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ARGUMENTUM: AN E-COURSE FOR LEARNING
ARGUMENTATION BY ARGUING

1. INTRODUCTION

New information and communication technologies (ICTs) have always changed the way people interact with each other, and the way people learn and argue as well: for instance, writing – the first 'technology of the word' (Ong 2002) – strongly influenced educational activities, and gave rise, among other things, to the birth of the first universities; writing affected argumentation activities as well, allowing the diffusion of rhetoric. New digital ICTs make no exception (Cantoni & Tardini 2006): the way we interact, communicate, learn and argue cannot be the same after the diffusion of the internet and of its powerful tools, such as the World Wide Web, the e-mail, the blog, and so on.

This paper lies at the crossroads of studies on argumentation theory, on digital ICTs, and on (e)Learning; it presents Argumentum (www.argumentum.ch), a project that aims at building an online platform providing courses about argumentation theories and practices in different application fields. The paper will present the general structure of the Argumentum e-courses, the tools that are being developed within the project, the learning approach it adopted, and the results of the first test phases; it will focus in particular on how the use of new information and communication technologies may improve the acquisition of argumentative skills by students.

2. THE PROJECT

The project Argumentum has been funded by the Swiss Virtual Campus (SVC – www.virtualcampus.ch), a federal program of Swiss institutions of higher education that aims at promoting the use of new ICTs in higher education in Switzerland. The SVC program started in 2000 with an 'impulse phase' that funded 50 projects; the 'consolidation phase' started in 2003 and funded 60 other projects. The program will end in December 2007.

The main goal of the SVC is to promote the information society in Switzerland as well as to enable education – in particular higher education – to take advantage of the new opportunities that are now available thanks to ICTs. More concretely, the program aims at improving the quality of students' learning processes and at strengthening interactive teaching; at strengthening collaboration between universities; and at developing high-quality teaching materials and methods.

Argumentum is a project of the SVC consolidation phase; it started in October 2004 and will end in September 2006; in July 2006, an application has been submitted in order to get an extra funding ('maintenance') until December 2007. In all the eLearning projects funded by the SVC at least three Swiss higher education institutions – either universities or universities of applied sciences – have to collaborate. The project leader of Argumentum is the Institute for Linguistics and Semiotics of the University of Lugano – Faculty of Communication Sciences; project partners are the Institute of Psychology of the University of Neuchâtel, and the Department of Sociology of the University of Geneva. Argumentum, like all other SVC projects, is supported by a professional Competence-, Service- and Production Center (CCSP), the eLab – eLearning Lab (www.elearninglab.org) of the University of Lugano, which is in charge of all the technical issues of the project, such as the choice and the setup of the Learning Management System (LMS), the technical production of the learning materials, the graphical design of the courses, and so on.

The basic *vision* of the project is that argumentation theory plays a significant role in the human and social sciences. Argumentation is a type of communicative exchange where participants do not limit themselves to expressing or communicating ideas, opinions, proposals, wishes, projects etc., but want to justify them, prove them by reasoning. In other words, they make a commitment to maintain a critical attitude towards themselves and the others: argumentation can be defined as the practice of giving reasons to build assent to a claim (Rigotti & Greco in press). Arguing is somehow influencing others; but what generates the adhesion to the claim is not the influence of some form of power or coercion, but the force of the reasons provided by the arguer. Thus, three key-elements can be outlined in the vision of Argumentum: 1) the importance of *reasonableness* as a keyword of the argumentative practice; 2) the *building of consent* through the *shared use of reason*; 3) the role played by argumentation studies towards the *quality* of social interaction, in terms of both the production of high quality argumentative interactions and the analysis of the quality of given arguments. As a matter of fact, in the vision of Argumentum, a systematic argumentative knowledge allows: 1) to *assess* the actual communicative practices (e.g. to evaluate the quality of media reporting or political debates, and to distinguish good arguments one can trust from vicious ones); 2) to *improve* the quality of socially

relevant communications (e.g. to design high quality advertising, to help mediators to manage conflicts and to propose solutions that meet both parties' interests, to make a decision in a meeting, etc.).

