Development of Arabic Case System Online Tutorial Using Screen Capture Software

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In recent years, online tutorials have become well-established tools for the delivery of information literacy training as information professionals continue to seek new and more effective ways to reach audiences. This paper focuses on a project at the Quranic Language Department (QLD), International Islamic University of Malaysia to develop a new approach to online instruction. The goals of the project were to explore how the addition of video using screen capture might create a more engaging user experience, and how the online video tutorial might therefore both improve existing information literacy training as well as offering a ‘just-in-time’ point of support. This paper researches the practical steps involved in creating useful and accessible online tutorials for Arabic Case System lessons. In order to examine the efficacy of this tool, students from Advance Arabic level were tested with formative test related to Arabic Case System topics. The result demonstrates that screen capture can enhance students’ performance and maximise the impact of e-learning tools, helping online tutorials to deliver information in a more personal and immediate way.

ABSTRACT

INTRODUCTION

In a climate of growing pressures on resources, many information professionals are re-examining the tools through which they support users, searching for more effective and far-reaching methods of training. At the same time, multimedia technologies are developing rapidly and this means that staffs are now able to help users in new ways and by using innovative tools.

Although online instruction in a range of formats has now become increasingly common, this paper discusses the creation of online instruction in video format and its aim to create a more visual and engaging user experience. Embedded within a module, and operating as a supplement to face-to-face sessions through a blended learning approach, the tutorial offers non-Arabic students an alternative and remotely accessible option for support. The tutorial has so far been well received by staff and students.

Recently, Quranic Language Department (QLD) began using online screen capture tools as a way to quickly create and share one-of-a-kind, customized video clips in teaching Arabic case system. This paper focuses on how to develop a screencast video in order to enhance students’ capability and memorization in learning Arabic case system. The literature review discusses research on the use of screencasts in reference interactions and other educational settings. The case study focuses on Quranic Language Department lecturers’ experiences with visual barriers in virtual reference that can be alleviated with screen capture software, with examples of common reference interactions where screen capture software is helpful in illustrating both simple and complex concepts. In addition, best practices for using screen capture software in virtual reference are listed.

This article presents the online video tutorial produced by Quranic Language Department at the International Islamic University Malaysia (IIUM) as an innovative way of supporting students in their development of Arabic case system.

2. Literature Review:

In recent years, online tutorials have become well-established tools for the delivery of language learning. Students are looking for training and tutorial over the web and for distance education or remote clients, it is invaluable (Oud, 2009, p164-177). Students are interested in viewing the information whenever they want it.
Research indicates that students believe such online tutorials to be useful (Armstrong, A., & Georgas, H., p491-497, and Ganster, L. A., & Walsh, T. R., 2008, p314-338). The versatile nature of screen capture makes it an ideal choice for meeting these kinds of criteria. In addition, screen capture software can be among the best solution to create better virtual tutorials. Experimentation with digital technologies in traditional and online composition classes has yielded fresh approaches to engage student writers, improve the revision process, and harness the power of multimedia tools to enhance student learning (Davis, A., & Ewa, Mc, G., 2009, p522-529, and Liou, H. C., and Peng Z. Y., 2009, p514-525).

There have been a small number of papers written in relation to the use of screen capture as a reference tool (Carr, A., & Ly, P., 2009, p408-420, and Kroski, E., 2009, p40-42, and Sparks, O., 2010). For instance, California State University (CSUSM) librarians began using online screen capture tools as a way to quickly create and share customized video in live instant messaging (IM) reference interactions. Visual demonstrations are much more effective and efficient than typing long and detailed directions. Results indicated that students perceived screen capture as both as helpful and leading to demonstrable improvements in course performance, especially for those who enter with the least amount of exposure to the subject matter (Pinder-Grover, et al., 2011).

