Using a Curriculum Management System to Manage Teaching Load an Integrated Medical Curriculum

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ABSTRACT
Managing teaching load in an integrated medical curriculum can be an overwhelming task. Even identifying teaching assignments, locations and times is often difficult. The Curriculum Management System (CMS) developed at the Faculty of Medicine and Health Sciences (FMHS), United Arab Emirates University, is currently being relied on to provide individual faculty teaching calendars in terms of teaching assignments, locations and scheduling, individual faculty teaching load reports, as well as departmental and college-wide teaching load reports. The individual faculty teaching calendars have been widely accepted and the aggregate reports have proven essential in managing teaching loads.

Keywords: Medical school, integrated curriculum, online management system.

1. INTRODUCTION
Data management systems are valuable tools for managing medical curricula [1]. CurrMIT is such a tool widely used in the United States of America and Canada [2]. It uses a relational database containing curriculum information and instruction details such as outcome objectives, resources, content, educational method, assessment methods and educational sites. CurrMIT, however, is not available for medical schools outside the US and Canada. In addition, the author is unaware of other software or online system that is able to visualize and manage teaching load in an integrated curriculum. Therefore, the Faculty of Medicine and Health Sciences (FMHS) at the United Arab Emirates University (UAEU) found itself in need of such a management system and has opted to develop its own curriculum management system to meet management of teaching load needs as well as overall curriculum management needs.

2. BACKGROUND
In an integrated curriculum such as the one at FMHS, each course has many instructors from several disciplines. Each instructor is responsible for his own lectures in the course. At FMHS, there are three distinct types of teaching sessions: Lectures (where typical or didactic teaching is performed), Tutorials (where students discuss topic and teach each other under supervision), and Practicals (typically conducted in laboratories). The number of sessions in the program is ± 3,500. The medical curriculum at FMHS is six years with around five units/modules or clerkships yearly, each lasting about two months.

3. METHODS
In a previous paper [3], I discussed the process of development and implementation of the CMS at FMHS in terms of requirements analysis, relational database design and process flow design. The system uses ASP as the programming language that performs all the processing, JavaScript for graphical on-screen calendar manipulation and data entry checking, AJAX to refresh information on parts (vs. whole page refreshing) of the webpage and MS SQL Server as the Relational Database Management System used to store all the data pertaining to the curriculum. Dynamic web pages for input and output were developed to be clear, consistent and user-friendly. Finally, user control was taken into account, giving each user access to allowed information and processes only.

As a result of the needs analysis, it became clear that the management of teaching load is a priority. Since the system stores data elements of individual sessions including session title, location and instructor(s), the system was enhanced by developing several database queries using SQL that collected all sessions belonging to a particular instructor or a particular location. These sessions can then be displayed in a personalized calendar.

Additional database queries and online reports were developed to show teaching load of individual instructors by counting sessions as well as counting contact hours. Finally, departmental and college-wide teaching load reports were developed using aggregate-type SQL queries.

4. RESULTS
Online personalized timetables for individual instructors showing teaching commitments in various courses is possible (Figure 1). It is also possible to produce location calendars such as “Dissection Lab” with all sessions held in this location from various courses and instructors displayed in this single calendar.

![Figure 1. Screen of the personal teaching timetable for an individual instructor.](image-url)
college-wide teaching load reports are made available to departmental heads and associate deans. These include the aggregate of individual instructors in each department or college-wide as appropriate.

Figure 2. Screen of the teaching load report for a specific instructor.

5. CONCLUSION

In an integrated curriculum, if data elements are stored and managed correctly (i.e., individually and with relational database design), it is possible to produce alternative views of the data in the system which can then be tailored to the needs of specific groups of users. In the FMHS Curriculum Management System, such views include individual faculty teaching calendars containing teaching assignments, locations, and times, individual faculty teaching load reports, as well as departmental and college-wide teaching load reports. These views have proven essential in managing teaching loads.

6. REFERENCES