In this vision, the social and educational value of a well-founded argumentative practice may hardly be overestimated, as the competence of exercising reasonableness in various communicative practices by giving reasons for one's actions or beliefs is essential to solve conflicts, to enhance the quality of information and communication exchanges, to prevent the manipulatory abuses of power, and to promote social awareness and a healthy critical attitude towards propaganda and improper advertising.

On this basis, the *mission* of the project is to allow students to study argumentation theory in its theoretical kernel not simply in terms of cognitive acquisitions, but towards the improvement of their argumentative practice in the analysis and production of arguments in specific professional fields. So, in the complex field that lies at the intersection of argumentation and learning (Andriessen et al. 2003), Argumentum focuses on "learning *to* argue" with respect to specific interaction fields. This mission is strictly related to the complex and differentiated didactical needs of the partners of Argumentum; as a matter of fact, different courses on argumentation were required for different professional fields of application; different courses were required for different targets of students (bachelor students, master students, PhD students, continuing education students); and courses in different languages were required, due to the multilingual nature of Switzerland.

Thus, the concrete *goal* of the project is to develop five university master courses (Argumentation for financial communication, Argumentation in the institutions, Argumentation in the media, Argumentation and education, Argumentation in social contexts), two doctoral courses (Argumentation theory, Argumentation for new media in education), and three continuing education courses (Verbal communication and argumentation, Argumentation in intercultural communication, Business argumentation); in addition to these ten courses that are specific for different interaction fields, a common introduction course has been developed (Introducing argumentation).

In short, the specific *topic* of Argumentum is the investigation of the role of argumentation in different application fields, such as educational management, pedagogical communication, business communication, financial communication, institutional communication, intercultural contexts, integrated collaborative environments. The key-concept that summarizes the vision of Argumentum is: *argumentation in specific domains of application.*

The two main technical issues at stake in the project are: 1) facilitating the *reuse of materials* and 2) creating *tailored courses* that fit the needs of specific audiences, i.e. courses that present a different approach and a different mix of delivery media.

The management of the courses' learning contents relies strongly on the re-usability of the available resources: the courses in Argumentum share a set of common resources and have some specific learning materials related to the specific argumentation field they apply to. For this reason, the project set up DOOR (Digital Open Object Repository, http://door.sourceforge.net), a Learning Objects Repository (LOR) developed by eLab; the repository has been conceived as a resources warehouse containing objects of different dimensions and formats, and is accessible to all authors. The authors are allowed to navigate the repository and extract a selection of learning objects that can be imported into Argumentum courses. The use of a LOR strongly enhanced the reusability and the sharing of learning resources among authors.

Argumentum courses are delivered through the national LMS WebCT Vista, which supports multilingualism. All courses can be accessed by means of a username and a password, except for the course *Introducing argumentation*, which is open and can be accessed through the project's website.

3. THE STRUCTURE AND THE TOOLS OF ARGUMENTUM

Argumentum consists of different alternative courses with a similar structure, which present argumentation issues in the different abovementioned application fields. Being designed for a specific pedagogical scenario and for a particular targeted public, each course is autonomous and provides all the necessary contents for the respective users.

The main contents of each course are managed by means of one or more *maps*: maps are a common feature of hypertexts and can be useful in educational hypertexts as well. Basically, "maps have the functions of representing the structure of the knowledge of a hypertext/website, of acting as an access layer to its content, and to aid the reader's orientation within the hypertextual structure" (Cantoni & Tardini 2006, p. 84). In educational hypertexts "this type of representation has the advantage of being able not only to present the content in units and subunits, but also to make explicit to a certain extent the logical – argumentative, temporal or causal – relations that hold between the contents of these sections and subsections. These relations, which tend to be abstract, are expressed graphically through the use of metaphors" (Armani & Rocci 2003, p. 178).

Argumentum exploits both *conceptual* and *metaphorical* maps. A conceptual map (the so-called 'fishbone map') manages the main contents of the courses used by the University of Lugano. The fishbone model is used both as a general map representing the generation of an argumentative intervention, and as an interactive table of contents to manage and access contents. Some of the resources available through the map concern general concepts and notions of argumentation theory, whereas other contents are specific for each application of argumentation in context (financial communication, institutional communication and media).

