THE TERTIARY TECHNOLOGICAL EDUCATION IN GREECE AND ITS POSITION IN THE SINGLE EUROPEAN HIGHER EDUCATION AREA

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1. Introduction

The higher education in Greece has been based on a differentiated system of two parallel sectors: the University sector which includes Universities Polytechnics and The School of Fine Arts and the Technological sector, which includes the Technological Educational Institutions. The institutions of these two sectors, work complementary having different and challenging missions. The main work of the Technological sector is in regionally oriented applied research and in degree programmes which offer vocational oriented knowledge. This last element is a considerable part of the Bologna Process which put first the necessity of a short length of studies, students mobility and flexibility in the programmes of studies as the basic components for the convergence of the educational systems of the European Union (EU).

The aim of this paper is to define the technological education's basic characteristics which can help the E.U. to become more competitive, to discuss the necessary adjustments for the convergence of its educational structure, to register the benefits of students mobility and to show the importance of entrepreneurial courses to the improvement of employment prospects of the graduates.

The paper is concluded with some comments and suggestions on the future development of higher technological education in Greece.

2. Higher Technological Education in Europe

Today about 3,000 higher educational institutions are in operation in EU where study 12.5 million students. This number has been increased from 9 million ten years ago.

The target for a unique European educational policy consisted an integrated part of the treaty for the E.U. in 1992. Its materialization was expressed afterwards with the issue of the «white book for teaching and knowledge» in 1995 and the signing of the well-known «Bologna declaration» four years later (1999). Meetings in Prague, Lisbon and Bergen were the following steps to concrete the basic principles adopted in Bologna.

The Basic elements of the new situation created in tertiary education is the opening and liberation of the educational services market and the abolition of monopolistic privileges of public Universities and Technological Institutions against the private ones. This imposes changes which to a great extend keep pace with changes in public funding of Institutions. The amount of finance will not be independent of the degree of Universities' adjustment to Bologna principles.

The criterion for the achievement of the adjustment process will be the evaluation and certification of the quality of the higher-education Institutions.

For the issue of quality evaluation there is a lot of thinking and many queries: what will be evaluated, how will be evaluated, from whom and which criteria will be used. There is a number of issues as the quality of publiced articles and postgraduate degrees, the academic validity of scientific judgment, the effectiveness of undergraduate and postgraduate studies, the assessment of the whole teaching and research work of the Universities, the Institutions' contribution to economic and social development etc. According to Bologna spirit, the only thing that can be evaluated is whatever can be standardized and measured with quantity indicators. Therefore it is given the existence of pressure for homogeneity, comparability and correspondence of the European programmes and degrees.

Lisbon decisions put the new frame for the structure and operation of higher education Institutions and make provision of:

- Disconnection of degrees from the traditional programmes of studies.
- Certification and recognition of further education courses from certified public and private institutions
- Widening cooperation between Universities and labor market authorities.
- Development and support of the “Life- long learning”

The higher technological Institutions in Europe (Technological Educational Institutes, Institutes of Technology, Technological Colleges, Universities of Applied Studies, etc.) belong to the higher education and exist for a number of decades. They have developed considerable activities in the areas of education, research and technology and moreover they cooperate to facilitate teachers and students mobility. They have created mutually acceptable rules for the progress of their students (courses evaluation, work placement abroad, honors project) and have started procedures for the legislation of a mutually acceptable basis for studies evaluation, degrees’ recognition and acceptance of the corresponding professional qualifications emanating from the studies. Consequently we can assert that the spirit and the logic of the Bologna Process find suitable ground in the higher technological education sector.

3. The Basic Characteristics of the Technological Education in Greece

The higher technological Institutions in Greece founded to cover the gap between the theoretical knowledge offered by Universities and the need for more applied knowledge and acquisition of specific skills the market needed.

