

Mobile MBA: Attempting to improve learning outcomes and reduce length of studies through an integrative approach

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ABSTRACT. Riedlingen Distance University uses ICT to offer a (literally), Mobile MBA; content is provided in ePub format (electronic publication, not PDF) and delivered via iTunesU to students' tablet PCs. Video podcasts, as well as self-assessments, are integrated within these ePubs to ensure learning ergonomics and mobility. The university's eCampus allows students to participate in online sessions, communicate with professors and students, use online libraries or work with e-learning modules. The impact of this integrative approach on learning outcomes, workload, drop-out and length of study is one of our main research fields. First results will be presented and an outlook regarding the next steps in development (course design, transferability, scalability/suitability for MOOC) will be given.

KEYWORDS: eCampus, Electronic publication, ePub, Mobile MBA, Organizational model, Scalability

Distance teaching model

In the beginning the blended learning approach was composed of printed content (study letters), face-to-face sessions and communication via Internet (mail, forums). Over time more and more components were added until in 2010 the distance teaching model of SRH FernHochschule Riedlingen consisted of:

- e-learning modules (quizzes etc.)
- face-to-face sessions (several weekends per semester)
- online-classrooms (several evenings per semester)
- podcasts (audio casts, video casts)
- online-libraries (various content)
- statistics portal

- content (study letters – app. 1200 pages per semester, printed and additional online available as PDF, additional documents, essays, statistics etc. – all print or online)
- communication and student support via Internet (boards and forums, mail, chat-rooms).

It is most important in the context of distance learning to ensure maximum flexibility in order to enable self-determined learning. In this system all components were available and students could choose the appropriate communication channel and the way to work through the content (print or digital, use e-learning modules and/or attend online-seminars and/or face-to-face-seminars). To increase flexibility even more it takes two more steps: to integrate all the components and to make the whole system (literally) mobile.

- The joining of all the different modules and components will lead to an integrated platform for information and communication which can perform as a learning management system at the same time. Students will be supported by the system to navigate through their courses and they can do so without being confused by media disruption.
- The second task, to make it work mobile, may seem easy, but mobile learning very often means that there is no desk with additional books and paper notepads, no giant monitor (or two) and only a weak Internet connection (or none at all). If students learn underway they often use mobile devices like tablets or smartphones. To provide content as PDF files will fall short of expectations because most of the documents are designed for printing and will not be comfortable to read on small mobile device displays. But it is not only a question of the device itself: most links - for example YouTube - will only be helpful when a good Internet connection is available.

SRH FernHochschule Riedlingen accepted these challenges and developed a mobile MBA programme with the aim to improve learning outcomes and to reduce length of studies.

Mobile MBA

The SRH FernHochschule Riedlingen MBA programme (general management) was launched in 2006. In 2010 an innovative concept was developed, using Information and Communication Technology to offer a (literally) Mobile MBA, in 2011 the MBA programme was re-launched as mobile MBA. The idea was to integrate all the existing components within one information and communication platform that can be accessed via mobile devices like tablets and smartphones. Additionally all the written content had to be transferred into a format suitable for such devices, because PDF is unfavourable on small displays (at least when there is a large number of pages to be read).

Integration of components

A new eCampus was established by bringing together the platforms for information and for communication and by integrating the access to:

- e-learning modules
- online-classrooms for lectures, seminars and tutorials
- audio and video recordings
- online resources like libraries and to the statistics portal
- ePubs (see below)
- chatrooms

By this means the university's eCampus not only provides all the essential content, but allows students to participate in online sessions, communicate with professors and students, use online libraries or work with e-learning modules. All these features can be used on any computer with access to the Internet (PC, Mac, Linux) via Browser or client software. Furthermore eCampus can be accessed by mobile devices via browser or a special app (available for iOs and Android). This also includes the use of online libraries and classrooms, so that desktop computing and mobile computing are most widely equivalent.

Content

In this respect the format of the content plays an important role. Working through many pages - including complicated graphics or multimedia e-learning modules – can be stressful using small mobile device displays. Therefore all the content is provided as “ePub” format (electronic publication, not PDF). This format allows the reader to adjust font size and font type (while everything will remain visible on the display, irrespective of its size) according to his wishes, zoom into graphics and select the number of pages to be displayed at the same time (one, two or ongoing). Hence footnotes are not situated at the end of the page but implemented as links within the document.

