teacher training courses and undertakes research through the Institute for Learning Research. These links also open up the local and national secondary education community including the Higher Education Academy (www.heacademy.ac.uk) and the Committee of Heads of Environmental Sciences (www.ches.org.uk). Collaboration is also anticipated with the local National Strategy Advisors for the Regional Education Authorities, whom are seeking novel methods of deliver Science curricular.

3.6.2. Competitors

We are currently not aware of any competitors or similar projects in the UK.

3.6.3. Target publications and key dissemination events

University of Hull will aim to publish DynaLearn in scientific peer reviewed journals such as the Journal of Science Education, Ecological Informatics, Ecological Modeling, Environmental Modeling and Software and Biological Education. We have already published and presented work related to DynaLearn at the 23rd Annual Qualitative Reasoning Workshop in Ljubljana, Slovenia, in June 2009.

In addition to these we will look to exploit the newsletters of regional and national teaching/learning networks. The Institute will work closely with the Centre for Education to identify the most suitable publications and networks to target. Potential targets include Environmental Scientist the journal publication of the Institution of Environmental Sciences.

Once the project is in a position to deliver content and training events, an article will be prepared for the Times Higher Education Supplement.

On the other hand, the target dissemination events for the University of Hull are:

- Annual Qualitative Reasoning Workshops

- Local and Regional Seminar days run by the University of Hull Institute For Learning[33]

[33] http://www2.hull.ac.uk/IFL/ifl.aspx

- National education conferences such as Annual Conference of the Higher Education Academy and the Annual Conference of the Committee of Heads of Environmental Sciences.
- International educational and ecological conferences (e.g. the International Congress on Ecological Modelling and Software (iEMSs)).
- Regional teaching and learning strategy conference held annually in the University of Hull.

Additionally, staff at the University of Hull plan to undertake additional dissemination events including:

- Departmental tutorials and workshops
- Staff-Student committee meetings
- Teaching-Learning committee meetings
- Outreach to pupils and staff in secondary education through teacher training placements, open days and students undertaking a degree module on Biology and Education.

3.7. Bulgarian Academy of Sciences (CLGE)

3.7.1. Target community

There are need to clarify the level of readiness of the DL outputs to be distributed and disseminated. Initially, CM by means of GARP3 and advanced DL tools will be distributed for training and evaluation; further final results could be disseminated and implemented in learning process in secondary and higher schools/universities. As far as Bulg.Acad.Sci and CLGE itself are granted to train PhD students only, the DL team of the CLGE is organizing groups of students from National Gymnasium of Natural & Mathematical Sciences (Sofia) and undergraduate students of Biological Faculty/Sofia University to implement CM via GARP 3 machine at different user levels. At the end of the DL project CLGE will develop lecture course for PhD students under the umbrella of Educational Center at the Bulg.Acad.Sci. Of course, the team will use the attendance in several scientific events to represent the project and to invite lecturers to involve the software at different use levels in their teaching practices.

3.7.2. Competitors

None foreseen.

3.7.3. Target publications and key dissemination events

Opportunities for dissemination of DL results/outputs are seen in:

- Educational & training courses of the secondary schools teachers, NGOs and experts in water management from Basin Directorates and Regional Inspectorates of Environment & Water;
- Participation and reporting to relevant conferences, workshops and other events and meeting of scientists and experts, both in country and international;
- Publishing articles/papers/reports containing results of the DL project and its implementations.

3.8. University of Natural Resources and Applied Life Sciences (BOKU)

3.8.1. Target community

The main target community during the project will be two different educational groups, the university undergraduate level students participating in existing cross-disciplinary lectures on catchment management and upper secondary school level of a selected partner school. Within the Department of Water-Atmosphere-Environment at the BOKU the target audiences will be staff and students that shall be trained and informed about the existence and potential of the DynaLearn approach for teaching and learning activities. Furthermore, we will establish contacts with the Institute of Landscape Development, Recreation and Conservation Planning (ILEN at the Department of Landscape, Spatial and Infrastructure Sciences) at the BOKU and the Environmental Education FORUM Austria[34].

