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DESIGN EDUCATION WITHIN A EUROPEAN MODULE

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ABSTRACT
The paper addresses a four-year Socrates funded European Module that focuses on the possibilities of incorporating the advantages of distance learning on design education. The research and the case study were both targeting to provide opportunities for European students to explore product design issues from their home base. One of the primary concepts of the delivery of distance education was to offer learning possibilities to students, with or without disabilities, anytime and anywhere. The project involved Italian, German, UK and Greek professors and design students. The emphasis was on working with selected products/designs that students felt more familiar with, and are also the richest in possibilities for product developments with a commercial future. Distance learning was included in the project. Examples from the research work and the teaching programmes are provided, together with the adapted pedagogical methodology, the role of supervisors and modern technology.

Keywords: International students, Design education, Cultural backgrounds, Textile Business, Distance learning

1 INTRODUCTION

Over the past decades textile design has emerged as an extremely expressive and powerful paradigm of the way designers should model, solve and reason about many complex problems. Unfortunately the advances, in both the fundamental aspects of textile design education, and of processing and applications of textile products, were not fully integrated by textile producers. Long distance educational opportunities for people in industry, especially through the university environment was missing in all the four participating countries. Thus the introduction of such opportunities for the textile industry was decided by the here presented European Module, and it is its uniqueness and originality. None of the partners had previous experience in delivering distance learning in this particular field. The development of communication systems was therefore seen as an experimental first step and as means of attracting greater industrial involvement in the educational process. It generated opportunities and possibilities not only for students and educators, but also for people in industry who lack a wider knowledge of the European scene, [1], [15]. At the same time, it assisted in bringing more up to date industrial knowledge and experience to the staff and the students in the university environment [4], [12].

The objectives of the project were to promote interdisciplinary intercultural research in design and education among partners; to address subject development and partners teaching and learning strategies; to facilitate a dialogue on the benefits and limitations of contemporary technological developments in design education and design application.

The aims of the case study were to create new opportunities, visions, skills, design directions and media for the participating students; to develop an understanding of design research methodology; to provide case study material for the student to develop an understanding of intercultural and interdisciplinary team building; to develop an educational network with themes of common interest that will share projects and cooperation among partners.
The actions of the research team in relation to the project were meetings to discuss and outline the main activities, a framework of tasks, discussions to enhance the scope of textile design beyond its existing application limits, on the pedagogical practices that promote effective learning, on practices that assure student satisfaction, of terms and conditions for introducing new tools and new strategies - as required by the inevitable changes of the professional and educational working environments. Information related to the design education of the participants and the technological status of the collaborating Universities were collected and information files on the above data were produced, [2]. A network of shared knowledge was created for the long-distance co-designing project, and for the presentation of the completed work, as well as for future cooperative innovative projects.
The "*European Module in the Textile Industry*" was completed after two year of research into the design industry, combined with a parallel study of the local history of design, one year for the case study completion and one year for dissemination, together with a parallel application of the project to the partners academic curricula.

2 DESIGNING DISTANCE LEARNING

The fundamental dilemma for developing this project was the multitude of issues that arise in distance education, including the course development process, how the course will be taught, what kinds of assessment will be used, the ever-present bugbear of schedules and timelines, finding the balance between creative measures and the demands of systems that seek conformity to a standard, efficient method. The adapted distance education, the courses, the resources and the materials involved had to be designed and delivered in such a way that the level of communication and course taking experience would be, as possibly, the same for students with or without disabilities, [6], [22]. The partners made all possible necessary modifications to ensure access for students and participants with academic learning difficulties. The module was so designed to afford students with certain disabilities maximum opportunity to access resources without the need for outside assistance. Information was also provided in the alternative format preferred by them. The activities and the interaction between partners were studied in order to build a learning community. A four-year project can get into as much trouble with timing as one scheduled for six months. Teamwork is an area that requires delicate handling, as power relationships can begin to emerge. If clumsily handled this can lead at best to hurt feelings, and at worst, a failed project [7]. Online education was heralded as meeting the needs of the students' lifestyles by managing time conflicts and access from remote locations, and helping textile industry people to juggle personal commitments.
Keeping in mind all the aforementioned factors, the research team designed the case study including processes and resources that assisted the multicultural/multilingual participants to complete distance learning in an effective way, concentrating on the learning side of the teaching-learning equation [3].