To work on the text annotations can be made and words, sentences or paragraphs can be highlighted. The highlighted parts and the notes can comfortably be found (and addressed) via a list of contents, items and sentences can be searched in the document. ePubs allow to include audio and video recordings. Thus professors can add for example a video recording of a presentation, of a lecture or of an interview with an expert at the appropriate place within the document. Additional explanations can be given or an outlook to further development can be presented at the end of a chapter. Hereby the information is placed where it is needed, which helps the student to find it later on when he recapitulates the text. And because the audio and video recordings are included within the ePub on the mobile device they can be watched even when there is no connection to the Internet (i.e. no connection to any video-platform is needed).

Another important aspect in self-determined learning is self-assessment. This can be made possible by questions and answers or by quizzes (including exercises like fill in the blank, multiple choice, tagging etc.). ePubs can provide both q&a as well as quizzes just like they can contain recordings. This means that self-assessment can be placed in the right place, for example at the end of the explanation of a certain set of facts.

Summarizing it can be said that using the ePub format - with all its possibilities to edit a text and including audio and video recordings as well as self-assessments - ensures a contemporary learning ergonomomy and mobility at the same time. ePubs can be used independently from the Internet and they are optimized for use with mobile devices, but can equally be used on desktop systems.

Bookmarks, notes and highlighted areas can be synchronized so that students are free to change the place of work without losses.

Blended learning

The components cover different types of media and communication: texts, e-learning modules, self-assessments, audio and video recordings, mail, forum-postings, chats and online-sessions with professors and other students. It is left to the student to individually choose the most appropriate way (combination and sequence of tools) to learn. In each semester there is a special motto: from “analyzing and understanding” (1° semester) and “deciding and managing” (2° semester) to “controlling and communicating” (3° semester) and “conclusion and perspectives” (4° semester). At the end of the term there is a face-to-face session of one week, where all the single facts are put together and correlation and implications are worked out.

Aim of the new concept

The broad use of contemporary ICT components is not meant to be an end in itself. The aim of this innovative concept is to optimize the interaction of different media types in order to maximize learning outcomes and to reduce length of studies. By integrating all tools in a way that suits desktop computing and mobile computing equally and that prevents media disruption everything is within student's reach. For each situation, regardless whether they are at home or underway, the individually matching tool can be picked. This optimizes not only the learner's economy of time but enables him to choose and combine the tools he prefers. So not the use of ICT is what it is all about, but to offer a wide range of different types of content and tools to choose from and to combine them according to one's needs. This can efficiently support learning outcomes and reduce the time students need to finish their studies.

Fields of research

The impact of this integrative approach on learning outcomes, workload, drop-out and length of study is one of our main research fields. The first group of students has just finished and first evidence exists, that length of study could be slightly reduced and the grades have improved. Reliable findings will be available as soon as some more groups will have completed their studies. In October 2013 two groups will have finished the MBA programme. Some more aspects and questions are closely linked to learning outcomes and length of studies:

Learning paths

The mobile MBA-concept allows learners to choose the individually appropriate combination of tools. The basal knowledge is contained within the ePubs, but in order to develop a profound understanding different tools are provided. While one student will prefer watching recordings online another student might favour e-learning modules. So there are different paths to succeed and several questions to answer:

- which tools support students most efficiently with reference to understanding?
- Which path is selected the most?
- Which path suits which type of learner?
- Do selected paths vary widely depending on the place of work (at home or underway)?
- To which extent is the selection of tools depending on the subject area (is there a difference between mathematics and marketing concerning the path selected)?

