PREFACE

Mobile devices change the way medicine is taught, learned and practiced. That's a great challenge for libraries

Oliver Obst
Central Medical Library, University and Regional Library, Münster, Germany
Contact: obsto@uni-muenster.de

We are not alone in Leicester in thinking that by the time you qualify as Doctors, tablet devices will have replaced hand written notes and ward rounds will be conducted using electronic tools similar to those that you are currently interacting with. It very likely that tablet devices or their technology will be as integral to your practice as say, a stethoscope is (Mark Hamilton)

The papers in this special issue on mobile technologies have one thing in common. They all agree that "smartphones and tablet computers have become the new cultural 'norm' within personal and professional lives" (Fuller & Joynes). Especially tablets are used to enhance teaching, learning and practice of medicine. As you learn in this issue, some European medical schools have already recognized the value of tablet computers in learning and loan them or present them as a gift to students. Six from eight contributions regard tablets, which reflects pretty much the use we all recognize in lectures, libraries, on the ward, on the go.

As students use tablets for learning and looking up information, it is clear that this will affect libraries too. What may the future hold for medical librarians in the age of mobile devices as the new cultural norm? Some reacted or pro-acted by lending tablet computers, recommending apps, licensing content, or training students in order to make the best of these devices. Some medical libraries have even developed their own apps (Jergefelt) or written designated iBooks (Toro-Troconis), some – with the help of engaged faculty – are embedding tablets and contents into the curriculum.

The projects in this issue present a wide range of interventions in terms of the use of mobile devices and technologies in medical libraries and schools. I tried to categorize them as follows:

a) devices provided such as iPads for undergraduates (Gehrlein, Obst, Teemu) or iPad minis for students in the clinical term (Toro-Troconis), either as loan (from 1 day to 1.5 year) or gift;
b) content provided such as iBooks or eBooks, which were specially developed (Toro-Troconis) or licensed for the project (Bissels, Bruch, Obst), or which was available anyway (e.g. via campus licenses);
c) apps provided to encourage student engagement before, during and after the lectures. Frequently these were pdf reader such as good reader, response systems such as Mentimeter, anatomy apps such as Visible Body, proprietary e-book apps by publishers such as Thieme Campus, or apps for the point of care such as BMJ Best Practice and UpToDate (Fuller & Joynes). Furthermore, apps were developed by faculty and libraries (Bruch, Jergefelt).

To present a short overview about the collected papers: *Richard Fuller* and *Viktoria Joynes* from the Leeds Institute of Medical Education, UK, tell us how mobile learning resources are shaping the way healthcare students are learning. *Sabine Gehrlein* from the Heidelberg University Library, Germany, presents their

iPad lending program to enhance mobile technologies and medical education. *Maria Toro-Troconis* and her colleagues from the Imperial College London, UK, inform us about their large project on the implementation of a mobile learning strategy for undergraduate medical education. *Oliver Obst*, Branch Library of Medicine, University of Munster, Germany, discusses in his paper "A tablet toolbox for embedding mobile digital learning resources into the curriculum" the future role of the library especially in regard to the future of the important business model of lending printed textbooks. *Gerhard Bissels*, Fachbereichsbibliothek Bühlplatz, University Bern, Switzerland, presents his findings on re-inventing the e-book: how tablets increased e-book take-up. *Teemu Masalin*, Faculty of Medicine, University of Helsinki, Finland, writes about the iPad project at the University of Helsinki Faculty of Medicine. We learn that already in 2011 the Meilahti Campus Library Terkko started a project lending out iPad equipped with medical textbooks, and – beginning 2013 – iPads were provided to every incoming student. *Sarah Bruch* and *Tony Paget*, Prince Philip Hospital Library, Llanelli, and College of Medicine, Swansea University, Wales, United Kingdom, inform us on their iDoc app bundling six medical textbooks including the BNF (British National Formulary) and the Oxford Handbook of Clinical Medicine and is meant as a "just-in-time" resource for junior doctors. *Mikael Jergefelt, Karolinska* Institutet University Library, Stockholm, Sweden, praised responsive design for their app "KIB mobile".

Despite these many convincing studies presented here, there are still other projects in Europe dealing with the use of mobile technology in academic medical settings, which could not be covered:

- with launch of the iPad in the year 2010, the Department of Orthodontics of the University Clinic of Münster, Germany, was the first dental school outside the USA which introduced iPads in the clinical courses. The department is lending out iPad and iPad mini to all students of dentistry for bedside education (3);
- the Mobile Learning Initiative of Jochen Bretschneider, VU University Medical Center, Amsterdam, Netherlands, is lecturing students of medicine by the help of interactive iBooks (4);
- Mark Hamilton from the School of Medicine, University of Leicester, UK, began 2013 to give all first year students an iPad to start a "Digital Curriculum" and replace printed workbooks (5);
- Guus van den Brekel, Central Medical Library, Faculty of Medical Sciences, Groningen, Netherlands, is lending out iPads to scientists and regularly annotates apps and teach how to use them (6);
- the Medizinbibliothek Careum, Hauptbibliothek, University Zurich, Switzerland, is lending out preconfigured iPads with selected apps and content (7);
- Laurent Phialy and Arnaud Antonelli, Faculté de Médecine, Université de Lorraine, Nancy, use iPads for teaching and assessment (8);
- Students of the Medical School, University of Basel, write all their exams on the iPad (9).

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