2.1 Establishing Distance Design Education

Between the participating Institutions were differences in delivering design education, but the target was common - innovative improvement of the design education field with the use of modern technology and the adaptation of distance learning. The use of Internet for communication through e-mail, discussion, assignment submission and feedback helped the partners to overcome slow communication, one of the fundamental weaknesses of distance learning, [14]. The adapted working module had the following steps: *Introduction*-outline the plan and select the necessary information. *The staff*-those involved, who will develop and teach the course, what support will be involved, what will be the roles of the team members, who will be the project's coordinator. *The students*-who will study the course, what are their backgrounds, experiences and learning needs, what support and preparation will they require in adapting to distance learning. *Subject description*-subject title, points' value, level/prerequisites, the subject's relation to the rest of the partners' courses and their institutional requirements. *Aims and objectives*-the overall goals for learning; well-designed objectives can provide a basis for later construction of assessment items. *Content outline*-what the participants are expected to learn in order to meet the aims and objectives. *The learning environmen*t-what teaching and learning methods will be employed to achieve the objectives and how the participants are going to learn, the requested on-line learning materials and the expected total study time of the learners. Consideration has been given to the overall approach, focusing on the learning activities and describing the learning resources (online elements, multi media resources, print-based materials, lectures). *Interaction and activities*-how learners will interact with academic staff and with each other and the learning activities. *Assessment*-the overall assessment structure, that is examinations, essays, reports, investigations or problems, time lines and policy. *Learning materials*-all materials participants need to complete the course, texts, readings, audio-visual and multimedia elements, on line facilities, web resources and which they will need to purchase. *Student requirements*-anything that students might need to study effectively, such as Internet access. *Learner support*-tutorials, library, information technology, administration, learner/teacher contact or learner/learner contact. *Development schedule*-lists the major components of the course, indicating when and by whom the components will be developed. *Evaluation*-evaluation strategies, peer evaluation, trials, interviews, focus group discussions, questionnaires, [10].

The most important with this work is that it's fundamentally about people. This is why no system can ever cope with all the complexities of a course development in distance education. Far more important than the system, is the quality of the people. Persons of talent and commitment can overcome the deficiencies of a system, but no system can cover up the deficiencies of uninterested and uncommitted people.

3 THE CASE STUDY

The case study was an exchange of ideas and information on the application of modern technology in design education, and a way to exchange insights, research tools and methods that support distance learning and design research, [5].

The four participants completed their separate local case study. The Greek one involved Textile Design students and the TEI Textile Design Studio staff members. With the assistance of textile business, they investigated the possibility of a theme that has common interest at a supranational level and can be undertaken and fulfilled as a long distance program, together with other schools of design of different countries, languages and cultures, and by students with or without disabilities, [18].

A special strength of Greece is its location between East and West. So far, product design has not succeeded in taking advantage of the special qualities of the Hellenic

cultural heritage. Greece is geographically and culturally in between Asia and Europe, and its emphasis on traditional arts and crafts, sometimes becomes an obstacle in the collaboration with more technologically developed countries. The research team decided to focus on improving this situation by proposing a case study based on local culture, [19]. The intention was not to educate future designers in how to duplicate the past in their design proposals, but to enable them to create, and propose realistic designs inspired by their cultural heritage. Convinced that the lack of definition and identity could -in the long run- have a negative effect not only on the development of products, but also on the economy, the case study aimed to develop economically the local textile business. Thus, the knowledge and application of cultural heritage becomes an important marketing tool - since design is one of the basic components of marketing. The motivation to create something new and challenging, based on cultural data, for distance education and also for the financial well being of the local textile business was considered as an innovative approach/technique to the partners educational systems.

