

DAETE

Development of Accreditation in Engineering Training and Education

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Partners

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Summary

The objectives of the project is to present among the partners the experience and practices of the participating institutions in quality control and accreditation for engineering education and vocational training, to analyze and debate the models that can be used taking account the different experiences on both sides of the Atlantic, to produce guidelines advisable for quality assurance and accreditation, to test the recommendations and to adapt the guidelines to the feedback results. The planned activities consist of presentation of experiences and case studies in the area of accreditation and quality assessment of engineering education and training, joint meetings of partners to discuss the models and strategies that will evaluation for partners from US and EU, test the recommendations among partners and within the organizations active in this area and to reformulate the models and guidelines according to test results. There is a project external evaluation for each one of the two years allowing a formative judgement of the project. The principal benefit of this project is to improve the quality of the CEE courses on both

sides. There are other impacts that also deserve consideration like the development and acceptance of common methods of quality evaluation that will facilitate the recognition between EU and US companies, individuals and universities of the CEE courses taken indifferently on each region. Another direct consequence is the expansion of the repository of CEE courses based on a distance mode, online or otherwise. A third marginal benefit is the contribution on a global scale of the definition of guidelines that benefit from the experience of two main advanced engineering education environments. The promotion and dissemination of the project and of the project outputs will be performed by the partners and by the participation in related organizations and associations. The partners will participate in several conferences and workshops and it is expected to have papers presented at these conferences. The involvement with engineering organizations and associations will allow the testing and feedback from other universities but will foster the dissemination of results.

Objectives

OBJECTIVES AND ACTIVITIES

The relevance of the project is directly connected with the mobility of engineers between Europe and the US, with the outsourcing of engineering projects on both sides of the Atlantic and with the need to cooperate in the Lifelong Learning processes of engineers. These issues are currently important and crucial for engineering education and training. This also reflects the need for new and innovative quality assurance procedures for Continuing Engineering Education.

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THE ROLE EACH PARTNER WILL PLAY IN THE PROJECT'S IMPLEMENTATION

University of Porto will be the EU coordinator. All EU partners will work on the

collection of case studies, practices and experiences in quality assessment and accreditation of education and training in the area of Continuing Engineering Education. The partners involved have a long experience in the area with internal and external results and achievements in this subject and also have been working in international projects and educational organizations and associations.

The US partner, University of Wisconsin-Madison, will manage the US effort. Since the European partners have had more experience with the tools that will be tested, the US response will be much more a testing bed with experienced players and respected institutions. Accreditation of the degree programs in the US is well developed and it must fit with that system as well.

INNOVATION

The innovative strategies of this project consist in addressing the different approaches of EU and US about the topic allowing the exchange of experiences and results of case studies. This will allow a reciprocal understanding of the benefits of the methods that can be used by the engineering educational and training community in the UE and in US.

There are also some innovative elements in the quality assessment and accreditation like the methods based on peer review and on the use of the EFQM (European Foundation for Quality Management) methods in the engineering educational and training area of active professionals. This will allow in the EU to have the Continuing Engineering Education programs visible in the European and National Qualification Frameworks.

THE ADDED VALUE OF MULTILATERAL, TRANSATLANTIC COOPERATION

The added value of the transatlantic cooperation can be measured under two perspectives. The first perspective is related to the sharing the experiences of the partners on EU and US concerning the quality assessment of education and training in Continuing Engineering Education (CEE). In effect the environments that framed the progress of this area have been different in these two regions. In Europe the research and development about quality evaluation of CEE has been based on joint projects supported by the EU funding. In the US the quality assessment has been developed using market analysis and the activities of organizations like ASEE (American Society of Engineering Education).

These two lines of action have created different lines of actions and references that have not been analysed together by the interested stakeholders. The partners of this project have reasonable experience in this area but have not worked closely to extract the benefits of the differences existing in theories and in the implemented practices. The current proposal has the significant motivation of having this exchange and debate about the methods and practices that will lead to an improvement of the specific knowledge and of the implemented practice. These exchanges and debates

will be facilitated by the project development that otherwise would be difficult to carry out by the interested parties.

EXPECTED IMPACT ON IMPROVEMENTS IN TEACHING, RESEARCH AND STUDENT ACHIEVEMENT

The main goal of this project is to improve the quality of the CEE courses on both sides. There are other impacts that also deserve consideration like the development and acceptance of common methods of quality evaluation that will facilitate the recognition between EU and US companies, individuals and universities of the CEE courses taken indifferently on each region. Another direct consequence is the expansion of the repository of CEE courses based on a distance mode, online or otherwise. A third marginal benefit is the contribution on a global scale of the definition of guidelines that benefit from the experience of two main advanced engineering education environments.

