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Design and review of bachelor level education in prosthetics and orthotics in the Netherlands

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Introduction

The aim of this study, in partial fulfillment of the requirements for the degree of Master of Science in Rehabilitation Studies, National Centre for Training and Education in Prosthetics and Orthotics, University of Strathclyde, Glasgow, Scotland, was to describe the design process and the design itself of the Dutch Bachelor degree program in orthopaedic engineering. Also obtaining insight into what kind of forces are acting on the educational design process in the Netherlands and how this newly designed curriculum stands to other existing curricula was one of the objectives. The Dutch Bachelor degree curriculum in prosthetics and orthotics has been compared to programmes at other universities throughout the world offering similar courses. It is necessary to justify why and how programmes and courses are designed, explored, reviewed and adjusted due to increased responsibility to government and society. All kind of forces such as student numbers and the number of study years, the 'Bologna Statement', credit point system and the nature of academic titles which are now subject to change as well as the new concept of 'competences' affect this process.

Method

In order to carry out this project, knowledge of design variables must be obtained. Education is of course related to everyone and everything. A study of the Dutch school system was carried out; including a review of changes taking place in Secondary education. Also a study in a new approach of education, known as competence, "a competence is a, due to the collective learning process obtained ability which is available for the group to realise a specific common objective, (Weggeman 1997)", related education has been carried out. Quality assurance systems, necessary for future accreditation have been examinated. In order to be able to compare the Dutch curriculum to other existing curricula a questionnaire was designed and were sent out to 11 universities throughout the world who organize relevant courses. Eight of these questionnaires were received and reviewed to extract information about their curricula. To be able to establish a Dutch program it became obvious to collaborate with the Catholic University Kempen in Geel, Belgium, at a mear distance of 45 km from the Fontys University.

Results

Since July 2003 the first students were graduated from this four-year full time program of Bachelor in Orthopaedic engineering, a course in prosthetics and orthotics on a level of University professional education in the Netherlands. This program has been made possible due to a far-reaching collaboration between the Fontys University in Eindhoven, Netherlands, and the Catholic University Kempen in Geel, Belgium. In this collaboration two main goals are achieved. First, to make a cost-effective course in prosthetics and orthotics for Dutch students in the Netherlands, bearing in mind that only a limited number of students will attend this course each year, approximately 18-25. The second main goal, to get into a real collaboration between the two University's is accomplished. Dutch students will attend a certain amount of lectures and skills at the Catholic University Kempen (in Dutch KHKempen KHK) and vice versa.

Analyzing the data and directives of Dutch educational law the main conclusion is that there is a sound orthopaedic curriculum based on a firm fundament now. This curriculum is under a consequent evaluation and quality assurance process. One of the most obvious conclusions which can be made is that the Dutch curriculum takes four years. The number of study years at the institutions questioned, varies from 1 to 4 years. Although a little variation exists, a slightly higher percentage of male students are attending p&o curricula. Anatomy, mechanics and biomechanics are indicated as core subjects as well as difficult subjects. Another conclusion is that a large number of study hours are dedicated to problem based learning now. Most of the graduates do find there job in the orthopaedic work field. A relatively large amount of clinical hours are positioned outside the University next to a somewhat smaller part of clinical hours inside.

References

Heim s., (1992), *'A training and development concept for the field of orthopaedic technology'*, Prosthetics and Orthotics International, 16, 203-205.

Holtkamp F. (2000*), 'Hogere Beroepsopleiding Orthopedische technologie, croho aanvraag'*, Eindhoven, Fontys Hogescholen.

Hughes J., (1976*) 'International study week on prosthetic / orthotic education'*, Edinburgh, Scottish Home and health department.

Diepen S., Dinther P., (1993) *'Managing professional organizations: the management of competences'*, Univeristeit van Maastricht.

Kemenade. Van E. (1990) *'Projectontwerp opleiding orthetist / prothetist'*, Eindhoven, Fontys Hogescholen.

Weggeman M. (1999) *'Kennismanagement'*, 3th edn. , Schiedam, Scriptum.