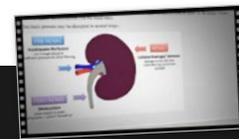


LEARNING TO TEACH ONLINE



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CASE STUDY

Hippocrates: Online medical tutorials

Featuring: Dr Stephanie Eckoldt & Dominic Alder, University of Bristol

- | | |
|--------------------|---|
| Context | - 125 students in the 3rd year Bachelor of Medicine and Surgery |
| Description | - Online tutorials delivered via the Hippocrates website - open and free to use
- Online teacher support materials |
| Technology | - Online tutorials: Website with various interactive tutorials built from a range of open source tools including eXe , Dragster , and Wimba Create
- Teacher Support and class management: Blackboard learning management system (LMS) |
| Featuring | - Online tutorials, resources, quizzes and video demonstrations |

Written by Simon McIntyre

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Aims and overview

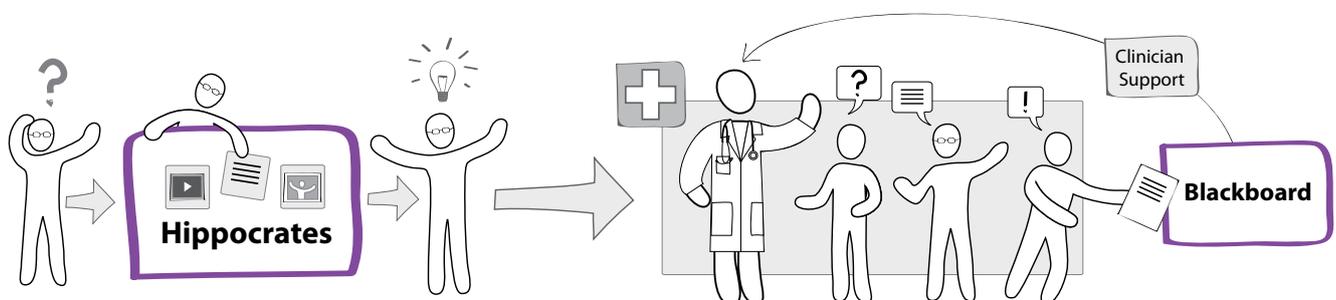
This case study aims to demonstrate how the effective use of simple *'just in time'* style online tutorials, stringently prepared and designed to support the needs of the students, can positively impact student learning when used in conjunction with traditional teaching approaches. It will examine the reasons behind adopting an online supported teaching approach, and discuss key considerations in the planning and use of online tutorials. It is hoped that teachers in a wide range of different disciplines will be able to relate how this approach would be of benefit to their own students' learning.

What is Hippocrates?

The [Hippocrates](#) website, named after the *'Father of Medicine'* from ancient Greece, is an open access learning resource supporting 3rd year students within the undergraduate medical program at the University of Bristol. Dr Stephanie Eckoldt and Dominic Alder are part of the elearning team at the Centre for Medical Education, who led the development of the website and tutorials to support students entering their clinical residencies at different hospitals across the UK.

The website contains a series of interactive tutorials that deal with key topics within the medical curriculum. Students are able to access the tutorials to prepare for face-to-face seminars held at their teaching hospitals. As well as housing these learning materials, Hippocrates also contains material designed to sustain students' morale and confidence during the difficult transition to clinical practice. Students who have previously experienced clinical study within the medical program also have the opportunity to develop online tutorials for the website as part of a special online learning development study program called a [student selected component \(SSC\)](#). This offers them a unique opportunity to consolidate their own learning by designing tutorials to assist other students.

Hippocrates is also used in conjunction with a [Blackboard](#) site that contains pedagogical support for the hospital clinicians for planning and teaching of face-to-face seminars in conjunction with the online tutorials, as well as serving as a location for the secure submission of assignments, class administration, and communication for students between seminars.



The Hippocrates website supports student learning in key topics in the medical curriculum through a range of online interactive tutorials such as multiple choice and drag and drop quizzes, reflective question and answer tutorials and video demonstrations. Each online tutorial is used by students to prepare for a corresponding face-to-face seminar at their respective teaching hospitals. In addition, a Blackboard site contains a range of pedagogical support materials for teachers to help them align their classes with the curriculum and to make the most of the online tutorials.