On another hand it is expected that a system is devised that will help the adoption of a systematic service providing counselling and support for education and training courses of other areas. This is expected to enhance the research for this topic of quality evaluation of professional development courses and activities in other areas of knowledge. It is also expected that the dissemination and testing phases will bring other partners to the working group allowing a richer exchange of ideas and of methods.

Workplan

Event	Date	Place	PA	DA
Project Commencement	1/11/2006			
Partners Meeting	13-17 January 2007	Lapland, Finland	*	
CIEC Conference	5-9 February 2007	Palm Springs		*
Atlantis coordination meeting	15-17 March 2007	Brussels	*	
DAETE Project management meeting	17-18 March 2007	Brussels	*	
SEFI Conference	1-4 July 2007	Miskolc		*
DAETE Project management meeting	7 August 2007	Wisconsin	*	
European Forum CEE	7-10 December 2007	Lapland		*
eLearning Conference	8-10 December 2007	Wisconsin		*
CIEC Meeting	4-8 February 2008	New Orleans		*
IACEE Conference,	19-24 May 2008	Atlanta		

Atlanta, US				
Expected End	31/10/2008			

Outputs

It is expected that at the end of the project there will be accepted recommendations and guidelines for the quality evaluation of CEE and for the accreditation of the courses. These outputs will guarantee a closer cooperation between the engineering communities, professional and academic, in the EU and the US in the production, delivery and mutual recognition of the CEE courses and activities. CEE has become a crucial development tool and the quality assurance is fundamental to advance the qualification of the engineers.

Evaluation

The evaluation of the project will be done at two levels. The internal level will be performed by the coordinators in EU and in US. These coordinators have the responsibility of maintaining the project on schedule and within the budget. These coordinators will manage all documentation, measure progress, adapt the planning according to developments and promote the planned activities.

There is also an external evaluation performed by contracted experts on quality assurance and project evaluation. There will be one from EU and another from US ensuring also at this level the confrontation and comparison of different methods and perspectives about the project quality. These subcontracted experts will have access to the documents, minutes and other relevant information that will allow documenting the project progress. They will also participate in some coordination meetings among partners to make the necessary adjustments to the project plans.

The nature of the project is a collaborative research set of activities and the purpose is to pursue the development of guidelines and recommendations for quality assessment of CEE. The quality assessment has an institutional nature and will not be dedicated to the evaluation of the courses. The methods proposed have an internal and external accreditation. For the internal evaluation it is a self assessment using the European Foundation Quality Management approach facilitated by the project partners as experts. The external evaluation is based on peer review and it is intended to develop a methodology based on a formal committee.

The method proposed for the evaluation combines both types and is composed by:

- a) Presentation of self-evaluation report
- b) Nomination of peers
- c) Studying self-evaluation report
- d) Evaluation by site-visit
- e) External evaluation report

- f) Report sent to organization for comments
- g) Statement of the report and comments by the project designated committee.

The accreditation is therefore institutional and not program oriented. There will be pre-defined criteria that will be defined by the project partners. These will be mutually agreed by the project partners in EU and in US.

In the evaluation of the providers of CEE the Aspects to consider are:

- a) development, management, organization of CE-programmes
- b) mission statement
- c) management
- d) quality of staff
- e) quality assurance mechanism
- f) decision making
- g) degree of realization of mission, goals and strategy
- h) funding
- i) satisfaction of stakeholders

The project will address the cooperation and debate among partners and other participating universities or organizations. There will be a constant reorientation of the steps in accordance with the feedbacks received and the evaluations performed. The methods and guidelines will be tested on EU and US environments to allow crossing analysis and conclusions.

Dissemination

The promotion and dissemination of the project and of the project outputs will be performed by the partners and by the participation in related organizations and associations. The partners will participate in several conferences and workshops and it is expected to have papers presented at these conferences. The involvement with engineering organizations and associations will allow the testing and feedback from other universities but will foster the dissemination of results. It is expected to work with IACEE, SEFI, ASEE, EUCEN (European Universities Continuing Education Network) and UCEA (University Continuing Education Association). All partners have access to the governing bodies of these organizations and associations and it is expected that its members will acknowledge the results of the project.