OncoCase: Interdisciplinary Case Based Teaching in Neuro-Oncology Based on the Campus Platform

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The problem-oriented learning (POL) paradigm has been successfully implemented in electronic medical teaching. Several e-learning and authoring platforms for POL are available. At the Freiburg University Hospital an interdisciplinary POL program has been established in the domain of Neuro-Oncology (OncoCase) utilizing the Campus e-learning platform. OncoCase e-learning is in the process of being integrated in the curriculum and is supplemented by an interdisciplinary lecture. Learning success and usability were evaluated.

Introduction: In medical education, problem-oriented learning has been proven to be a valuable instrument, especially in e-learning. Campus¹ is one of several e-learning platforms with authoring components available in German. It has been successfully used in several projects and is included together with other case based e-learning systems in the Caseport portal². In the interdisciplinary medical domain of Neuro-Oncology, cases for the Campus platform were developed in Freiburg in cooperation of the Departments of Neurology, Neuro-Pathology, Neuro-Radiology, Neuro-Surgery, Neuro-Paediatrics and Radiotherapy. Curricular integration is of crucial importance for the widespread and sustained acceptance of an e-learning offer, as students have to be motivated to engage in e-learning.

Methods: The Campus platform was adapted for neurooncological cases by extending the controlled vocabulary regarding medical history, symptoms and diagnostics of the participating medical disciplines. After obtaining informed consent, data and media (pictures and videos) from patients with neuro-oncological disorders (astrocytoma, glioblastoma, meningioma etc.) were prospectively collected for further processing and entered in the Campus platform. In summer 2004 a controlled study of Campus OncoCase under curricular conditions was performed on two groups of students. Both groups handled the same case: the case group (n=15) electronically with Campus OncoCase, the control group paper based (n=16). Learning success was evaluated by comparison of performance in a written test, and usability by a standardized questionnaire.

Results and Discussion: The Campus platform could be adjusted easily to the requirements of neuro-oncological cases. Campus-wide access to the e-learning platform for students was provided through an existing terminal server infrastructure without further installation efforts.

Figure 1: Assessment of case usability by standardized questionnaire (case group, n=15)

Learning success was tested to be the same in case and control groups (19.5/25 and 19.7/25 points respectively). Overall usability of the Campus platform and the evaluated case were assessed medium to good; only the navigation in the case was judged as inferior due to the rigid POL structure implemented in Campus. The interdisciplinary lecture was rated very high by the students (n=125). In summary, the interdisciplinary POL project OncoCase could be established in the domain of Neuro-Oncology, based on the e-learning platform Campus. An evaluation demonstrated the appropriateness and acceptance of the solution to complement teaching in a blended approach.

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References