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Abstract

This Deliverable reports on two dissemination activities: AULA 2012, held in Madrid, and SCIENTIX 2011, held in Brussels.

AULA, the most important international fair dedicated to educational themes held in Spain, gathered circa 100 thousand visitors, among students, teachers, researchers and families. DynaLearn has been presented to the public by means of demonstrations, explanations, presentations in power point and leaflets distribution.

SCIENTIX addresses the science education community in Europe. It is created to facilitate regular dissemination and sharing of know-how and best practices in science education across the European Union. The SCIENTIX conference was a key event in this respect.

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1. Introduction

Task 8.3 establishes that public workshops will be organized at major international scientific and educational events to discuss, disseminate and promote the DynaLearn project results and achievements to wide audiences. Following the second and third milestones, partners presented DynaLearn results in two international events:

- AULA 2012 http://www.ifema.es/ferias/aula/default.html
- SCIENTIX 2011 <u>http://www.scientix.eu/web/guest/conference</u>

This document reports on DynaLearn's participation in these two events presenting the results and discussing possible outcomes. Section 2 presents AULA 2012 and Section 3 SCIENTIX 2011. Discussion and final remarks are presented in Section 4.

2. AULA 2012

AULA, "Salón Internacional del Estudiante y de la Oferta Educativa", is the most important fair in Spain for presenting educational courses, materials and activities, with a long tradition already among the educational fairs in Spain (in 2012, AULA was in its 20th edition).

Given the interest of the DynaLearn project in analyzing the possibility of exploiting the technological and educational results obtained from the three years of project execution, the consortium decided to organise a project presence in this fair. As a result, DynaLearn requested a stand in the fair, which was open for the whole duration of the fair.

In this section we first provide a short description of this fair, then we describe the materials that we have prepared for the fair, and finally we provide a summary of the feedback that was received by visitors.

2.1. AULA 2012

In this section, the most relevant parts of some of general press releases of the fair¹ were transcript in order to provide an overview of AULA 2012.

Held between 22 and 24 February 2012, the 20th edition of the International Student and Education Salon was opened on 22 February by Princess Elena. It attracted a large audience: a total of 98,589 students, parents, teachers and career guidance counsellors visited Feria de Madrid to see the best courses from a total of 119 universities, professional schools and higher education centres, and education companies, bodies and institutions. A total of 216 companies and institutions from 13 countries are taking part and publicising their best courses and training programmes.

The Languages Street in Hall 3 of the IFEMA trade fair site played an important part in this edition of AULA. It delivers solutions in an area that Spaniards need to master - foreign languages.

The event also featured vocational training courses, with special dedication on the part of the Ministry of Education, Culture and Sport, the sponsor of the fair, and the Madrid Regional Ministry for Education and Employment.

The workshop programme in different disciplines such as sewing, woodwork, and electronics, and supplemented the Symposium Programme, which dealt with issues such as bilingualism in the Madrid region and the new University entrance exams were very attractive for the public.

At the Stand of the Ministry of Education and Culture, new technology was featured strongly. The Technology Area brought together teachers and students to carry out educational projects enhancing the use of IT in the classroom. And there was personnel providing information and guiding participants through all the Internet portals where they can find more information and address their queries, helping them make these very important decisions when the fair is over. From this point of view, DynaLearn was in good company.

The Ministry of Education and Culture will host numerous performances, demonstrations and exhibitions by students from all over the country in the most varied disciplines: music, dance, hairdressing, carpentry, cooking, sports. The Institute of Spanish Radio and Television, IRTVE, as every year, will be attending AULA, had offered a wide range of audiovisual courses and other activities at its stand, including broadcasting live and recorded TVE and RNE programmes.

¹ <u>http://www.ifema.es/Institucional_06/noticias/NoticiasdeFerias/ferial/index.htm,</u> <u>http://www.ifema.es/Institucional_06/noticias/INS_010665_06</u>

The significant presence of public and private universities, business schools and training centres is the core of the fair, with a wide range of academic programmes to inform students looking for a future profession.