The fishbone map (see Fig. 1) represents the logical relations between the 14 different sections of each course and provides access to them. Each section provides a theoretical introduction and presents a set of specific resources, such as scientific papers, in-depth texts, video interviews with experts, analyses of case studies, results of in class discussions, and so on. Moreover, some sections are highly-structured hypertexts that thoroughly treat the subject and provide also specific maps for their content; it is the case, for instance, of the section about the topics, which provides a very complex and articulated presentation of the subject by means of a specific conceptual map; in Argumentum topics is the *engine* of the model represented by the fishbone map, as it reproduces the process of generation of arguments which allows the development of the argumentative dynamics (see Rigotti 2006).
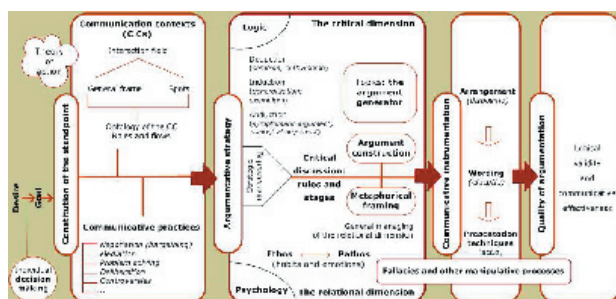

Figure 1. The fishbone map

The fishbone map is repeated in all the courses of the University of Lugano. The map can be used in a flexible way: some contents, e.g. those related to the common theoretical kernel, can be made available online at the beginning of the course; then, each time a new topic is tackled in class, other resources can be added, which can be prepared either by teachers or by students, at the corresponding point on the fishbone model. Thanks to this opportunity given by Argumentum, not only students can easily access the learning materials, but they can also place them at their specific point in the general framework of the argumentative interaction. At the end of the course many students observed that this opportunity helped them to 'reconstruct' the logic of the model of the argumentative interaction, and to master it as a tool for constructing and analyzing argumentative interventions.

The courses used by the Universities of Geneva and Neuchâtel are developing two metaphorical maps based on the metaphors of the town and of the office (see Fig. 2). Through the former, different institutions (school, university, family, church, tribunal, parliament etc.) can be accessed, which are considered as different arenas of applied argumentation; in each institution, one or more case studies are provided, which present examples of argumentative interactions in the specific field that students have to analyze. Through the latter different kinds of resources can be accessed, such as the documents that are presented in the course, the glossary, the Argupedia (an encyclopedia on argumentation con-

cepts), the bibliographical references, the index of persons, and so on.

Figure 2. The draft version of the metaphorical map of the office

Besides the contents managed through these maps, each course provides some preliminary resources, such as a document offering a general introduction to the contents of the course, some documents presenting a brief history of argumentation theory, and a learning module that illustrates in a narrative way a case study to be used as an introduction (the story of a deliberation about the opening time of Lugano libraries).

In addition to the ten courses about applied argumentation, an introduction course (Introducing argumentation) is provided, which can be accessed without password from the project's website (see Fig. 3). This course has a different structure than the others, as it presents the key notions and the fundamental issues in argumentation theory by means of a simple hypertextual structure and of some documents for in-depth analysis. The main topics of this course are the relationship between argumentation and reason, the different purposes of arguing, the analogies and the differences between argumentation and demonstration, and the social relevance of argumentation.
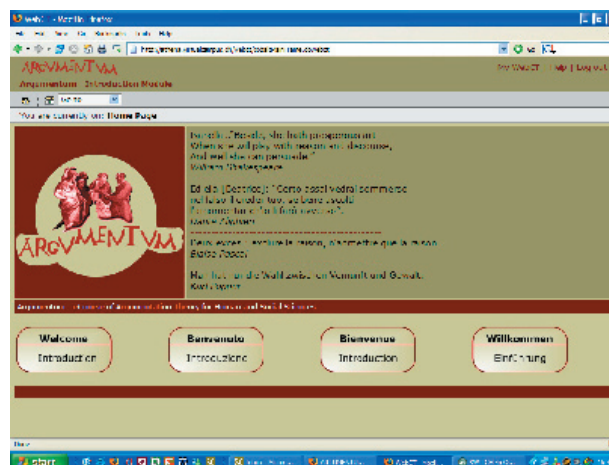