Workload

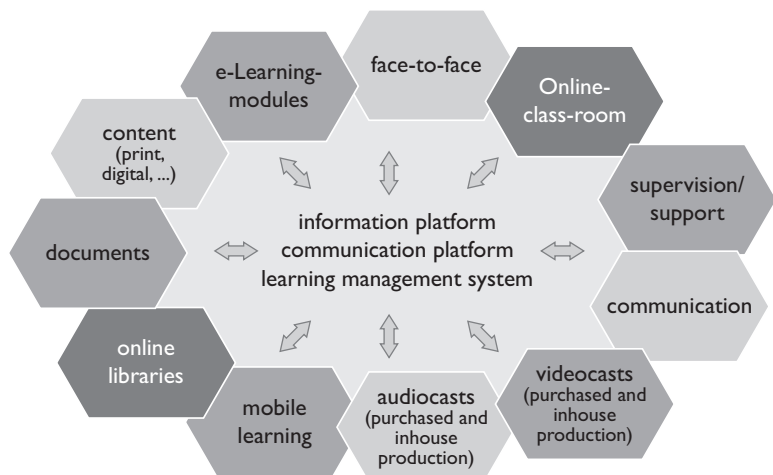
- Which workload applies to which tool respectively path and how is this related to the different types of learners?
- MBA programmes are primarily designed for professionals who want to advance and be more successful. But which influence has work experience on the workload of a specific area like accounting, marketing etc.?

Outlook and further development

We started to examine all these issues and we are making good progress. The results of the periodically evaluations were for example already used to redesign the online-seminars in combination with providing recordings of lectures. The findings will not only be used for tool or course (re-)design, but for providing “made-to-measure learning paths” according to the type of learner and the subject area. There will be a set of different combinations of learning tools to support students in working their way through the course.

In the near future this will be assisted by a learning-management-system which will be essential part of the university’s eCampus, so that information, communication and learning paths will be integrated within one platform that allows maximum flexibility.

Figure 4. Mobile MBA Components



Learning paths will only be recommended, so that every student can test and choose the path and the pace that suits him considering his personal situation. The individual results of e-learning modules and self-assessments will be used as a feedback to adjust the recommended learning path.

Currently we are analysing different ways to use most of the components for other/larger settings. Combining these components and paths with preceding online-tests (concerning type of learner and work experience) could result in recommending an individual

learning path automatically by the system. This would allow our concept to be used for MOOCs and multimedia content can be provided as well as communication via forums etc. for a large number of participants (xMOOC) and just as well cMOOCs can be supported.

Sintesi

L'università tedesca di Riedlingen ha scelto di produrre una versione mobile del Master in Business Administration (MBA), inaugurata nel 2010, in cui il materiale didattico è distribuito in formato ePub, lo standard più diffuso per la lettura su eBook reader, attraverso il noto software iTunes. Le attività degli studenti sono state monitorate per verificare l'impatto del modello mobile sui risultati didattici e sui tempi di apprendimento. L'autonomia dello studente è posta al centro del sistema, in cui è possibile scegliere tra opzioni molteplici, a seconda delle preferenze individuali, tutte accessibili dalla piattaforma integrata eCampus, sia mediante desktop computer sia mediante tablet e cellulare. Su eCampus è possibile partecipare a sedute didattiche online, comunicare con e tra docenti e studenti, accedere alle librerie digitali e ai moduli didattici, spostandosi su diversi dispositivi e indipendentemente dal sistema operativo. L'accessibilità dei contenuti da qualsiasi device è garantita dal formato ePub, che sostituisce il PDF - poco adatto alla lettura su tablet e smartphone - e modificabile dall'utente che può sottolineare, evidenziare e prendere appunti durante la lettura. Il sistema ePub permette, inoltre, di integrare documenti audio e video all'interno dei testi nonché strumenti di self-assessment di vario genere, facilitando, al contempo, un approccio ergonomico allo studio (learning ergonomics) e la piena mobilità. Al termine del corso è prevista una sessione in presenza di una settimana, per la ricapitolazione delle attività svolte.

Il primo ciclo del mobile MBA si è concluso ad ottobre 2013, per cui è stato possibile spostare l'attenzione sull'adeguatezza metodologica delle soluzioni adottate. L'indagine, attualmente in corso, mira a verificare, in senso qualitativo e quantitativo, gli effetti della scelta mobile su alcuni indici chiave come la qualità dei risultati, l'entità del carico di lavoro, la percentuale di abbandono e il tempo impiegato per completare lo studio dei materiali.