One of the highlights of this twentieth edition of AULA was the level of international participation, particularly for language learning programmes. As well as the presence of many language schools, foreign exchange companies, etc., it will be attended by the Australian Trade Commission, through the Australian Embassy in Spain; the Russian Ministry of Education and Science, and the Russian Centre for Science and Culture; the Chinese Centre for Scholar Exchange; the Japan Foundation; the Goethe Institute, and the Irish Tourist Board, among other organisations and bodies.

Other important attractors for teachers, students and business people were being held in the same period at the IFEMA, and brought more people to visit AULA 2012: MUSICAULA (the 3rd Student Pop – Rock Festival), FORO DE POSTGRADO 2012 (a post graduated meeting involving 53 companies and 83 centres from 8 countries), and EXPOELEARNING (a fair directed to companies and organisations).

The 16 square-meter DynaLearn stand was assigned in between the Languages and the Universities Streets. The stand was open continuously, from opening session until the moment when the fair was closed, with the presence of a combination of people from UPM and FUB.

2.2. Materials used in AULA 2012

The following material was prepared for the stand:

In terms of equipment, the stand had a laptop where a continuous presentation was being projected on a screen, used to get the attention of students and professionals, and another laptop with all the software prepared to do demonstrations to those visitors who were interested in the material and approached us.

The following material was generated and distributed during the event:

- Several posters (most of them in Spanish) explaining the main characteristics of the system, together with several large posters with the DynaLearn Logo and its corresponding QR code. This included an educational poster, explaining what a QR model is, an example of a system to be modelled (i.e. cycle of water), a simple QR model for that example, and the hamsters helping the learner. Besides, a technology-oriented poster was generated, focused on the main aspects of the system.
- Leaflets in Spanish and English, with details of where to find the stand, which were distributed inside the fair, and also outside, in the satellite educational events that took place.
- Guides for teachers, explaining: how to download/install the tool, the basics of QR and some methodological guidelines to use DynaLearn in the classroom.

Finally, a set of demos were prepared focussing at the different levels of DynaLearn, so as to show them depending on which type of visitor we had (primary school student, secondary school student or teacher).

2.3. Feedback

There where three very differentiated types of visitors in the stand: secondary school students, teachers and parents. A list of some visitors who dedicated more time and attention to DynaLearn is presented in Appendix A. Photos of the event are shown in Appendix B.

The feedback obtained from each group was very different, and as we could expect initially, most of the feedback was obtained from teachers.

2.3.1. Student feedback

Secondary school students in the fair were normally coming in groups organized by their secondary schools, and were mostly focusing on obtaining information about universities and potential degrees that they could study. Therefore, the amount of students that expressed genuine interest on our stand was low, as this was rather out of their scope.

However, that said, there was still a good number of small groups of students where at least one of them was interested in Science and wanted to know more about what the DynaLearn software could offer them. For these students, we were normally showing them, using the posters that we had generated for this purpose, how to convert a problem like the one on the cycle of water, taken from a textbook, into a QR model, so that they could learn while they modelled.

Most students were already satisfied with the explanation over the poster, and with a quick overview at what the system could do in terms of the virtual agents and the quiz, but did not want to try further. However, there still remained a small number of groups (around ten throughout the whole fair), who were willing to make an additional investment. These received an individual demo on how to build such model in DynaLearn. The feedback received from those students was in general good, and allowed us to identify some parts that are more difficult to explain (e.g., influences). The analysis also showed that the usage of Wikipedia and of virtual agents was in general positive to get a better engagement and attention over the software. And the possibility of running simulations was a surprise for a number of students, who liked to see the development of a particular situation (the 'scenario'). Often areas of possible application of DynaLearn included physics, mathematics and sciences.

2.3.2. Teacher feedback

Teachers were the ones providing most useful feedback, and in general the ones that paid more interest into the possibilities of the software, spending an average of 30 minutes talking to us. Most of them felt comfortable with the learn-by-modelling approach that DynaLearn is based on, and also with the idea that text could be converted from a textbook into an actionable model that allows testing what the student has learned. They felt also positive about the level of help provided by the functions based on Wikipedia and by the virtual agents.