A model of a short period of studies (3 to 3,5 academic years) was adopted, flexible programmes of studies were sketched, compulsory work placement was introduced during the last semester, so students can know from inside the direct and real needs of private firms and organizations, and were established institutions to facilitate the approach of the two poles of the labor market: firms and employees.

A similar institution is Career Offices, which are funded by the E.U. and provide, to the technological Institutions' graduates, the necessary information for jobs suiting to their qualifications, transfer to technological institutions of changes that have taken place to production relations, the evolution in labor relations and the new requirements in the wider labor market environment.

The establishment of technological education in Greece aimed to the formation of well educated and low cost staff which will enter to a continually changing labor market. Of course the last ten years some important changes took place regarding to the orientation and function of the higher technological education in Greece. The duration of studies has been extended to four years, research is now an inseparable element of its physiognomy, its academic features have been strengthened, masters programmes can organized with Universities and finally Technological Education participants to European networks of partner universities overseas.

All these evolutions gave a new breath in the activities of Technological Institutions and gave them the opportunity of funding research activities related to important problems of the Greek economy and society, developing links with European and International partner institutions, materializing master programmes in related scientific areas, providing to their graduates one more weapon to the battle of their professional success. The last few years there is an accelerated increase of links with European institutions in activities such as study periods abroad for students, teaching exchanges for staff and development of course modules which are to followed simultaneously by students in Greece and students in partner colleges. This increasing mobility as well as the need for adopting mutually acceptable principles for the evaluation of studies of different countries' institutions, raised a thinking related to the logic of Bologna declaration as staff and students mobility as well as the consecration of a unique frame for the evaluation of studies and degrees accreditation, consist the basic components of Bologna declaration.

4. Technological Education and Bologna Declaration

Ulterior motive of Bologna declaration is the creation of a single European area of higher education. In spite of multiformity and differentiation of higher education, there is a need for compatibility, comparability and quality of the programmes of studies. What does Bologna declaration mean for the technological education in Greece and to what extend the necessary changes to this process have been started? As the issue of different cycles of studies is concerned, technological education in Greece doesn't confront the problem of adaptation, as the undergraduate cycle is separated and it lasts four years while the postgraduate cycle is materialized in cooperation with Universities and the necessary adaptation concerns mainly the Universities.

Technological Education uses the European Credits Transfer System (ECTS), which is an important element of Bologna process and helps in the unhindered operation of the Socrates programme. The specific objectives of this European programme are:

- To develop the European dimension of education
- To promote improvement in the knowledge of languages in the EU
- To promote co-operation between institutions of the Member States at all levels of education
- To encourage the mobility of teachers and students, and contacts among students
- To encourage academic recognition of qualifications and periods of study
- To encourage open and distance education and exchange of information and experience
- To foster exchanges of information and experience

More than that, the introduction of the Diploma Supplement has been adopted. The Diploma Supplement will give integrated information of the nature, the level, the institutional framework, the content and the shape-structure of studies that a student of the technological education has completed.

The technological institutions promote the use of information and communication technologies (ICT) in the process of distance and life-long education. The legislation for the establishment and operation of the life-long education centers is developing. Learning is a lifelong process, building on the foundation of formal schooling. Access to lifelong education and training is important for all people. Adult and continuing education empowers adults to take a more active and effective part in society.

Vocational Training Opportunities Scheme courses focus on the development of employment – related skills, including technological and business skills.