Winterbottom (2007, p6-8) developed screen capture as a way of visually communicating environmental science content, which could not fully be described in audio lectures. She found that students preferred screen capture as a method of learning course material because they could refer back to the material at a later time. In another example from the sciences, Cox (2006, p12-16) discusses using screen captures in Chemistry courses to represent visual models of biochemical molecular structures. Using a desktop PC to capture and display images allowed students to have access to accurate notes and images or drawings used during the lecture, and again allowed them to refer back to the lectures when studying or completing assignments. Screen capture is used in educational settings to visually illustrate difficult concepts, specifically step-by-step instructions. Despite Tempelman-Kluit’s (2006, p364-369) findings that streaming media tutorials like screencasts have the potential to be more effective than static web tutorials.

This study aims to develop Arabic Case System tutorials using screen capture. It is reported that students prefer asynchronous access to learning materials to access them when it suits their schedules and life styles (Roach, J., 2006, p519-520). Digestible presentations using screen capture have multiple benefits, including a more narrowed focus and an increased likelihood that students will find the time to view the videos. This approach also increases students’ ability to encode concepts thereby engaging the information processing to transfer the knowledge more efficiently from working memory into long term memory (Atkinson, R. C., & Shiffrin, R. M., 1971, p82-90). Based on the study by Nurkhhamimi and Muhammad Sabri (2013, p501-511), videos produced by screencast helped students’ to memorize Arabic lessons effectively. Furthermore, screen captures can record the explanations of difficult or confusing concepts and examples thus not having to explain them several times in the classroom (Mohorovičić, S., 2012, p1293-1298).

3. Problem Statement:

Non-Arabic students in Quranic Language Department who learn Arabic Language have difficulties to memorize Arabic lesson (Muhammad Sabri, 2011, p2). To date, there is no published research on using screen capture in captivating Arabic teaching and learning. Studies on teaching lessons for Arabic were scarce. Hence, this research will demonstrate on how to deliver Arabic Case System (Al-I’Raab) lesson using screen capture software to enhance students’ ability to learn Arabic. Online instruction also suits many of our students, who spend increasing amounts of time online. These students are used to multimedia environments and to figuring things out online for themselves (Lippincott, J.K., 2005, p56-66). For these students traditional in-person classroom instruction sessions, which tend not to be connected to their time and place of need, may not be as effective any more (Ladner, B., et al., 2004, p329-333). Thus this paper researches steps and procedures to develop Arabic Case System tutorials using screen capture software, from planning to review stage. There are many advantages but there are also challenges when designing and using screen capture. Some of them will be pointed out.

4. What is Jing?:

Jing is a cross-platform application that can be downloaded from www.jingproject.com. It enables you to take static screen captures of your computer screen (called screenshots) as well as record short videos (less than 5 minutes) of onscreen action (called screencasts). You can then share your screen captures instantly with others whether over the web, email, or even embedded in your online course shell. Jing’s companion site, www.screencast.com, makes sharing easy and fast. Once your screen capture or screencast is done, with a click of a button you can easily upload it to Screencast.com.

Once the upload is done in Screencast.com, you need to copy the URL to your uploaded screen capture or screencast to the clipboard of your computer, enabling you to then easily paste the URL into an email or your course management system to share with your students.
Screencast.com, also, generates HTML embed code which enables you to embed your screencasts seamlessly into your online course management system. But if you do not wish to use Screencast.com to share your screen captures and screencasts, you can save your screen captures as PNG image files and your screencasts as SWF Flash video files and distribute as you see fit (Margarita B. & Dave M.C., 2010).

Benefits of Using Jing:
According to Patrick et al. (2009), Jing is useful because:
1. It is free.
2. It is available for Windows and Mac.
3. Ability to upload images and videos to screencast.com with a simple click of a mouse is something that none of its competitors currently offer.

Usage of Jing in Education:
Elizabeth (2010) suggest, some quick ideas using Jing in education:
1. Create training videos for quick and easy access for students, or even yourself for refreshers.
2. Have your students, record themselves solving lessons problems and then post on your classroom blog.
3. Have your students, record their presentations
4. Have your students, record themselves researching and presenting their findings
5. Don’t stick to the norm! Have your students get creative – create a timeline of an explorer’s life and then present it via Jing!