Functionalities such as the possibility of expressing concepts only in models, and not being restrict to a few disciplines – those that are strongly based on mathematics – was very attractive to some teachers. The idea of using semantic technology was considered intriguing, even for teachers that are acquainted to using educational software to support their teaching activities. The virtual characters were considered attractive and friendly, and the interface received positive comments for being well designed, clean and clear. One of the teachers who visit DynaLearn stand mentioned the ludic aspects of the interface – not in the sense of a childish educational tool, but as means to give a good impression to the learners, who would feel that learning can be pleasant and funny.

In all cases, it was clear that teachers still considered that given the tight schedules that they have currently at schools, and given the fact that the DynaLearn software requires a learning process in order to start using it, it could be difficult for them to apply it in their own classes and schedules, but still they found it interesting and some of them asked for additional information and were considering the possibility of making a pilot if successful at home trying it.

2.3.3. Parents feedback

Finally a brief remark on the presence of parents, who came to DynaLearn stand and became interested in the learning by modelling approach offered. In general, these visitors were professionals with different backgrounds, who wanted to know what is going on education. Some brought along their children, and it was interesting to see the discussions between them. They also expressed a positive view of DynaLearn and would be glad if their children's school adopt the qualitative reasoning workbench.

3. SCIENTIX

SCIENTIX - the community for science education in Europe - is an initiative at the European level to exchange information within the community of Science teaching. SCIENTIX is open for teachers, researchers, policy makers, parents and anyone interested in science education. A website with resources is one of the important instruments used by SCIENTIX (<u>http://www.scientix.eu/</u>). It provides a place for projects, educational resources, news, events calendar, community blogs, and conferences². The 2011 SCIENTIX conference was the 1st conference organised within this context.

3.1. SCIENTIX 2011

The SCIENTIX conference took place in Brussels from Friday May 6th to Sunday May 8th, 2011. The conference had two main forums, a plenary conference and an exhibition, with operational booths throughout the event. Dynalearn was presented via both. Dynalearn was one of the twenty-five 'EU projects on science education for teachers' that was presented in the plenary session (see appendix D) with an audience of approximately 400 conference participants.

11:30 - 13:00	Plenary session 2 (Translated fi	rom English into French and Germ	nan) ROOM: Ballroom
	EU projects for teachers 25 3-minute trailers on what teachers can find in the exhibition stands Moderators: Yves Beernaert & Magda Kirsch		
	 Profiles Hands-On-Universe S-TEAM INQUIRE SCeTGo Primas STENCIL SEEP 	 Fibonacci EUNAWE Science on Stage Dynalearn SPICE Carboschools Pollen eBug 	 CoReflect Sis.Net Pathway Eurydice GAPP Helena Materials Science
	9. Photonics Explorer	18. Establilsh	

DynaLearn was also showcased at a stand on the exhibition throughout the whole duration of the conference, which allowed direct contact to interested scientists, teachers, and governmental representatives responsible for education.



13. Dynalearn

Coordinator: University of Amsterdam, NL Funding scheme: FP7 (DG RTD) Presenter: Dr. Bert Bredeweg, NL The Dynal earn project develops an inc

The DynaLearn project develops an individualised and engaging cognitive tool for learners in secondary and higher education to acquire conceptual knowledge. Specifically, diagrammatic representations are used for learners to articulate, analyse and communicate ideas, and thereby construct their conceptual knowledge. Ontology mapping is used to find and match co-learners working on similar ideas to provide individualised and mutually benefiting learning opportunities. The development of the workbench is tuned to fit key topics from environmental science curricula, and evaluated and further improved in the context of existing curricula using case studies.

² Visit the <u>DynaLearn</u> listing at <u>Scientix</u>.

3.2. Materials

The stand was 3x2 meters (6 sqm) equipped with one square table and a small round table, 3 chairs, 1 brochure display, plugs, lights, a fascia board with the name of the project and wireless internet connection. The stand was a modular construction with panels of 1 meter wide and a length of 2.5 meters high. The walls were used by DynaLearn to show a set of recent posters. Particularly, the stand was equipped by the DynaLearn project with (see figure 1):

- A laptop running a continuous representation in power point highlighting all the key features of the project and its products (square table, LHS). This presentation consisted of 21 slides.
- A laptop available for visitors to interact with the software at their own interest (square table, RHS).
- A laptop for demoing software (round table). The laptop was used to sit with interested people and go through all the DynaLearn features in detail.
- Leaflets for visitors to take away.
- Registration form to leave contact details for further information.
- 6 posters.
- The stand was manned by a DynaLearn representative throughout the duration of the conference.