Figure 3. The homepage of the course *Introducing argumentation*

Finally, a tool for helping students to build an argumentative discourse has been integrated in all courses. This tool allows students to follow step by step the model of classical rhetoric for building a canonical argumentative discourse (see paragraph 5 for a more detailed description), to save the discourse they produced and open it for future re-editing, to create a PDF file with the final discourse, and to send it to teachers (see Fig. 4).
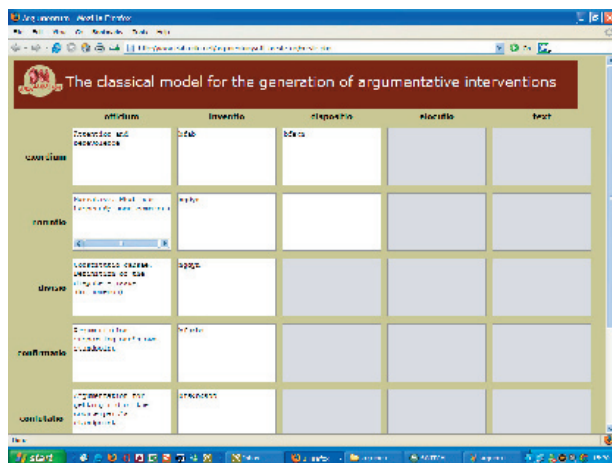

Figure 4. A screenshot of the tool for building canonical argumentative discourse

One of the main features of the Argumentum courses is their *multilingualism*: as a matter of fact, the course materials are in the language of each course and /or in English. Some pivotal texts have been translated into 4 languages (English, Italian, German and French), such as the free introduction course. Generally speaking, students have appreciated the project's multilingualism: the results of the test phases have shown that the multilingual support of Argumentum, together with the possibility of interacting in various languages, facilitated the students' comprehension and engagement in the course.

4. THE USE OF ARGUMENTUM AND THE TEST PHASES

Since the beginning of the project, the draft versions of Argumentum courses have been used in the partner institutions: at the University of Neuchâtel the course "Introducing argumentation" has been used during the winter semester 2005-06 in two different courses ("Argumentations sauvages et savants" and "Représentations sociales et connaissances scientifiques"), with about 50 students altogether; at the University of Lugano the introduction course and 4 other courses ("Argumentation for financial communication", "Argumentation in the institutions", "Argumentation in the media", "Argumentation in intercultural communication") have been used in 7 different courses during the academic years 2004-05 and 2005-06 with about 130 students altogether. During these two academic years, two test phases have been conducted at the University of Lugano in order to evaluate the quality of the courses under development and to improve them.

The first version of Argumentum was tested at the University of Lugano during the summer semester 2005 in three Master courses ("Master in financial communication", "Master in institutional communication", "Master in media management"). During this test phase Argumentum was used in a *blended learning modality* as a didactic support for both in class lessons and individual study (reading of texts, slides, videos, exercises, and so on). More precisely, the first test phase was conducted from March to June 2005 in three courses within the three abovementioned Masters, each one including 4 hours teaching per week: "Argumentation for financial communication", "Argumentation in the institutions", "Argumentation in the media", with about 60 students altogether. Since the three courses focused on three different fields of application, a complex organization was required. In the first part of the semester, students of all three courses attended together the same classes, where a common kernel of topics was presented as a preliminary to the analysis of specific contexts. In the second part of the semester, students of each course had different classes on argumentation applied to their specific interaction field.

As already observed, the didactic goal of the courses was to enhance students' ability to analyze and to construct argumentative interventions. Thus, students were asked not only to gain theoretical knowledge, but also to get acquainted with the practice of argumentation. At the end of the course, an oral exam (1/2 hour discussion) tested the students' achievement of the course objectives: students demonstrated a deep knowledge of the course contents, a high level of personal elaboration and a good application of the notions to the practice of argumentation in their specific field. The results of the exams were generally very good: several students could gain excellent skills in argumentation practice.