3.8.2. Competitors

Vensim, which has been applied by the IIASA to catchment management problems, but has generally another modelling approach

3.8.3. Target publications and key dissemination events

The BOKU will aim to publish DynaLearn in scientific peer reviewed journals related to ecological modeling, integrative catchment management and/or science education such as the International Journal of Science Education, AMBIO: A Journal of the Human Environment, International Journal of Water Resources Development, Water and Environment, Ecological Informatics, Ecological Modeling, Environmental Modeling and Software or Biological Education. We have already published and presented work related to DynaLearn at the 23rd Annual Qualitative Reasoning Workshop in Ljubljana, Slovenia, in June 2009, and will go for contributions the following QR workshops.

Additionally we will deliver information material to regional and national networks related to science and sustainability education. We will also prepare a contribution to the quarterly Austrian journal of “Environment and Education” (in German) that edits topics like action-oriented teaching, the promotion of creativity and individual initiative, education for sustainable development, ecological lifestyle especially for schools, juvenile and adult education. Furthermore it is planned to contribute to a water management related conference where the potential contribution of the DynaLearn workbench to the education of a new generation of river catchment managers will be explored. Finally it is planned to develop an accompanying scientific manual integrating Dynalearn models with the existing content of lectures allowing for a better integration of the Dynalearen software into the existing university courses and helping to disseminate the DynaLearn approach to the students.

[34] http://www.umweltbildung.at/cgi-bin/cms/af.pl?ref=en

	Target communities	Competitors	Publications and dissemination events	Licensing
UvA	Learners in science curricula Teachers in science curricula Scientific community working on Artificial Intelligence and Science Education	VModel, Betty;s Brain, Stella, Coach	Journal, conferences, and workshops in: Artificial Intelligence Education Environmental Science	LGPL
UPM	Students Developers including semantic technology functionalities	Semantic Web community	International Semantic Web Conferences Recommender systems conferences International journals on HCI	LGPL
UAU	Students Developers including VC functionalities	Betty's Brain	Girl's Day, Audiovisual Media Conferences on virtual agents International conferences on education International journals on education and AI International journals on HCI	GPL Creative Commons-like "Attribution-No Derivative Works 3.0 Germany"

Table 1: Summary on technical partners indidivudal dissemination strategies

	Target communities	Competitors	Publications and dissemination events
FUB	Secondary schools in Brasilia Undergraduate courses on Biology, Forestry and Environmental Sciences	n.a.	Qualitative reasoning and modeling conferences & workshops International conferences on education and AI Conferences focused on ecology and environmental sciences Scientific journals
TAU	TAU students and lecturers	Stella, NetLogo	Courses, teacher training, and education courses
UH	University of Hull and its regional and national networks	n.a.	Annual Qualitative Reasoning Workshops UH's IFL Local and Regional Seminar days National education conferences Intl. educational and ecological conferences UH's annual learning strategy conference
CLGE	Secondary Schools/Gymnasiums students (age 14-18) University students in 3 degrees (Bachelor, Master and PhD) University/High Schools teachers/lecturers	n.a.	Education and training courses of secondary school teachers; water quality & water basins management practitioners; National & Int'l conferences and/or workshops on environmental management & education, Scientific journals and proceedings;
BOKU	Secondary School students (age 14-18) Undergraduate university students in 3 degrees (Bachelor degree) Institute of Landscape Development, Recreation and Conservation Planning (ILEN at the Department of Landscape, Spatial and Infrastructure Sciences) at the BOKU Environmental Education FORUM Austria.	Vensim	Qualitative reasoning and modeling workshops International conferences on sustainable catchment and river management Austrian journal of "Environment and Education" (in German) Accompanying learning material integrating the models with existing learning material Scientific journals

Table 2: Summary on use case partners indidivudal dissemination strategies

4. Consortium-wide communication and exploitation mechanisms

The previous section describes the interest of the different partners in certain target communities and the mechanisms foreseen in order to reach such communities and create awareness. In this section, we describe other mechanisms for communication and exploitation which are common to the whole consortium.