Figure 1. DynaLearn stand at the Scientix 2011 exhibition

3.3. Feedback

The exhibition was in a room rather separate from the main conference, which resulting in fewer visitors than could have been possible. Form the people who visited the majority was genuinely interested in new ideas on educational software and science education. However, many of those visitors were the researchers or software developers themselves.

If we do not count those that just walked by only glimpsing at some of the materials, still about 20 people granted us a serious amount of time to inform them about Dynalearn (see appendix C). We would like to summarise our interaction with them as follows:

- Mixture of surprise and familiarity. Many visitors seemed to be pleasantly surprised seeing something that somehow seemed familiar, yet was new to them. This was a positive experience wanting them to engage and understand the details better.
- Disbelieve in the absence of numbers. Particularly teachers having used educational software before and also software developers found it initially hard to believe that the DynaLearn learning environment does not use numbers at all. Somehow, numbers are so deeply into their daily routine that the idea of not having to use them comes as a surprise.
- Relevance of the approach. By large all visitors quickly grasped the added value of the approach developed by DynaLearn. They see the added value, predict it will be useful.
- Research to market gap. Most visitors wonder about the deployment of DynaLearn in classrooms. This was partly caused by the fact that DynaLearn at the time of SCIENTIX was halfway its development and hence by far not all features implemented. However, it also shows that the path into the classroom is complex one. Teachers feel uncomfortable with idea that they will invest time in something new, not knowing what will happen next. Similarly, the request for educational material to come along with the software was mentioned as an important point for uptake.

4. Conclusion

DynaLearn was presented in AULA 2012, "Salón Internacional del Estudiante y de la Oferta Educativa", the most important educational fair in Spain for presenting educational courses, materials and activities at an international level. An estimated public of circa 100 thousand persons visit the fair, and DynaLearn could be seen by students, teachers, families, and by producers of educational materials who were also visiting the fair or exposing their products. A significant number of visitors approached the stand to receive additional information, presented in leaflets and power point presentations about the software. Explanations and demonstrations were also provided for those who asked for.

The feedback we received was very positive, and gave us confidence that the software and the educational approach of learning by modelling may be successfully introduced in secondary schools. The suite of conceptual modelling, virtual characters and semantic technology in a single educational tool was considered very impressive and innovative. However, critical points to be addressed in the future while defining strategies for marketing and disseminating DynaLearn were also brought forward

- 1. The need for introducing teachers and learners into de qualitative system dynamics view embodied in this approach;
- 2. The importance of making the modelling language accessible to the audience, with specific instructional material; and
- 3. What are the curricula niches adopted by the schools for DynaLearn to be used.

These points are essential to show that DynaLearn should not be seen as something that will require time to be deduced from the school's regular activities, but as means to reduce time and effort spent to convey knowledge and to develop reasoning and cognitive skills in a way that can be more effective, pleasant and attractive to the students.

The experience at SCIENTEX 2011 was also very positive, even though at that time DynaLearn still lacked a large part of its functionality. There is no doubt that those who engaged in the materials at the exhibition stand quickly understood the relevance of the approach taken. The majority was eager learn more.