Case study outcomes quick summary

Key benefits

- *After using the online tutorials, students have reported that they arrive at face-to-face seminars better prepared, with more knowledge and confidence to engage in active peer discussion. This has changed the predominantly didactic teaching approach that was previously required when introducing vast amounts of new material in class*
- *Allows students to easily revise topics online after seminars if any issues were not fully understood in the limited face-to-face seminar time*
- *Online tutorials can be accessed 24 hours a day, 7 days a week for preparation and revision*
- *Easy to use. Care has been taken to design the online tutorials to be as simple to navigate as possible, with students needing no training to access or use the material*
- *The immediate feedback students receive from the interactive tutorials encourages more critical and reflective learning*
- *Seminar facilitators have a more rewarding experience in the tutorial because students are more engaged and knowledgeable about key topics*
- *Teaching at the different geographically dispersed teaching hospitals has become more equitable and aligned with the central curriculum due to the structure of the tutorials and teacher support material*
- *Hippocrates tutorials are open and free to use for students and teachers from any institution*

Key issues to consider

- *Producing online tutorials can take up to 3 months. As tutorials are open access, particular care must be taken to ensure proper copyright and consent clearance, and tutorials must be approved by various panels of medical experts and senior academics as being accurate and pedagogically sound*
- *As well as the effort required to produce and maintain the tutorials, significant energy was required to support teachers and help them understand the benefits of using the online resources as an integrated component of their face-to-face seminars*

Motivation for adopting an online teaching strategy

The decision to introduce online tutorials to support students in this situation included:

- *The fact students undertaking clinical residencies spent large amounts of time away from the University campus created significant challenges in ensuring the students' education was sufficiently supported centrally. Moving support material online was seen as a way to begin to address this*
- *Different clinicians who taught the face-to-face seminars at different hospitals did not necessarily have an understanding of what information was key to the students' learning in relation to the curriculum*

Planning

The first consideration when planning for the development of the Hippocrates tutorials was an effective pedagogy. The website was designed to deliver content for the newly revised 3rd year medical curriculum, and as such particular care was taken to ensure that the tutorials and their use was integrated correctly into the program. The following were crucial considerations in the planning process:

- *It is key that students learn skills and knowledge to be a doctor, but to be an effective practitioner, it was recognised that students also need to develop reflective, independent life-long learning skills. The online tutorials are designed to foster adult learning behaviours in the students, encouraging them to conduct further research in books and other resources to help them to solve problems and understand issues*
- *Online tutorials were needed to support the core learning topics within the medical degree*
- *Each online tutorial was designed to be used by students to prepare them for a related face-to-face seminar. By developing this pattern of behaviour it was intended that students would understand the benefits and importance of preparation in their professional careers*
- *Given the fact that those teaching the face-to-face seminars at the different learning hospitals are usually doctors or other health care professionals, it was important that Hippocrates was able to make the teaching experience more rewarding and engaging by changing the dynamic within the seminars themselves*
- *Since students are off campus during their clinical placements, it was important that the Hippocrates website also considered the emotional support and wellbeing of the students during the difficult transition to studying clinical medicine in the wards.*
- *As a part of the learning design for the program, it was important for students to have the opportunity to develop online tutorials themselves after having been through the program - providing an opportunity to contribute back into the system that supported their learning, and incentive to hone their understanding of their chosen topic*

Teaching

Students are free to access the online tutorials at any time, but typically they are used just prior to attending a face-to-face seminar on the same topic. In this respect students can use the resource for important preparation and revision. The following features of the website were considered carefully to maximise the impact on student learning:

- *The Hippocrates site is carefully designed to contain information about the entire 3rd year program, and is not just a stand alone tutorial resource*
- *There is a range of different types of online tutorials including multiple choice, longer written answers, drag and drop, and dynamic video context that changes based on answers to questions. This helps to ensure that the tutorials remain interesting and engaging*
- *Interactive tutorials are dynamic, meaning student receive constant feedback about their progress*
- *Students can also contribute back into the resource by designing their own tutorials that exist side by side with content developed by academics and clinicians. In this way there is a constant feedback loop, and tutorials are constantly honed to meet student needs and expectations*

Issues to consider and suggestions for dealing with them

Stephanie and Dominic did raise the following issues and suggested strategies:

- **Issue**

Balancing the workload of students when adding an additional task

Suggested strategy

Simply adding online tutorials without considering the current workload and balance of the curriculum will not be effective. Students have to find the tutorials useful in their study, and this means ensuring that the time they spend using the tutorials is carefully considered. If the tutorials take too long to complete, no one will use them due to excessive workload, and if they take too little time, they may not contain enough information to be useful. Tutorials that take around 30 minutes to complete seem to have worked well in this context.

- **Issue**

Many teachers within clinical setting did not know the resource existed

Suggested strategy

Awareness of the Hippocrates resource is key to its success, and this requires a constant effort to maintain. Hospitals are visited by the team regularly to introduce clinicians to the website.

- **Issue**

Resistance by clinicians to changing established teaching practices to include an online component

Suggested strategy

A lot of time was taken by Stephanie and Dominic to support and work with the clinicians, demonstrating the use of Hippocrates and the blackboard resources, and explaining how they could benefit the clinicians and students. This type of support gradually resulted high levels of positive feedback for the online resources, and their effect upon the student teacher relationship.