5. Technological Education and Entrepreneurship

Encouraging entrepreneurship is a key factor in creating jobs and improving competitiveness and economic growth throughout Europe. In Barcelona's summit in 2002, the European Council presented the Green Book for Entrepreneurship. This is an integrated text, which describes the basic elements of entrepreneurship, explains its importance and evaluates the prevailing trends in Europe. According to the Green Book, for people to be tempted into becoming entrepreneurs they should first become fully aware of the meaning of entrepreneurship. People should possess the appropriate skills that will permit them to convert targets into successful undertakings. Education and training should contribute to the encouragement of entrepreneurship, through the appropriate mentality and sensitivity, always in correlation with the professional opportunities being offered by the entrepreneurial quality. The establishment of an enterprise requires dynamism, creative power and strength, while its gradual growth requires more administrative abilities as well as effectiveness and credibility. Since personality and administrative skills compose the basic factor of success, personal abilities related with entrepreneurship should be taught from very early and carry on up to the tertiary level. The European Commission considers that the member states of the European Union (EU) are committed towards embodying the entrepreneurial teaching in their educational systems. At

the university framework, training in entrepreneurial topics should not be limited only to students of economics and business studies, bud should also be offered to students of other fields, such as science, technology and arts. Now, entrepreneurship programmes have sprung up at the U.S. universities that don't even have business schools.

Most European countries have a policy commitment to promote education about entrepreneurship. But this is a relatively new area and learning from each other's experience is crucially important. In 2002, a Best Procedure project explored ways to promote the teaching of entrepreneurship from primary school to university. Experience shows the importance of well-structured cooperation between different government departments, notably industry and education, and the need to include teaching of entrepreneurship in the national curriculum, as it is in the Czech Republic, Spain, Ireland, Luxembourg, Poland, Finland and Norway. However, schools and teachers also need incentives and support in introducing these programmes into the classroom

One of the most effective ways to deliver entrepreneurial education is for students to experience business life at first hand by creating a real or virtual company during the school year. For instance, some 600,000 students in Europe now participate annually in the Student Company programme promoted by the Junior Achievement-Young Enterprise Europe association. They create and run their own companies, making and selling real products and services, and taking all the decisions needed to make their business venture successful.

In the framework of the project: "Centre of Entrepreneurial Studies at the Technological Institutions of Thessaloniki, Serres and Kavala" we have completed a sampling survey concerning our multiple field of studies students' attitude towards entrepreneurship, their entrepreneurial skills, their desire to attend entrepreneurial courses during their studies and their intention to set up a business after their graduation. The survey was launched in September 2003. A sample of 500 students, coming from nine different departments and representing three fields of studies-business, technological applications and arts-has been chosen to answer the questionnaire. In particular, we examined to what

extent characteristics like parents' profession, sex and field of studies influence students' attitude towards entrepreneurship.

From the academic year 2003-04, 18 public Colleges and Universities in Greece have started systematically teaching entrepreneurship courses under the programme "Entrepreneurial Education in the Tertiary Level Institutions of Greece", a programme which is financed by the EU structural funds and the Greek Ministry of Education and aims to raise students' awareness of self-employment as a career option and to smooth unemployment, especially that among the young university graduates, in Greece. While participating in this programme, the Technological Institutions of Thessaloniki, Serres and Kavala, taking into consideration the results of the survey, started offering three optional courses, bearing in mind that entrepreneurial thinking is fundamental in developing analysis skills, communication, critical thinking, innovation and other competences of higher education. These three courses are **"Entrepreneurship I"**, which aims to inspire students to develop entrepreneurial skills **"Entrepreneurship II"** which plays an instrumental role in rendering students capable of writing a Business Plan and **"Mentoring"** in which groups of students are guided and encouraged by trained business professionals (mentors) to materialize their business plans and to start their own business as an option after graduating.

6. Conclusions

The evolution in the context of the procedure for the creation of a Single European Area in higher education, also influenced the tertiary technological education in Greece which although is new, having only two decades of life, has taken important steps to form a special unique profile with its own characteristic elements and looking for its own position in the European higher education area. The continues efforts for its strengthen and establishment, have been successful, this is because technological education offers studies of high quality, covering

the real needs of the economy and society, having applied character and opening safe professional paths.

We believe that it is necessary the public character of higher education to be reinforced, the amount of public funding to this sector to be increased, the national character of higher institutions to be maintained and their academic characteristics to be strengthened.

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