MATERIALS AND METHODS

In Quranic Language Department (QLD), International Islamic University Malaysia, a team of Arabic Lecturers help students to develop and to enhance their Arabic case system knowledge. They offer a range of training options, including face-to-face teaching sessions, one-to-one appointments, and online tutorials. The decision was taken to create a tutorial to introduce Arabic case system using screen capture software called “Jing”. This project evolved over four main phases:
1) Planning – outline structure and broad content agreed with course team.
2) Storyboarding – storyboards created in Power Point for each section and drafts shared with course teams via content management system website.
3) Production – storyboards converted into Jing outputs, flash outputs shared with course teams and tested on various PCs, and final versions uploaded to course management system website.
4) Review – on-going feedback from users and formal feedback from the “end course survey”.

The online tutorial would consist of a short video of on how to learn, analyse and memorize Arabic case system, together with screen demonstrations of the related topics, and would take approximately less than five minutes to watch. Arabic lecturers can record narration while making screencasts with a simple headset or plug-in microphone.

As a result, the aim was to create a multimedia tutorial combining a mix of audio, text and visual elements. It would also mean that support could be accessed repeatedly, at any time, or those students who had attended the class but just wanted a ‘refresher’ notes.

A number of technologies were used to create the tutorial. The first stage was to write the particular topics using Microsoft Word application. The topics are:
1) Mubtada Wal Khabar (المبتدأ والخبر)
2) Kana Wa Akhawatuha (كان وأخائاتها)
3) Inna Wa Akhawatuha (إبن وأخواتها)
4) Masadir Al Af‘aal Assulasiiyyah (مصادر الأفعال الثلاثية)

Once the topics have been documented, the next step was to record the screencasts. Once the content was complete, it will be embedded into our content management system called ‘My Arabic’ (http://myarabic.ecelpad.com). The next stage was to ensure that the tutorial was accessible. Figures 1 to 4 are the capture taken from the online tutorial used in this research.

Results:
14 Arabic Advanced Level students have randomly been selected to undergo formative evaluation (pre and post-test). The determination of sampling size in the formative evaluation of small group and field user testing sessions was done based on Tessmer (1993) who has mentioned the usability of less than 20 participants in small groups evaluation and between 20 and 30 participants for field test evaluation. A set of pre-test and post-test consists of 5 questions covering the selected topics (Mubtada Wal Khabar, Kana Wa Akhawatuha, Inna Wa Akhawatuha and Masadir Al Af‘aal Assulasiiyyah) was distributed among participants. The pre and post-test was blindly graded by the authors. The students wrote their ID numbers instead of their names. An answer key...
was used. Questions were graded one at a time for all the students. Marks were deducted for spelling mistakes. The full mark for each test is 10. Table 1 shows the result of these tests.

![Fig. 1: Mubtada and Khabar (المبتذأ والخبر).](image1)

![Fig. 2: Kana Wa Akhawatuha (كان وأخواتها).](image2)

![Fig. 3: Inna Wa Akhawatuha (إن وأخواتها).](image3)

![Fig. 4: Masadir Al Af’aal Assulasiyyah (مصادر الأفعال الثلاثية).](image4)

**Table 1: Pre and Post-Test Result.**

<table>
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<th>Student</th>
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</table>
Result from table 1 indicates that 12 (85.7%) from the participants obtained higher marks in post-test, while only 2 (14.3%) participants get same marks as in their pre-test. This result proposed the use of screen capture as a tool for enhancing students’ performance as they are found to be highly motivated and engaged in the learning process which in turn contributes positively to their learning attainment.

Discussion:

One key difficulty of the project was the persistency of the online databases. Part way through the project, after recording the video and audio parts of the tutorial, certain changes were made to one of the databases, which meant that the audio no longer matched what happened on the screen capture. It was therefore necessary to record again several sections of audio and then replace the original audio with the new sections.

A further challenge was in ensuring that the tutorial could be displayed fully on and off-campus. Not only did this involve detailed testing, but as both the video and the quiz require Flash Player 10 to view them, the latest version of this software had to be installed on all of the computers in the university’s labs and students’ laptops.

The complexity of online databases and sometimes limited coverage of full text collections means that online database searching, with its challenges of remote access and locating electronic resources, is an area of particular difficulty. The tutorial project was significantly more time-consuming than expected. Creating the captioning, and editing the final work were lengthy processes.