Appendix A: Visitors of the DynaLearn stand at AULA 2012³

	· · · · · · · · · · · · · · · · · · ·		1
Name	Profile/domain	Email	Comment
	Publisher, Works in		He came to visit the stand and
	EDIDATA		found our software complete, very
			interesting.
	Teacher in secondary		He has a Blog reachable in Google
	school in Madrid (kids 9		by looking for "Aula de la ilusión".
	– 16 years) Biology		
	Sciences Informatics		
	Lipivorsity Professor		Mayor interests are related to
	University Professor		information in advention
	Assistant Professor		UNED
	Informatics		-
	Father (family one),		He came to see what is going on in
	who is also a medical		education.
	doctor		
	MSc degree in Aquatic		Really interested in DynaLearn.
	Resources		Asked for demo; Writes book and
	Management, Also a		said will explore Dynal earn to check
	teacher and works for a		if it fits to her objectives and
	publisher Biologist		recommend it to the
	publisher, biologist		recommend it to the
	Coccur dom: och o ol		Peally interested in Dynal corre
	Secondary school		Really Interested in DynaLearn,
	student		asked for a demo, and found it very
			interesting.
	Student – higher		I.I.E.S. Jose Luis San Pedro.
	technology degree,		
	Chemistry		
	Student – higher		I.I.E.S. Jose Luis San Pedro.
	technology degree.		
	Chemistry		
	Drofossor Structural		Universidad de Nebrija, Spain
	FIOLESSOI, Structural		oniversidad de Nebrija, Spain.
	Secondary school		Colegio Mervesiano.
	teacher		
	Secondary school		Colegio MonteAlto / (it belongs to a
	(Bachalaureat) teacher,		network of schools = Fomento).
	Biology and Sciences		
	Psychologist		Instituto Pascal.
	Teacher, secondary		(3) Teachers of Colegio El Prat (they
	school (16-18 years),		want to see it in DynaLearn
	Science		website).
	University student		Enjoyed the software and wanted to
	Medicine		learn more about it
	Cociologist		He got interest in it and sour
	Sociologist		He got interest in it and saw
			opportunities to explore social
			changes.
	Educational		Works with young children and
	psychologist		would like to give them interesting
			things to do on the computer.
			1

³ Personal details omitted for privacy reasons

Appendix B: AULA 2012 in images



An overview of Feria de Madrid... with an AULA announcement





Preparing the stand...



... and here come the visitors!



Informing the public, discussing with the students...



DynaLearn for teachers...





...for researchers...



... for the family ... and support for the students!

Appendix C: Visitors of the DynaLearn stand at Scientix 2011⁴

Name	Organisation	Email	Comment⁵
	University of		Former employee of the Amstel Institute (UvA).
	Groningen (NL)		Has general interest.
	University of		
	Crete (GR)		
	(BE)		Teacher. Will be interested when the software is
	(DL)		fully operational to consider using it.
	Planetarium in		Works on PR for the planetarium. Educational
	Belgie (BE)		software developer. Has general interest.
	University of		Works with dropout students. Doubts whether
	Liverpool (UK)		DynaLearn approach would be of helpful for that.
			Very interested in the overall approach,
	University of		particularly the notion of conceptual modelling
	Leeds (UK)		and the use of virtual characters. Would like to
			team up as a partner in future work.
			Very interested. Use to work on science
	(UK)		education, former teacher. Plans to go back to
			that area and maybe use DynaLearn
	University of		Interested. Would like to keep posted. Works on
	Camerino (IT)		domains of environmental awareness.
	University of Jaen		General interest. Researcher and Teacher. Would
	(ES)		like to keep posted when all is in place.
	University of lean		Researcher in Science Education. Works with
	University of Jaen		younger learners. Would like to be informed
	(ES)		when the software is ready.
	Kepler		Teacher. Not active in science education. But will
	Gymnasium (DE)		forward information to colleagues
			Works on educational innovation and support for
	DPB Antwerpen		physics teachers. Was very impressed. Would like
	(BE)		to keep posted. Discussed the option of going for
			numerical details as integrated part of LS6.
			Researcher and teacher. Adult education. Sees
	(UK)		possibilities for some courses dealing with
			Environmental topics. Would like to keep posted.
	lycee La Mennais		Concrelinterect
	(FR)		General Interest.
	Amitie STENCIL		Represents STENCIL. Was interested. Would like
	project (IT)		to keep posted when sufficient detail is in place.
	Ministry of		Interested to apply Dynal earp in classes in AT
	education (AT)		
	Klosterneuberg		IT teacher. Wants to maybe run DynaLearn within
	Nosterneuberg		the ITEC project on IBM in autumn.
	Ecology Institute		Wants to link to DynaLearn , potential
	Austria (ΔT)		applications together with KidINN science
			project.

⁴ Personal details omitted for privacy reasons.

⁵ Most comments are translated and summarised from Dutch (as the people at the stand recorded the comments in Dutch).



Appendix D: Planery presentation of DynaLearn at Scientix 2011

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