4.1. Marketing and communication tools

DynaLearn has already produced marketing and communication tools like the project website,[35] an effort in order to make the site dynamic, with a blog style that allows live and interesting information about and related to DynaLearn's approach to be easily and quickly produced and distributed among the DynaLearn community. Another relevant marketing instrument which has been recently produced is DynaLearn's leaflet, which presents a quick overview on the project, the consortium, and its goals. These materials will be renewed after month 18 of the project. Particularly, the leaflet will be updated with new contributions from the project ready to share with the community. The website will be continuously updated with information on e.g. publications and new software releases.

At the moment of writing up this report, a press release is being edited for publication in the national press of the partner countries. This press release will emphasize the vision of DynaLearn, including its focus on education and natural sciences and its potential impact in the society.

Additionally, individual partners like FUB foresee other marketing and communication tools: a website is under construction[36] and videos may be produced in order to promote DynaLearn results, including e.g. explanations on how to create and to interpret qualitative models in DynaLearn

4.2. Public relations and communication strategy

As described in DynaLearn's Annex I (Task 8.3), two DynaLearn workshops will be held during the project, particularly after 2nd (M18) and 3rd (M30) project milestones. Additionally, DynaLearn partners will propose workshops to be held along with some of these important conferences. Particularly after M18, these workshops are ideal to present and discuss software and models developed by the project.

However, it is important to explore all the opportunities to present DyanLearn and to disseminate the results of the project, not only the major conferences. From this point of view, DynaLearn partners will often hold meetings with secondary school teachers, and may present the project for them by means of training courses and talks. Visiting schools is also part of the dissemination plans for the project, particularly during the evaluation activities described in WP7 (M18-24 and M30-34).

4.3. Impact indicators

The consortium foresees the following impact indicators for measuring DynaLearn's awareness in the target communities:

[35] http://www.dynalearn.eu

[36] http://www.unb.br

- Number of access to project web site
- Number of published papers in journals, conferences, and workshops.
- Number of appearances in media.
- Number of teachers trained by the project
- Number of students trained for using the software and models produced by the project
- Disciplines using the software
- After the project is finished, number of students and staff benefitting and using the DynaLearn products.

4.4. Licensing

At this stage of the project it is still early to say under what license schema DynaLearn's bundled software will be released. Nevertheless, as stated in the DoW, it is DynaLearn's view to follow the open source principles in order to maximize uptake by the user and developer communities. Appendix A provides more detail on alternative open source licenses. Additionally, a number of measures will be used to protect the IPR of the results produced by the project, which are yet to be determined. All IPR and licensing decisions will follow the guidelines described in the Consortium Agreement.

5. Dissemination plan

After describing the dissemination and exploitation assets of the DynaLearn consortium, in this section we provide an actual plan, which articulates such assets with concrete actions throughout the lifetime of the project. We also provide some insight dissemination plans on the educational perspective and the community awareness perspective.

5.1. Dissemination plan: publication milestones

The following is a plan for publications, which takes as a reference the delivery dates of the project deliverables. For each expected result, we specify a publication date estimated in two months after delivery. The actual targets of each publication e.g. specific workshops, conferences, or journals are still to be decided. Figure 5 shows the different milestones for publication. Blue squares contain expected publications stemming mainly from technical partners while green squares refer to expected publications produced by use case partners.