Important technological considerations

The team at the Centre for Medical Education wanted to be able to create and present online tutorials in the most efficient and simple manner possible. They wanted a system that was easy to maintain within the university IT infrastructure, and one that did not require specialist programming expertise to create new content. These considerations led to the team making the following technical decisions:

- *A simple [html](#) website was chosen to house the tutorials because it was easy to update and maintain. The team chose the university's existing content management system to develop the web pages for Hippocrates because it was easy to use and well supported*
- *The Hippocrates website was to be open access, meaning students and clinicians could easily use the site from any location without the need for authentication. This was important in the case of clinicians who were not necessarily part of the University and therefore did not have authentication rights for a password protected system*

- *The website is a housing into which different interactive exercises can be placed that are made from a range of software such as eXe, Wimba Create, and Dragster. These applications were chosen because of their ease of use and because they do not require high programming skills, allowing developers to focus on the content itself. Using such simple software has the added advantage of enabling many more contributors to create content*
- *For production of the video demonstrations in the tutorials, basic elements such as correct lighting, sound, scripting and direction are important.*
- *Software such as [Camtasia](#), [Corel Video Studio](#), [Final Cut Express](#) were chosen to edit video because of their relative ease of use*
- *It is important that the content and pedagogy determines the type of activity and tutorial design, rather than using one piece of software that limits the type interactivity how the learning must occur. Using a diverse collection of software means that there are many options of implementing tutorials that allow the pedagogy to remain the primary focus*

Conclusion

The [Hippocrates](#) website is still evolving, with more tutorials being added as they are developed. However the concept of providing open access, high quality online learning materials is proving beneficial to both students and teachers in clinical contexts.

The online tutorials are open for any medical students or teachers from around the world to use, and the Hippocrates team at the University of Bristol are interested in collaborating with other institutions in the creation of online tutorials for the website. For more information contact Stephanie Eckoldt se8960@bristol.ac.uk or Dominic Alder dominic.alder@bristol.ac.uk.

Additional information

University of Bristol Hippocrates website www.bristol.ac.uk/medical-school/hippocrates

University of Bristol elearning guides www.bristol.ac.uk/medical-school/staff/elearning/guides

Medicles. Online self assessment in medicine designed by students medicles.co.uk

eXe. Open source authoring application for teachers exelearning.org

Dragster. Authoring tool for drag and drop online learning www.webducate.net/dragster.php

Wimba Create. Convert word documents into web pages www.wimba.com/products/wimba_create

Camtasia. Simple screen capture software for Windows www.techsmith.com/camtasia.asp

Additional reading*

Eckoldt, S., Alder, D., Williams, J., & Smith, R. (2009). [From lecture theatre to hospital - A case study: Developing a new curriculum in clinical medicine](#). Paper presented at the 4th International Blended Learning Conference, University of Hertfordshire, Hatfield, UK.

Kamali, H., Lewis, O., & Eckoldt, S. (2009). Neurological Clinical Examination - A video based electronic tutorial for students, by students. Paper presented at the 4th International Blended Learning Conference, University of Hertfordshire, Hatfield, UK.

Timmis, S., Williams, J., & Eckoldt, S. (2009). [A co-operative inquiry model for researching practice and building interdisciplinary educational research and development capacity](#). Paper presented at the Society for Research into Higher Education (SRHE).

**Note: Some readings are held in subscription only databases. In most cases accessing the link from your institution's network will enable access.*

Acknowledgements

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Hippocrates www.bristol.ac.uk/medical-school/hippocrates was developed by the University of Bristol. The website and content appears in this case study with the express written permission of the University of Bristol in accordance with their terms and conditions www.bristol.ac.uk/university/web/terms-conditions.html.

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Hippocrates site and tutorial development

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To find out more about the Learning to Teach Online project, or to view the video component of this episode, please visit the COFA Online Gateway.

www.online.cofa.unsw.edu.au

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About the project

The [Learning to Teach Online](#) project is a free professional development resource designed to help teachers from any discipline, whether experienced in online teaching or not, to gain a working understanding of successful online teaching pedagogies that they can apply in their own unique teaching situations. It hopes to encourage dialogue, discussion and the sharing of ideas about online learning and teaching across disciplines and between institutions around the world.

About COFA Online

COFA Online is an academic unit at the College of Fine Arts (COFA), The University of New South Wales (UNSW), Sydney, Australia. It has been innovating online pedagogy, academic professional development and effective online learning strategies since 2003.

About The University of New South Wales

UNSW has an enrolment of approximately 40,000 students, and is the leading international university in Australia with over 10,000 international enrolments from over 130 nations. UNSW was also ranked as the top university in 2009 in the Australian Government Learning and Teaching Performance Fund for the quality of its teaching.

Australian Learning and Teaching Council



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