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Online Course Content Auditing: Templates and Practices

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Abstract - *This paper introduces and discusses the Blackboard Content Audit tool developed by a CS school within an Australian university. Based upon the key sections of a unit's site in the Blackboard LMS, the tool establishes sets of basic, intermediate and advanced criteria and a rating scale upon which to assess the criteria. By specifying the basic criteria as a minimum standard, the consistency of unit sites can be improved. This helps to close the perceived quality gap between the schools online unit offerings, where in the past some staff had engaged more than others with the features of Blackboard. The audit process involves a semester based self-assessment by teaching staff for their units, followed by a review of the self-assessment by a member of the schools teaching and learning committee. This institutes an ongoing cycle of review, encouraging staff to continuously improve their online unit offerings. The auditing tool itself will also undergo regular review and refinement to ensure it remains relevant to the school's ongoing T & L needs. Such a tool could be adapted for any LCMS and institution in order to meet their specific needs and context.*

Keywords: e-learning, audit, quality assurance, review, LCMS

1 Introduction

E-learning is an accepted part of higher education and tertiary teaching. A large literature base exists covering pedagogy, teaching, content and synchronous versus asynchronous issues [1]. Where the literature on e-learning tends to fall short, for the moment at least, is in the area of auditing and quality assurance of online learning. The quality of e-learning and distance education in general has been a topic of note and concern in the literature [2-5]. This paper presents an auditing mechanism used by a university school of computer and security science in order to set and assess minimum standards for online content contained within the school's various units of study. The university in question uses Blackboard™ as its primary Learning Content Management System (LCMS), and in the school in question all units in all courses were available online. The school uses a blended approach to online learning, with both on-campus and off-campus (online) students using the same materials in the same Blackboard site.

Even though the school has been an institution leader in having a strong online curriculum for more than a decade, the varying quality of online unit offerings within the school has been an issue. Some lecturing staff fully engaged with the online medium and developed rich learning resources in their

units hosted in Blackboard, offering a variety of media, content and learning materials that were equally relevant to both the on-campus and online students. Other lecturing staff took a more minimalist approach, placing few resources online (beyond the basic lecture slides) and having learning tasks or assessments which were aimed more at the traditional classroom than the online student cohort, leading to issues of online students feeling marginalised. Feelings of isolation or marginalisation amongst online students have been raised in numerous pieces of literature [3, 6-9].

The university, through its central teaching and learning committee and governance structures, developed an auditing tool which was a word processed form of approximately 65 pieces of criteria covering the core items that were deemed necessary as part of good online teaching practice. This auditing tool was used centrally as a mechanism by which to report on online teaching quality across the university, with audits being conducted by governance staff rather than the staff teaching the units in question. The school decided that it would develop its own auditing mechanism, based on this centralised model, but using a more transparent and streamlined process. The decision to develop a different auditing document was driven by concern that the original document used rather vague and formal "teaching and learning language" and was also subjective as to how certain elements of "quality" could be interpreted. Etedali and Aharpour Feiznia [3] acknowledge the vague nature of quality as a concept:

Being too abstract to have any impact, quality cannot be described and fixed by merely defining it. It has to be defined and specified contextually and situationally considering the prospective stakeholders involved.

To this end a new audit document was designed, driven in large by the actual structure of Blackboard and the types and breadth of content the school would expect to be present in each part of the overall Blackboard unit offering. Dubbed the Blackboard Content Audit tool (BCA tool), the document primarily addresses topics of the content, design, structure, technology usage and communication faculties of a unit site in Blackboard – aspects noted as having potentially significant impacts upon e-learning quality and learner satisfaction [3, 4, 10, 11]. The focused nature of such a tool mirrors those of other "checklist-based" quality assurance mechanisms which have been proposed or adopted for e-learning [3, 11-13]. The following sections will examine the structure of the BCA tool, the logic behind the design decisions and the process by which it is conducted.

2 Audit Document Design

As stated, the main elements of the BCA tool are based upon the sections of a unit's site in Blackboard. This approach was adopted so as to avoid the ambiguity of other audit mechanisms – staff can clearly map the elements of the BCA to the sections of a unit's site in Blackboard. Blackboard, like all modern LCMSs, offers a wide range of features and tools, not all of which were considered “must haves” in the design of the BCA tool. The sections of the BCA tool are:

- Announcements
- Unit Overview
- Unit Schedule
- Staff Information
- Assessments
- Readings
- Communication
- Links
- Tools

A rating key was devised to describe the level of development in terms of usage and content of the items above. Figure 1 shows the five levels within the key, starting at zero (not implemented) through to four (excellent).