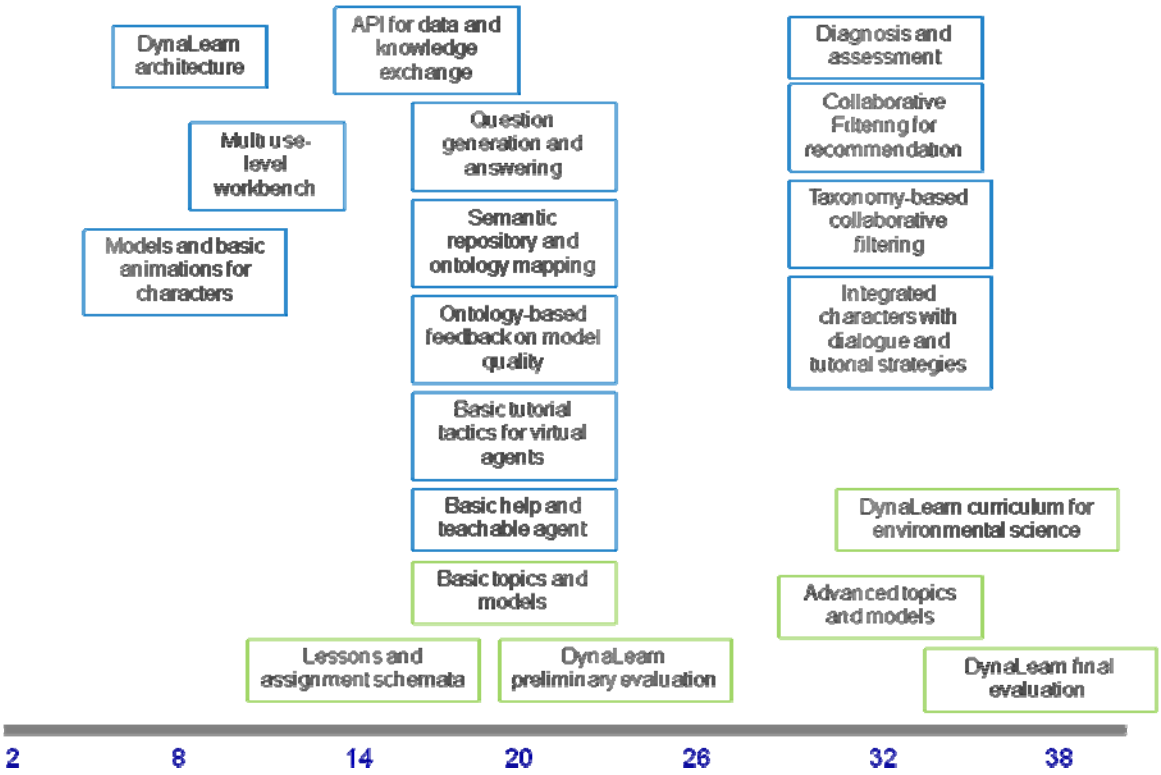

Figure 5: DynaLearn publication plan

5.2. The educational perspective

A very important part of the dissemination and community building activities will be accomplished in WP6 and WP7, through DynaLearn users, where studies, experiments, and interactions with teachers and students are carried out. WP6 will identify the curricula and provide conceptual models using DynaLearn software that represent the knowledge contained within such topics. The requirements for DynaLearn environmental science curricula are defined in deliverable D6.1, while two rounds of

models with a growing complexity will be produced in M18 and M30 in deliverables D6.2.x and D6.4.x, respectively. The final version of such material will be produced in D6.5.

On the other hand, WP7 are in charge of the creation of the materials to be used in the activities planned towards evaluating DynaLearn's approach in the educational community, including curricula, courses, lessons (including teachers and number of learners). Such materials will be produced are detailed in deliverables D7.2.x and D7.3.x in M22 and M33, respectively.

In all cases, through the development of such model curricula, WP6 and WP7 partners will teach students of unity, similarity and differences between entities and processes in different domains, of responsible environmental variables and ecological communities for their running and/or preservation, thus providing them with knowledge how to manage environmental situations/states in order to ensure sustainable development of both natural environment/resources and prosperity of human society.

Non-educational use case partners as CLGE are negotiating to organize lecture courses October and to teach students (secondary school and undergraduate) in CM using GARP 3 and DynaLearn results. For example, CLGE is foreseen to use in secondary school the first three use levels (concept mapping, basic casual model design/construction, basic casual model with state graph) while in the university level they will further upgrade with next levels (casual differentiation, conditional knowledge and generic & reusable knowledge.