However the tutorial has also generated positive feedback from academic staff. For example, a course coordinator for Advanced Arabic Level thought that:

“This (tutorial) is brilliant, especially the video! I’m sure that students will find this really helpful to learn more about Arabic case system. I’m sure that many of our existing students will find this really helpful too”.

In addition, another Arabic lecturer said:

“We find that it is much easier and faster to teach Al-‘Iraab (Arabic case system) using screencasts with audio narration instead of typing lengthy written step-by-step descriptions”.

One of the Arabic Intermediate Level students stated in his feedback:

“My friends often remark in instant messages and in-person that the videos and images are “cool” and help them quickly to remember Al-‘Iraab (Arabic case system). Sometimes, they are not able to see Jing screencasts because they do not have up-to-date Adobe Flash software for their web browsers, however, this situation is easily remedied by a quick software update”.

Not everyone would rather view a screencast to receive library instruction over a face-to-face tutorial. This is supported in the literature. There always seem to be mixed reactions to using online instruction as the only option for receiving training (Ganster, L. A., & Walsh, T. R., 2008, p314-338 and Su, S.F., & Kuo, J., 2010, p320-328). This may change for future generations but at the moment, especially for an institution like Southern Cross and the student population we attract, offering training in a variety of modes will be a reality for some time to come.

Gathering comprehensive feedback has so far been a challenge. In order to ascertain qualitative feedback from students at the point of use, an anonymous forum was added to the webpage. To date this has not generated many comments, perhaps owing to students’ time constraints or reluctance to openly critique lecturers and/or resources. It will be interesting to continue to gather feedback and to monitor the tutorial’s usage over the coming year, which we hope to do in combination with the running of focus groups to elicit the students’ views directly and with an added evaluation of wider usage statistics. A redesign to our content management system will also enable us to make the tutorials page even more prominent and hopefully increase usage further.

Future Research:

There is a great deal of interest in the Arabic language practitioners and instructors for on-the-fly screencast. There is opportunity for further research with screen capture as a tool for instruction and reference as a whole. Using screen capture or other images in virtual reference needs to be examined just as closely as using screen capture and other multimedia tools in online and distance education. Questions that merit further research include:

- Does screen capture improve the quality of service to Arabic Language virtual reference users?
- Does the use of screen capture decrease total reference interaction times?
- Do students prefer audio-visual screencasts to written instructions?
- Do students understand Arabic lessons more efficiently after the use of screencasts as compared to written instructions?
- During virtual reference interactions, do Arabic instructors prefer using screen capture tools to create images or videos of a search strategy, rather than writing out the instructions?
Conclusion:

The need to work more effectively and efficiently in Arabic Language teaching has always been a goal for institutions, but in the current economic climate, this aim is becoming increasingly more important. A blended approach to deliver Arabic Language lessons, via a programme of face-to-face teaching combined with online elements, can prove a useful and effective way of reaching students, and of providing a ‘just-in-time’ form of support. Ideally, this online element should provide an engaging, varied learning environment with a mixture of audio, visual or multimedia content. Of course, no tutorial can replace the human contact, with or without multimedia. As a result the tutorial is best used when complementing face-to-face provision. Creating such content is itself a challenge, and when considering the changes in technologies and in the databases themselves, managing and future proofing content is also challenging.

As a result, each institution must assess whether the advantages of such a tool will outweigh the resource costs required to develop it and manage it in the long term. Ultimately the creation of the virtual tutorial worked well in this instance at Quranic Language Department (QLD), International Islamic University Malaysia leading to the enhancement of Arabic case system for non-Arabic students and reducing demand on staff during a peak period of the academic year.

Learning Arabic Language using online tutorials can bring the elements of excitement and stimulation to increase the desire and motivation in the students in learning the language. Further, with more and more opportunities to work with new and developing technologies as information professionals, we wanted to explore the potential for integrating these technologies with Arabic Language teaching process, and then to share our challenges and experiences with others in order to help them to address similar issues in their organisations.

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