Rating	Description	Notes
0	Not Implemented	Ratings of 0 for Basic criteria require urgent attention
1	Rudimentary	Ratings of 1 for Basic criteria require attention before next run of unit
2	Average	Ratings of 2 for Basic criteria indicate unit is at an acceptable level
3	Very Good	Ratings of 3 for Basic criteria indicate the unit is very well developed
4	Excellent	Ratings of 4 represent exemplary examples of Blackboard site content

Figure 1: Rating key for the BCA tool

As Figure 1 illustrates, the key was designed to not only rate how developed each section of the Blackboard content was but also to indicate any actions required as a result. For some sections of a Blackboard unit site, the unit content, materials or communication may have been very good, requiring little further effort on behalf of the staff, whilst others may need urgent attention to bring the content up to an acceptable level. Each section of the BCA tool is broken into Basic, Intermediate and Advanced sets of criteria, with staff indicating their perceived rating in these areas based on the criteria. Notes were also specified where necessary, typically to outline “best practice” in terms of utilising that function of Blackboard. An Issues area is included in each section, allowing staff to raise any specific issues that may have

affected their use of the given functionality in Blackboard for the teaching semester in question. Figure 2 shows the audit criteria for the Announcements section of the BCA tool.

Announcements		
	Criteria	Rating
Basic (Min. Standard)	<ul style="list-style-type: none"> Welcome/introductory announcement at the start of semester Announcements detailing any significant changes to unit content, schedule, assessments, due dates or staffing 	
Intermediate	<ul style="list-style-type: none"> Mid-semester summary/recap announcement Announcement regarding availability of unit evaluation surveys End of semester farewell/debriefing announcement 	
Advanced		
Issues	List any issues that have impacted on this section of the unit site.	
Notes	<ul style="list-style-type: none"> Important announcements should be emailed to all students by ticking the appropriate box Minor announcements can be posted in a discussion board to ensure sustained visibility, as the default view of announcements only shows those from the past week. If this is done, consider making an announcement to announce the presence of the discussion board post 	

Figure 2: Announcements section of the BCA tool

As Figure 2 depicts, the Announcements section of a unit's Blackboard site is expected to have a “welcome/introductory announcement at the start of semester” and “announcements detailing any significant changes to unit content, schedule, assessments, due dates or staffing” to achieve the Basic criteria. . An Intermediate implementation requires three additional pieces of criteria, and the Notes section provides a brief discourse on suggested methods of using the Announcements feature. The criteria for each implementation level of each section of the BCA and the accompanying notes were developed by a small group of lecturing staff who are recognised as having a strong commitment to online teaching and whose Blackboard sites have been rated highly by students in end-of-semester unit evaluation surveys.

Obviously this paper does not allow room for the discussion of every section of the BCA tool, however the Unit Schedule section will be discussed due to its critical nature – it represents the section of a Blackboard site which contains a bulk of a unit's teaching and learning materials. Figure 3 shows the BCA tool's audit criteria for the Unit Schedule section.

Unit Schedule		
	Criteria	Rating
Basic (Min. Standard)	<ul style="list-style-type: none"> Folder for each week/module/topic of unit content, containing a minimum of lecture slides and workshop/tutorial/reading files (or equivalent) Initial folder must include information introducing the unit, its assessments and expectations, academic misconduct and the OHS induction All materials must use current university style templates for presentation Materials should not refer to prior school or teaching staff names If the unit has an exam, final folder must contain either an example exam or appropriate exam discussion (such as structure, length and question formats) Any materials which are linked to must still be available (no broken links) Audio recordings/summaries of all lecture materials 	
Intermediate	<ul style="list-style-type: none"> Each folder should contain any other relevant materials or information, such as workshop solutions, links to further resources, quizzes, readings, etc. Include a "last updated" date for each folder Use consistent ordering and presentation of all materials in each folder Materials should be available in PowerPoint and PDF format (for accessibility) 	
Advanced	<ul style="list-style-type: none"> Materials make appropriate use of multimedia and Web resources to further student learning and experience, including audio/video recordings of lectures Implement Statistics Tracking on core materials to monitor student usage Implement additional student feedback mechanisms, e.g. self-assessment surveys for assignments and a mid-semester unit review survey 	
Issues	List any issues that have impacted on this section of the unit site.	
Notes	<ul style="list-style-type: none"> University style templates available here Accessible teaching materials available here Links and readings relevant to a single folder should be included in that folder, rather than in the links or readings areas of Blackboard 	

Figure 3: Unit Schedule section of the BCA tool

There are quite a few expectations of staff in the Unit Schedule section of the BCA tool, with many pieces of criteria specifying elements of design, layout, content and grouping of learning materials. Given the relatively open and flexible nature of the way in which items can be added and presented within Blackboard, situations can arise where the content of the Unit Schedule of a unit's Blackboard site is internally consistent within that site, but lacks external consistency with the sites of other units or staff members. As well as appearing less professional to students, this can lead to confusion and concern as students can have issues finding resources, following a learning program or discerning lecture related materials from lab/workshop materials. Reju [14] and M'Hammed [11] both discuss the importance of adhering to standards for the structure and delivery of content to ensure consistency within an institution.