One of the main objectives of the use case partners is to gradually develop a comprehensive vocabulary of their different domains of interest, focusing not only on their ecological features, but also providing a broader picture of the relevant issues for the society as whole. In parallel, brief introductory texts, relevant literature sources, pictures/schemes/layouts/pictures and other relevant and curious information will be collected and organized as additional files to the main topics/models under development.

5.3. The community awareness perspective

This dimension embraces plans for the utilization of dissemination materials like leaflets, web sites, and press notes in order to create awareness in the target communities of DynaLearn. At this point, concrete plans in this regard include:

- Creation of a press note associated to the key milestones of the project e.g. the release of the first version of the DynaLearn platform or the evaluation of such platform. This includes communication with local and European press channels like AlphaGalileo[37] and the creation of a press room tab in the DynaLearn web site.
- Distribution of leaflets in key conferences and events where consortium members have a presence.
- Each partner is responsible for updating the DynaLearn web site with new inputs in a regular basis.
- Integration of the project description and homepage links on pages e.g the homepage of the Environmental Education FORUM Austria[38]

[37] http://www.alphagalileo.org

[38] http://www.umweltbildung.at/cgi-bin/cms/af.pl?ref=en

6. Conclusion

This deliverable has presented DynaLearn's dissemination and communication plan in the context of a methodology that embraces dissemination but also provides the necessary mechanisms for a well-defined exploitation strategy of DynaLearn's results, considering issues like Intellectual Property Rights (IPR). Such methodology has been described, followed by a description of the individual dissemination assets of each consortium member. We have also proposed a number of specific project-wide measures and mechanisms that provide a uniform position of the consortium towards dissemination and exploitation and defined a number of key performance indicators (KPIs) in order to measure project impact. Additionally, we have provided specific plans and actions to be accomplished by consortium members in order to maximize performance with respect to the previous KPIs.

DynaLearn partners now have the means to situate their contributions in instruments like the innovation funnel and spray in order to evaluate both potential uptake by the market and impact in the target communities and react accordingly. On the other hand, issues like licensing of the software results stemming out of the projects need to be refined and agreements for the exploitation of joint results will need to be considered, if necessary.

References

1. Forbus, K.D, Carney, K., Harris, R. and Sherin, B.L. 2001. A qualitative modeling environment for middleschool students: A progress report. *The 15th International Workshop on Qualitative Reasoning*, San Antonio, Texas, 17-18 May.
2. Dunphy, S.M., Herbig, P.R., and Howes, M.E. "The Innovation Funnel," *Technological Fore Forecasting and Social Change*, vol. 53, no. 3, 1996, pp. 279–292.
3. Liem, J., Linnebank, F.E. and Bredeweg, B. (2009). *Model Building Experiences using Garp3: Problems, Patterns and Debugging.* 23rd International Workshop on Qualitative Reasoning (QR'09). Zabkar, J. and Bratko, I. (eds.), pages 68-75, Ljubljana, Slovenia, 22-24 June.
4. Moore, G. A., *Crossing the Chasm*, Harper-Collins, 1991.
5. Noble, R.A.A., Bredeweg, B., Linnebank, F.E., Salles P. and Cowx, I.G. (2009). *A qualitative model of the salmon life cycle in the context of river rehabilitation.* 23rd International Workshop on Qualitative Reasoning (QR'09). Zabkar, J. and Bratko, I. (eds.), pages 84-94, Ljubljana, Slovenia, 22-24 June.
6. Shvaiko, P. and Euzenat, J. (2005). A Survey of Schema-based Matching Approaches. Journal on Data *Semantics*, 4:146-171.
7. Zitek, A., Preis, S., Poppe, M. and Muhar, S. (2009). *Evaluating the potential of Qualitative Reasoning to capture and communicate knowledge on sustainable catchment management.* 23rd International Workshop on Qualitative Reasoning (QR'09). Zabkar, J. and Bratko, I. (eds.), pages 127-134, Ljubljana, Slovenia, 22-24 June.

