

Enhancement or replacement? Understanding how legitimised use of mobile learning resources is shaping how healthcare students are learning

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Abstract

The number of smartphones and mobile applications has increased exponentially over the past five years and are now accepted as a cultural norm. This poses challenges and opportunities for higher education institutions exploring the best use of such technologies to facilitate new ways of supporting learning experiences. Examples of good practice in this arena are emerging, in particular in the training of healthcare students who are often away from the university setting and for whom mobile technologies offer new opportunities to access resources and deliver safe patient care. Keys to the success of such programmes are “legitimately” produced resources, and librarians, who are best placed to be able to develop the key skills students need in order to make best use of the technology available to them.

Key words: learning; higher education; healthcare.

Introduction

The rapid growth in the technological development of mobile telephones has led to an explosion in the extent and array of devices in current use, meaning that in many countries smartphones (internet enabled phones which download and run applications) and tablet computers have become the new cultural “norm” within personal and professional lives. Recent work from the International Telecommunications Union has suggested that by the end of 2014, the number of mobile telephone subscriptions would almost equal the global population (1), with near-worldwide access to mobile signals and coverage (2). Policy makers and educators have begun to recognise the importance of this rise and the opportunity to incorporate these technologies into educational settings, with international calls and consensus to improve and integrate mobile technologies within school age education (3, 4).

What has been the impact of this growth in smartphone and tablet usage in healthcare education and workplace settings? Evidence highlights that healthcare professionals are now aided by huge numbers of available applications

covering a vast range of clinical related activities, ranging from drug dosage calculators, aids for supporting clinical decision making to specific functions such as “teleradiology” as part of routine patient care (5, 6). The combination of these factors suggests a perceivable “cultural shift” towards both the acceptability and expectation that mobile resources will be used within higher education, to the extent that “mobilisation” appears almost inevitable across the sector, presenting both challenge and opportunity to institutions for library provision, learning resources and curriculum development (7).

As educators begin to move their questions beyond matters of “device” to those of “learning”, a number of innovative programmes have explored the application of mobile technology in healthcare education (8). A number of UK medical schools now loan or gift mobile devices to students or ask them to provide their own devices, in order to aid their learning (9, 10) or through workplace based assessment formats (11) and research findings point to a shift in how students are learning as a result of device usage. This paper will use a programme of mobile technology at the University of Leeds to

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illustrate the impact on learning and learning support processes, exploring potential future directions for the role of specialist healthcare libraries in an age of mobilisation.

MBChB Mobile at Leeds

For the past five years, Leeds School of Medicine has loaned smartphones to students in years 4 and 5 of their undergraduate medical degree, where the majority of their learning is situated in clinical placement settings. The primary purpose of this programme (MBChB Mobile) is to support students in placement settings with access to learning and assessment resources (in the form of eBooks and apps) (12). The resources provide students with instant access to key clinical information (e.g. drug formularies), clinical note keeping, access to support from both university tutors and peers, and facilitate the collection of immediate feedback from clinical faculty in the form of Workplace Based Assessments (WBAs) used as a part of a programme of assessment for learning (13). Our previous experiences in working with mobile resources revealed that students engaged best with mobile programmes when elements of the programme were compulsory, and when students felt that they had “ownership” of the devices (i.e. they were not given or lent devices for only short periods of time) (8). This model has underpinned the delivery of MBChB Mobile, alongside a commitment to developing mobile content specifically linked to the Leeds curriculum. Accompanied by a concurrent programme of scholarship that has helped to establish which resources work “well” for the students and how their learning is being shaped, MBChB Mobile is now expanding to integrate more locally produced resources for students from the outset of the degree programme. Simultaneously, with between 85-90% of students in each year already owning a compatible smartphone, MBChB Mobile is moving into a new phase where the majority of students will provide their own devices for learning, enabling the school to invest more in curriculum driven content.