A technical evaluation of the modules was conducted in June 2005: the first available modules (the free course "Introducing argumentation" and the first draft of "Argumentation for financial communication") were tested according to a quality evaluation framework elaborated by eLab. In particular, a usability test of the courses was made, which provided some useful hints to refine the courses.

The second test phase was conducted after the summer semester 2006; the students' feedback was collected at the University of Lugano through an online questionnaire that consisted of the following sections: demographics; use of online resources; communication; impact of Argumentum on the course; general evaluation of Argumentum. 18 students out of about 40 filled in the questionnaire. The general satisfaction was good.

We report here the main findings of this evaluation phase. As concerns demographics, it is worth noticing that students who have used Argumentum are expert in terms of digital literacy: most of them are used to navigate every day in the internet (16/18); furthermore, 13 students had already attended an online course and were generally satisfied with their previous eLearning experiences.

Considering the students' use of Argumentum resources, 6 respondents spent less than 5 hours in Argumentum activities, 5 students spent from 5 to 10 hours, 6 students more than 10 hours. The online interaction with teachers and tutors (via e-mail and forum) was evaluated positively: 17 students evaluated it either good or very good. Generally speaking, the satisfaction with Argumentum was good: 9 respondents were very satisfied with Argumentum learning resources (maps, hypertexts, texts, videos, slideshows etc.), 6 were satisfied, only 3 students affirmed not to be very satisfied. It is worth noticing that 7 students out of 18 said that what they liked the most in Argumentum were the conceptual maps. On the other side, a few students found that maps' usability could be enhanced (this issue emerged form the usability evaluation as well). The general satisfaction is confirmed by the fact that 14 students said that they would like to attend other courses like Argumentum.

Finally, as concerns the quality of Argumentum learning resources, their accuracy and relevance was particularly appreciated. The integration between in class lessons and online activities was evaluated very positively as well.

5. LEARNING ARGUMENTATION BY ARGUING

The main objective of the argumentation courses in the partner institutions is to enhance the capacity of students to manage manifold argumentative contexts and situations, and in particular to enhance their ability of analyzing and critically evaluating an argument and to develop the skills needed for producing argumentative texts. Thus, students are asked not only to gain theoretical knowledge, but also to get acquainted with the practice of argumentation, in particular in their specialization field, which is likely to become the context of their future professional activity.

For this reason, a 'learning by doing' approach has been adopted in these courses in order to better transmit argumentative skills to students; adapting this approach to argumentative skills, we can call it: *learning argumentation by arguing*. The 'communicative style' adopted in the courses enhanced the attitude of critical discussion, based on the critical testing of the proposed standpoints and on the considerations of the reasons supporting the positions that are put forward. This approach has given rise to a highly collaborative learning experience, where the course has been constructed together by teachers and students. Classes devoted to theoretical issues were not limited to *ex cathedra* teaching, but were thought as discussions on certain topics (such as the key-notion of reasonableness as compared to rationality, the role of argumentation in intercultural communication, the difference between persuasion and manipulation, etc.), whereby a statement was accepted after having been critically tested. Other classes were specifically devoted to the analysis or to the construction of argumentative interventions, where the active participation of students was prominent.

The modality adopted in these courses was a *blended learning* one, where in class lessons alternated with online activities students were required to carry out either collaboratively or personally. In this blended learning scenario each teacher has adapted the ingredients of the mix of online and *in praesentia* work according to the specific educational demands of his/her courses. As a matter of fact, the contents of each course depend very much on the public the course is addressed to. In this scenario, online activities supported by Argumentum consisted mainly of online study of learning materials and case studies, of exercises and of discussions via forum or e-mail; on the other side, face-to-face classes were devoted to the presentation of new contents, to discussions with teachers, role-playing games and students' presentations. In this way, both distance learning and *in praesentia* meetings have been extensively exploited in order to support the approach of learning argumentation by engaging in argumentative discussions.