By adhering to the Basic criteria of the Unit Schedule section of the BCA, a degree of consistency is assured between all unit sites within the school. The criteria is not overly specific when it comes to the exact content required, allowing staff to present content as appropriate for the unit while maintaining external consistency. The Basic, Intermediate and Advanced levels of implementation and additional Notes encourage staff to grow and develop their unit offerings. In this sense, the structure of the BCA tool reflects that of the educational quality standards discussed in Etadali and Aharpour Feiznia [3] and Ehlers and Pawlowski [15] – standards establish only a basic framework in order to prevent the restriction of flexibility or creativity

The BCA tool was not developed as a fine grain tool for the analysis of teaching and content quality – a somewhat subjective concept which no generic tool can adequately assess. It was designed to set minimum standards for the usage of the key sections of the Blackboard LCMS within the school, and to encourage the continual improvement of e-

learning in the school. The tool seeks to help close the perceived "quality gap" between unit sites in Blackboard, which manifests itself via inconsistencies in the content depth, variety, logical presentation, communication and feedback provided in these sites. The audit mechanism was designed to capture the presence, presentation and usage of these items across the core areas of Blackboard, not to judge to quality of the content within.

3 Audit Process

The process for disseminating and assessing the BCA tool is based around the two semesters taught in the university each year. Staff are required to self-audit each of the units they are teaching in a given semester, preferably towards the end of the semester (which typically runs 12-13 teaching weeks). For the self-audit, staff complete the BCA tool by indicating the rating level they perceive their unit to have achieved in each section. The Issues field can be completed to raise any issues relating to that section of the BCA tool. Staff also indicate their name, the year and semester, and the number of semesters they have taught the unit at the beginning of the BCA tool. This last item can be very important, in that the current state of a unit and the actions required as a result can vary depending upon whether the staff member is new to the unit and its content.

The final section of the BCA tool asks staff to rate the unit's materials and assessments against those specified in the unit's outline – the official public document that defines the unit's content, assessment structure, textbook, and so on. Ensuring that unit offerings comply with what is specified in the outline is an important issue, and the BCA tool is used to assist in ensuring compliance. Once staff have completed their self-audit, they upload the completed document as a hidden file in the unit's Blackboard site (see Figure 4).

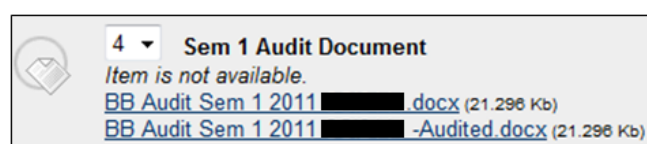


Figure 4: Audit document as a hidden file

Members of the school's teaching and learning committee then commence a review of each audit document and the unit to which it is attached, adding any notes or required actions to a section at the bottom of the document (see Figure 5). The reviewed audit document is then added alongside the original audit document, allowing staff to view the comments of the committee against their self-audit.

Review Date	
Reviewer Name	
Notes / Issues	
Actions Required	

Figure 5: Audit signoff by T & L Committee member

As each unit's content is "rolled over" to the following semester, so too are the audit documents - allowing for an audit and review history to follow each unit on an ongoing basis. The goal of this approach is to have a documented record of audits and the recommended actions from audit reviews, followed by some improvement in the unit's site before the next cycle of audit and review. This correlates well with the process-oriented lifecycle model presented by M'Hammed [11], in which "QA is dynamically and iteratively intertwined with the e-learning development process."

4 Future Work

The BCA tool is coming towards the conclusion of its first full year of use. At that time the tool will be re-examined to identify weaknesses in design and usage and also where the tool has succeeded in identifying issues in Blackboard unit offerings. As the university in question has seen a change of version from Blackboard 8 to Blackboard 9 some tweaks will need to be made to the associations between the functional elements of Blackboard and the sections in the audit tool. The process for audit and review will also need to be examined, due in large to the number of reviews required for staff on the school's teaching and learning committee. A small committee of individuals cannot hope to review all audits each and every semester, and to a certain degree those conducting the audit reviews need to be "Blackboard experts" or "e-learning technologists" [16] in order to offer detailed reviews and suggestions for improvement. At the time of writing, a process of random selection was being used in order to conduct audit reviews, along with some targeted auditing of units which had been rated poorly by students in the prior semester's unit evaluation survey.

By continually re-evaluating and refining the tool, the authors hope to ensure it remains highly relevant and focused upon the improvement of Blackboard unit sites and the school's high standards. The ongoing cyclic process of self-auditing, review and improvement should help to address the issues regarding the perceived quality gap between various Blackboard unit sites in the school [11].

5 Conclusion

This paper briefly outlines one possible approach for the auditing of online content contained in the Blackboard LCMS. The key concept of this paper, and of the auditing tool itself, is that by aligning the structure of the auditing tool to the structure of Blackboard (or any target LCMS) itself,

ambiguity and potential misinterpretation of "minimum standards" can be significantly reduced. In this case the auditing tool both provides a guide as to how staff should be utilising each feature of Blackboard, whilst allowing for self-audit and external review within a single instrument which then follows the target unit forward in time.

Whilst this instrument was designed to meet the needs of a single computing school using the Blackboard LCMS, it could easily be adapted to any other learning management system, such as Moodle™ or Sakai™.

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