“Legitimatising” resource provision

A key question for any programme of mobile technology is not only to evaluate which resources are enabling student learning (14) but understand

how these are selected and prioritised by students. Annual surveys of students from across all year groups, focus group and interview based research that supports the development of MBChB Mobile consistently reveals that the resources produced in-house, which are specific to the Leeds curriculum are most often used and valued. In our programme, these include resources to complement our RRAPID curriculum strand (developed to assist medical students’ recognising, response and treatment to rapidly deteriorating patients and delivery of safe care) and apps developed to assist with exam revision, often co-created with students. The way that these resources have helped to both develop and change their learning habits is recognised by both those still studying and those who have completed their degree, as illustrated by this quote from a Leeds graduate:

“[MBChB Mobile] definitely changed the way that I use my mobile now and use technology now to learn, to have ongoing learning whilst working...I think the resources are endless which is what I quite like, and there are still things that are out there which I know would help me in my career that I haven’t found yet or downloaded yet, so it’s quite good to know that I have this sort of endless resource out there to use.”

Subsequent focus group discussions revealed that one of the reasons that the resources are so widely liked and accepted was that they are seen as “legitimate”; the resources were developed by the faculty which meant that the school “wanted” students to know and use the content, and equally importantly, the school promoted and encouraged the use of the mobile resources in placement settings (15).

Learning differently

Complimenting recent research in the area (16), our programme of evaluation revealed that MBChB Mobile resources allows students to “personalise” their learning experience, with the importance of being able to perform different tasks on different devices clearly highlighted. Being able to access resources on their mobile devices was also identified by the students as changing the way that they make use of their time (e.g. taking five minutes to look up the details of a condition they were less familiar with directly before caring for a patient with such a

condition, or using “down time” to revise whilst travelling to and from their placement settings). The mobile resources can thus be seen to be more than just “hype”, (17) as they enable the students to “learn differently” on their placements; providing meaningful learning opportunities with more in the moment, in-context learning, and replacing list-making and long sessions spent with text books at the end of the day.

These newer learning behaviours are accompanied by an observable shift in “learning maturity” that is both reflected in and enhanced by the use of the mobile devices. Students in junior years appear reluctant to use resources in front of patients or teachers where they perceive this may look as if they “do not know everything”, where students in more senior years are more comfortable in using their devices to look things up, including in consultations with patients, if they perceive that there would be benefits for the patient and the consultation would subsequently “run more smoothly”. Consequently, and in contrast to the assumption that mobile resources can only be useful for quick “fact-checking” (18), it is our proposal that the mobile resources can actually be transformative both in terms of learning behaviours and delivery of good clinical care.

What are the implications of MBChB Mobile for libraries and providers of learning resources?

At first glance, the tide of “mobilisation” seemingly poses only challenges to healthcare libraries, suggesting a need to focus efforts on switching from paper texts to provision of mobile and e-learning resources. However, the research findings from MBChB mobile show that legitimacy, maturity and “learning differently” are key facets of how students use mobile devices to both “fact check” and construct new learning. As more students arrive at university with mobile devices in their pockets, the debate, practice and research is moving beyond “what devices to use” and towards how m-learning needs to take already skilled m-learners entering HE into mobile enabled programmes.

What are the implications of this for libraries and library professionals? From our experiences with MBChB Mobile, we suggest that the role and function of the library is more important than ever

for supporting students, and needs to take a role at the heart of mobile learning. The ethos of any mobile learning programme needs to be about “enhancement” of learning opportunities and not “replacement” of existing good practice in learning. Subsequently, the skills which libraries are already expert at providing; enabling students to understand and use efficient search strategies, triangulation of data sources and data management become all the more important in an era where the mobile internet offers access to global information and requires students to create their own knowledge. Libraries and health informatics suites are typically integrated within curricula, and are centrally placed to identify and help create locally produced resources, contextual to their programmes of study which are likely to be better valued by learners than just re-provision of texts in online rather than paper format. Simultaneously, mobile learning offers students and those who support them in their learning journey the opportunity to increasingly personalise their learning materials, and information management will play a key role in ensuring that these resources are used both successfully and appropriately. Given the emerging landscape of both the cultural acceptability and the expectations of mobile resource usage within education, the question is now whether both the wider Higher Education Institutions community, and their libraries, can afford not to get involved in developing mobile resources both for – and with – their students.

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