In this context, Argumentum has been essential as a support for students' active learning: for instance, in the first common part of the courses at the University of Lugano, an exercise of construction of an argumentative intervention was proposed, based on a model of canonical argumentation elaborated on the basis of classical rhetoric, which aimed at fostering students' ability of designing argumentative written texts. As already mentioned, a software application was developed for helping students in their task, which could be accessed online from the Argumentum platform. The students assumed a personal standpoint in a controversy and used the software to construct an argumentative intervention following precise steps. The exercise was done online by students and corrected afterwards in class; during the correction, the focus was not on students' mistakes, but rather on the best practices that emerged in students' elaborations, thus enhancing the discussion and deepening their argumentative skills. The experience of correcting students starting from their best achievements was particularly interesting from the point of view of the didactic achievements and innovations.

Argumentum was also used as a platform to share the results of face-to-face discussions and role-playing games with other students: for instance, in the course "Argumentation for financial communication", students were asked to use their knowledge in finance and communication in order to construct a sort of repository of arguments for an Argentinean bank that aimed at enhancing small investors' trust in the financial market. Students organized their work with personal assignments, came back to the class to present their work and discuss it, and prepared some final notes that were included into the Argumentum platform for future re-use.

In the course "Argumentation in institutions", a controversy was created about advantages and disadvantages of the European Union. Two students were in charge of finding arguments respectively pro and against the EU; all other students were involved in the discussion, which was organized accordingly to the phases of the critical discussion model. Teachers played the neutral role of moderators and helped students apply their knowledge on argumentation, so that the

discussion was conducted in a critical and reasonable fashion. In the end, an overview of the discussion development was prepared by students and teachers, and the document was added to Argumentum.

In the course "Argumentation in the media", some interesting cases of argumentation in the media (e.g. the case of the murder of a child in Cogne (Italy) in 2002 and the liberation of the Italian journalist Giuliana Sgrena in Iraq in 2005) were analyzed in detail, taking into consideration the controversies that emerged in different European and non-European newspapers.

All these activities turned out to be very useful to make students broaden and deepen their understanding of the space of debate of specific fields (financial communication, institutional communication, mass-media communication), thanks to a real Collaborative Argumentation-Based LEarning (CABLE – see Baker et al. 2003).

6. CONCLUSIONS

This paper has presented Argumentum, a project under development at the universities of Lugano, Geneva and Neuchâtel. The project aims at building an online platform that offers courses on argumentation theories and practices; the platform provides learning resources about argumentation in different application fields as well as some tools for enhancing the analysis and the production of argumentative discourses; all the resources in Argumentum can be used in blended learning scenarios as a support to in-class lessons.

The paper has shown the importance of Argumentum for the achievement of the learning goals of the courses where it was exploited: how it supported the students' attitude to critical discussions, thus enhancing the "learning argumentation by arguing" approach of the courses; how it provided an environment that allowed students to share with other students the results of face-to-face discussions and role playing games; and so on.

Generally speaking, students learnt how to design, analyze and evaluate complex argumentative interventions in their (future) professional field thanks to the resources provided by Argumentum; students' qualitatively high results at the end of the courses prove the added value of Argumentum. Furthermore, the most advanced results of the research on argumentation by the most important scholars at an international level could be put at students' disposal: for instance, thanks to some video interviews with international experts and to some of their texts available through the platform, students could get an overview of the most interesting approaches to specific topics, such as fallacies, legal argumentation, problem solving, and so on.

Argumentum is bringing several advantages also to the lecturers and the researchers involved in the project, and to their institutions as well. For instance, they have the possibility to develop common research on argumentation from different disciplinary perspectives and in different fields: researchers from the University of Neuchâtel are giving their contribution from the psychological and pedagogical perspectives, partners of the University of Geneva are providing a sociological approach to argumentation, while the staff of the University of Lugano is providing the core competencies about argumentation theory. Furthermore, the project offered to all the partners the possibility of having a wide set of resources about argumentation in specific domains which can be shared and used in teaching.

At an institutional level, Argumentum has brought about the creation of a Swiss reference network for argumentation studies, which has also important links with other international schools; finally, it has provided the chance of offering argumentation courses also in other Swiss institutions where they are currently not foreseen.

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