

Online Medical Informatics Education: Efforts to Realign Classic Approaches with new Developments

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Keywords: Education, Electronic Health Records, SCORM, e-learning, HealthcareLOM

In this paper, we describe our approach to facilitate the provision of online medical informatics modules with all those tools (Moodle) and standards (SCORM, HealthcareLOM) required so as to allow for a proper electronic provision of our modules. The effort is made against the traditional and ineffective concept of simply converting the classical learning material into its corresponding digital form; it is rather attempted here to fully follow the whole educational process by trying to achieve the educational objectives and learning outcomes in parallel to creating and structuring the digital material. The approach followed is to shape our courses on Medical Informatics properly by using open e-learning platforms/environments, as well as, educational standards that allow for the interoperability of teaching materials. In addition, student interaction and participation is enriched through the use of Web2.0 technologies. This approach is demonstrated through an example providing some details of a module on Electronic Health Records offered to post-graduate medical students at AUTH.

Any contemporary material that is going to be used for online courses or seminars should fulfill requirements such as Interoperability, Accessibility, Reusability, etc, so that the material remains credible, up-to-date and tracks changes and developments of medical techniques and standards through time. Central to this activity is the employment of the emerging e-learning standard, namely, SCORM, Shareable Content Object Reference Model. SCORM has been designed as a set of XML based specifications. There are numerous e-learning platforms that fulfil the aforementioned requirements, but one of the most competitive and highly evolved open source one is Moodle. The educational material uploaded to the learning platform should be created either by designing and implementing the SCORM package, or by the use of SCORM editors that create the SCORM Packages through a user-friendly interface. Learning Objects, as independent units of educational material targeting to specific training needs, constitute one of the main research topics in the e-learning community. Types of e-learning standards and specifications include, among else, the IEEE-LOM, HealthcareLOM, SCORM and HealthcareSCORM (extension of SCORM to healthcare supplementing requirements for medical education not included in existing IEEE LOM by a Healthcare Metadata category using custom vocabularies). We illustrate how these metadata are utilized in the Electronic Health Records module offered to medical students. Finally, we incorporate Web 2.0 tools within the SCORM descriptions.

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