Appendix A: A survey on open source licenses

This analysis, which considers different possibilities in terms of licenses for the software resulting from the DynaLearn project, can be summarized next.

Types of open source licensing schemes

Open source licenses may be broadly categorized into the following types: (1) those that apply no restrictions on the distribution of derivative works (we will call these Non-Protective Licenses because they do not protect the code from being used in non-Open Source applications); and (2) those that do apply such restrictions (we will call these Protective Licenses because they ensure that the code will always remain open/free). To better appreciate the nature of these licenses, it is helpful to picture software licenses on a continuum based on the rights in copyright extended to the licensee.

Software that has been placed in the public domain is free of all restrictions, all rights under copyright having been granted to the public at large. Licensors of Non-Protective Open Source licenses retain their copyright, but they grant all rights under copyright to the licensee. Licensors of Protective Open Source licenses retain their copyright, grant all rights under copyright to the licensee, but apply at least one restriction, typically that the redistribution of the software, whether modified or unmodified, must be under the same license (i.e. strong copyleft). Licensors of propriety licenses retain their copyright and only grant a few rights under copyright, typically only the rights to perform and display.

The following table displays this contrast:

Right granted	**Public domain**	**Non-protective**	**Protective (e.g GPL)**	**Proprietary (e.g MS Windows)**
Copyright retained	No	Yes	Yes	Yes
Right to perform	Yes	Yes	Yes	Yes
Right to display	Yes	Yes	Yes	Yes
Right to copy	Yes	Yes	Yes	No
Right to modify	Yes	Yes	Yes	No
Right to distribute	Yes	Yes	Yes, under same license	No

Non-Protective Open Source licenses include: Academic Free License v.1.2; Apache Software License v.1.1; Artistic; Attribution Assurance license; BSD License; Eiffel Forum License; Intel Open Source License for CDSA/CSSM Implementation; MIT License; Open Group Test Suite License; Q Public License v.1.0; Sleepycat License; Sun Industry Standards Source License; University of Illinois/NCSA Open Source License; Vovida Software License v.1.0; W3C Software Notice and License; X.Net, Inc. License; zlib/libpng License; and Zope Public License v.2.0.

Protective Open Source licenses include: Apple Public Source License v.1.2; Artistic license; Common Public License v.1.0; GNU General Public License v.2.0; GNU Lesser General Public License v.2.1;

IBM Public License v.1.0; Jabber Open Source License v.1.0; MITRE Collaborative Virtual Workspace License; Motosoto Open Source License v.0.9.1; Mozilla Public License v.1.0 and v.1.1; Nethack General Public License; Noika Open Source License v.1.0a; OCLC Research Public License v.1.0; Open Software License v.1.1; Python License; Python Software Foundation License v.2.1.1; Ricoh Source Code Public License v.1.0; and Sun Public License v.1.0.

All of these, and additional new licenses, can be found on the Open Source Initiative website.

Some Open Source licenses of both types include other provisions, such as restrictions on the use of trademarks, express grants of license with respect to applicable patents, disclaimers of warranties, indemnification of copyright holders in commercial distributions, and disclaimers of liability. However, none of these provisions are as fundamentally important as the obligations/restrictions that are imposed on redistribution rights under the Protective Open Source licenses, and it is with those restrictions on redistribution that we next focus.

Analysis of common open source licenses

The previous section dealt with the rights granted to the licensee by the copyright holder. In this section, we describe some of the most common and significant open source licenses, stressing the rights that the copyright holder keeps for himself and the obligations he puts on the licensee.