3.1 Work Methodology

In textile development and designing, constraints arise in many forms. The production processes that will be used to manufacture textiles can constrain the materials and dimensions that the designer has selected. Preferences are constraints and in many situations constraints emerge during designing the product. Techniques for supporting the acquisition and discovery of constraints are important. Design students wish to know why some design option is not possible, while others are. Therefore techniques and approaches to product visualisation and constraints explanation are critical, thus science has developed sophisticated tools for supporting design process, such as the human-computer interaction. For the present experiment it was decided to omit all constrains, though they were pointed out to all participants. The reason was that all partners were focusing on an *educational research* and not a product design one.

The Greek case study took place in the Interior Design Faculty of TEI of Athens. Participants working on the project were directed to the commercial and industrial chambers, affiliations and textile cooperative organisations as documentation centres for publications on the textile industry and the local cultural heritage.

All participating students were required to collect information on the production and marketing strategies of textile companies through the web, personal research, interviews and literature research. All students had access to new technology, to sources and experts, as well as opportunities for visiting collections, workshops, businesses, Museums and design cooperatives. The adapted teaching methodology included formation of a database on the local textile industry, analysis of the design producers and design marketing companies and questionnaire-guided interviews on the design industries. The design methodology included problem identification on textiles and cultural heritage, design suggestion for innovative textiles and textile products with cultural identity, design development with final proposal, design evaluation and product evaluation/acceptability, as resulted by undertaken market research. Selected textiles and textile products were produced and evaluated with questionnaire-guided market research. The total design/production work was presented in the partners' web site for the common use of participating students, educators and textile industry people.

4 DISCUSSION

The delivery of distance education in the design field, in both the university and business environments, was an innovative approach for the partners. They decided as the best collaborative approach for long distance researchers/educators, the adaptation

of the use of computer-mediated communication. E-mailing was the simplest form. The benefits of the use of such a system for supporting group learning are simplicity, flexibility, participation of quantity and quality, communication, openness/access, post-participation review/access for references. A computer-mediated communication system allows learners to interact with one another over time. Learning in the above environment can lead to deeper processing of material because time for reflection is allowed, [13]. It provides opportunities for group-work that would not otherwise exist. For the presented here work simplicity and flexibility over time was of the utmost importance and minor problems were overcame, [17].

Actually numerous positive learning outcomes were the result of this adaptation. It was an experimental first step of attracting greater industrial involvement in the educational process. Computer-mediated communication can successfully serve as a learning medium for students with different ethnic/cultural/linguistic backgrounds, and with certain physical and learning difficulties. The relatively low cost of delivery, ease of resource development and wide availability of student access made computers and the Web ideal instructional delivery resources. The Web is fully capable of delivering a variety of multimedia and interactive instructional resources including audio, video and real-time chat services. For materials that were provided on a website in PDF format, an alternative version was also available in plain text or HTML format, mainly for the use of students/participants with certain disabilities, [21], [23].

5 CONCLUSIONS

The analysis revealed that from the study of the project have been benefited approximately 500 full and part time students, 30 members of full time university teaching staff, directly by helping to compile information, or indirectly by being able to use it for teaching purposes. More than 600 members of the design business have studied the module, seeking novel designs and inspiration, and ten local cooperatives have produced products that have been designed by the participating students and are based on local cultural data. The results of the module have been included in the participants' educational courses.

The successful educational synergy proved that modern technology is a valuable tool for sharing knowledge. The recently growing and enduring emphasis for technological applications in design education will definetly open new horizons to students, universities, and people in the design environment, [9]. The case study could provide a working model for developing future educational projects and distance learning modules, which will involve universities, professors, students and industry members from different counties and cultural backgrounds that have the same extensive sensibility, feeling and vision.

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