(a) About free Software Licenses in General

It is important to note that an author does not have to issue a program with just one license. You can GPL a program, and also sell a version of the same program with a commercial, non-Open-Source license. This exact strategy is used by many people who want to make a program Open Source and still make some money from it. Those who do not want an Open Source license may pay for the privilege, providing a revenue stream for the author. That strategy can also be used by people who want to make sure that their version of the software remains free, and who thus want to use a protective license, and who want to allow for less restrictive usage at the same time. Those people who do not want to be bound by the protective license will use the other version instead.

All of the licenses we will examine have a common feature: they each disclaim all warranties. The intent is to protect the software owner from any liability connected with the program. Since the program is often being given away at no cost, this is a reasonable requirement--the author doesn't have a sufficient revenue stream from the program to fund liability insurance and legal fees.

(b) The GNU General Public License

The GPL is a political manifesto as well as a software license, and much of its text is concerned with explaining the rationale behind the license. This political dialogue has put some people off, and thus provided some of the reason that people have written other free software licenses. However, the GPL was assembled with the assistance of law professors, and is much better written than most of its ilk.

The text of the GPL is not itself under the GPL. Its license is simple: Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. An important point here is that the texts of the licenses of Open Source software are generally not themselves Open Source. Obviously, a license would offer no protection if anyone could change it. The provisions of the GPL satisfy the Open Source definition.

The GPL does not allow you to take modifications private. Your modifications must be distributed under the GPL. Thus, the author of a GPL-ed program is likely to receive improvements from others, including commercial companies who modify his software for their own purposes.

The GPL does not allow the incorporation of a GPL-ed program into a proprietary program. The GPL's definition of a proprietary program is any program with a license that does not give you as many rights as the GPL: this is the so-called “viral” feature.

There are a few loopholes in the GPL that allow it to be used in programs that are not entirely Open Source. Software libraries that are normally distributed with the compiler or operating system you are using may be linked with GPL-ed software; the result is a partially-free program. The copyright holder (generally the author of the program) is the person who places the GPL on the program and has the right to violate his own license. However, this right does not extend to any third parties who redistribute the program – they must follow all of the terms of the license, even the ones that the copyright holder violates, and thus it is problematical to redistribute a GPL-ed program containing software distributed under an incompatible license.

The political rhetoric in the GPL puts some people off. Some of them have chosen a less appropriate license for their software simply because they eschew Richard Stallman's ideas and don't want to see them repeated in their own software packages. The GPL is the epitome of the viral and protective license.

(c) The GNU Lesser (aka Library) General Public License

The LGPL is a derivative of the GPL that was designed for software libraries. Unlike the GPL, a LGPL-ed program can be incorporated into a proprietary program. The C language library provided with Linux systems is an example of LGPL-ed software – it can be used to build proprietary programs, otherwise Linux would only be useful for free software authors.

An instance of an LGPL-ed program can be converted into a GPL-ed one at any time. Once that happens, you can't convert that instance, or anything derived from it, back into an LGPL-ed program. The rest of the provisions of the LGPL are similar to those in the GPL--in fact, it includes the GPL by reference.

(d) The X, BSD, and Apache Licenses

The X license and its relatives the BSD and Apache licenses are very different from the GPL and LGPL. These licenses let you do nearly anything with the software licensed under them. This is because the software that the X and BSD licenses originally covered, was funded by monetary grants of the U.S. Government. Since the U.S. citizens had already paid for the software with their taxes, they were granted permission to make use of that software as they pleased1.

The most important permission, and one missing from the GPL, is that you can take Xlicensed modifications private. In other words, you can get the source code for a licensed program, modify it, and then sell binary versions of the program without distributing the source code of your modifications, and without applying the X license to those modifications. This is still Open Source, however, as the Open Source Definition does not require that modifications always carry the original license. The X license is the epitome of the non-viral, non-protective license.

The BSD (Berkeley System Distribution) and the Apache web server project licenses are variants of the X license. An annoying feature of the BSD license is a provision that requires you to mention (generally in a footnote) that the software was developed at the University of California any time you mention a feature of a BSD-licensed program in advertising. Keeping track of which software is BSD-licensed in something huge like a Linux distribution, and then remembering to mention the University whenever any of those programs are mentioned in advertising, is somewhat of a headache for business people. However, the X Consortium license does not have that advertising provision. There is also a modified version of the BSD license that does not carry the advertising provision.

(e) The Artistic License

Although this license was originally developed for Perl, it has since been used for other software. It is often considered a sloppily-worded license, in that it makes requirements and then gives you loopholes that make it easy to bypass the requirements. Perhaps that is why almost all Artistic-license software is now dual-licensed, offering the choice of the Artistic License or the GPL. The Artistic License prohibits sale of the software, yet allows an aggregate software distribution of more than one program to be sold. So, if you bundle an Artistic licensed program with a five-line hello-world.c, you can sell the bundle.

(f) The Netscape Public License and the Mozilla Public License

NPL was developed by Netscape when they made their product Netscape Navigator Open Source. Actually, the Open-Source version is called Mozilla; Netscape reserves the trademark Navigator for their own product. An important feature of the NPL is that it contains special privileges that apply to Netscape and nobody else. It gives Netscape the privilege of re-licensing modifications that you have made to their software. They can take those modifications private, improve them, and refuse to give you the result. This provision was necessary because when Netscape decided to go Open Source, it had contracts with other companies that committed it to provide Navigator to them under a non-Open-Source license.

Netscape created the Mozilla Public License (MPL) to address this concern. The MPL is much like the NPL, but does not contain the clause that allows Netscape to re-license your modifications. The NPL and MPL allow you to take modifications private. Many companies have adopted a variation of the MPL for their own programs. This is unfortunate, because the NPL was designed for the specific business situation that Netscape was in at the time it was written, and is not necessarily appropriate for others to use. It should remain the license of Netscape and Mozilla, and others should use the GPL or LGPL or the X license.

(g) Comparison of common open-source licenses

License	Forbid mixing with non-free software	Forbid modifications being taken private and not returned to you	Forbid or restrict relicensing by anyone	Contains privileges for the original copyright holder over your modifications
GPL	Yes	Yes	Yes	No
LGPL	No	Yes	Yes	No
X, BSD, Apache	No	No	Yes	No
NPL	No	No	Yes	Yes (MPL: No)
Public Domain	No	No	No	No

Appendix B: Template for partner dissemination and exploitation input

Target community

(Especially relevant for WP6 and WP7 partners: please identify and describe your target communities in terms of educational situations).

Describe here the different groups where you expect and pursue to create impact awareness through the dissemination and transfer of DynaLearn's results. Market sectors and stakeholders should be included here. Indicate the geographic area to which they belong.

Competitors

Enumerate the possible competitors of DynaLearn, either already in the community or in a development stage e.g. other EU projects.

Target publications

Enumerate here the events targeted by your organization for dissemination of DynaLearn results, including workshops, conferences, journals, and books.

Target dissemination events

Planned organization of tutorials, presentations to potential users, demonstrations, courses, conferences, and workshops. This section should include participation at sector-specific events e.g. in the education domain and organization of public workshops at major international scientific and educational events e.g. EC-TEL to discuss, disseminate and promote the DynaLearn project results and achievements to a wide audience (see Task 8.3).

Dissemination activities

List other planned dissemination activities not covered in the previous sections e.g. press appearances, EU communications, etc where you expect to disseminate DynaLearn's goals amongst the target communities.

Impact indicators

From your perspective, input any relevant web references that should be checked as indicators of DynaLearn's success. Additionally, please complete the following list of impact indicators and provide any known examples:

- Number of access to project web site
- Referenced papers
- Number of appearances in media.

Licensing schema

For technical partners (WP3, WP4, WP5) enter the license under which you plan to release your software. In the case of case study partners (WP6, WP7), describe the mechanisms you plan to use in order to protect the intellectual property (IPR) of the resulting pedagogical material e.g. curricula and models.

e-mail: Info@DynaLearn.eu
website: www.DynaLearn.eu