The Use of Templates to Manage On-line Discussion Forums

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Abstract: In higher education, online discussions are an integral part of collaborative based e-Learning systems. However, there can be problems associated with current online discussion models. For example, it can be easy to set open-ended discussions which attract little participation and assessing contributions can be difficult or time-consuming. Students may not achieve the expected learning outcomes without proper structure and management in online discussions. This paper proposes a web-based environment for online discussions where the facilitator can structure each discussion according to its nature and learning requirements using already designed templates. Features include setting mandatory sections to address, assessment weighting, release dates and archiving options. Students can prepare and post their messages and responses using the discussion forum interface. The facilitator may assess students' messages, mark them and release them to other responders for review. The discussion can be automatically archived for further discussion or reference. Students should find the proposed structured online discussion model easier to follow, while the facilitator will have more control over the activity and find it easier to assess and re-use. Templates can help in structuring this process.

Keywords: Collaboration, Discussion Forum, CMC, Asynchronous Communication, e-Learning, Higher Education, Templates, Collaborative Learning

1. Introduction

e-Learning is rapidly becoming mainstream in higher education. Computer-mediated communication is a key element of e-Learning systems and strategies. Online discussions are one of the most important applications of computer-mediated communication in e-Learning environments (Kearsley 2000). They provide an asynchronous collaborative learning environment where interaction takes place between group members (Dillenbourg 1999) and have been included in almost all courses or learning management systems.

Online discussions offer a number of potential benefits that can help engage students in activities that contribute to their intellectual growth (MacKnight 2000). For example, composing a response in online discussions often requires greater reflection than in face-to-face discussions (Harasim 1995). Other benefits include promotion of team building, promotion of critical thinking (Muilenburg & Berge 2002) and support for collaborative work (Salter 2000).

The facilitator may actively control the discussion through means such as selectively releasing responses, limiting who can view them or by active participation in the forum. On the other hand, the facilitator may take a more hands off approach and leave the students to themselves after posting a question or task. Unfortunately, simply asking students to respond to an instructor's given topic or question is not likely to generate an effective collaborative learning environment. It may help students to interact with information but not with the instructor or other students.

This paper will examine some of the problems associated with current discussion models and then propose a model that aims to encourage greater collaboration and makes it easier to structure, manage and assess online discussion activities.

2. Limitations in existing online forum models

There are only a few models for online discussions with limited variation. The discussion area provides a platform where participants can share ideas by posting a message to initiate a discussion or to respond to already posted questions or messages of ongoing discussion. One variation is whether the messages can be viewed in a linear or threaded fashion.

In a learning environment, the facilitator that moderates the process may be a tutor, instructor or teacher. The facilitator explains the purpose and sets up the protocols such as discussion cycle, duration and assessment weight. The facilitator often starts the discussion by posting a question. Students answer the question in the form of a discussion posting and may be required to comment on other responders posting as well (Rossman 1999, Laurillard 2002).

The following problems can be associated with such model(s).

2.1 Open-ended discussion topics

Open-ended discussions may result in non-productive learning activity. Students are likely to lose interest where there is an overload of information that doesn't have direct application or use (Harasim 1995).

If there is assessment associated with the discussion question students may be tempted to copy text from different sources to perform the activity rather than engage with the question. This does not help students to enhance their analytical and critical thinking. At the same time long unstructured responses can result in a greater information burden for other responders.

2.2 Low participation or problem of "lurking"

Lurking is another big problem that is often a lack of participation by students particularly where it is a new communication medium (Harasim 1995). Another common observation is that active students take an interest in discussion based learning whereas passive students tend to find it less attractive. This may be because it is a text-based, self-initiated learning environment.

Research proposes a number of strategies to hold students interest and to enhance their critical thinking (Muilenburg & Berge 2002) but current technologies and models do not necessarily support them. Students become confused or lose their interest when a discussion is ill-structured or there is no process designed to enhance their critical thinking (MacKnight 2000).

Low participation in discussion forums may also be linked with students' own learning styles. Some students strongly believe in individual learning. In that case, the existing discussion forum model, based on a collaborative approach, may not be appropriate. (Sae-Chin & Resta 2003).

2.3 Ill-described discussions

Students find it hard to initiate their response to them where the task is not well described. In contrast, it has been observed that students find those learning activities more interesting where the task is specifically well defined and easier to follow (Muilenburg & Berge 2002). Similarly, the job of assessing the student responses is more time consuming and subjective when the task is not well defined (Burford & Cooper 2003).

2.4 Discussion management

Current discussion models do not include many management features that can assist in an educational setting. Features useful in educational settings include access control, discussion availability duration, assessment weight, and archive options.

For example, a facilitator may want to release discussion responses only after he or she has added feedback and the last student has responded. After this the activity may continue where the students are required to compare their responses. This can be a difficult process with current available software and tools. Typically there are no start or stop controls available and the facilitator does this by informing the students or closing the discussion topic manually. The H20 project (H2OProject 2003) allows facilitators to set some deadlines for submission of posting but it does not have the other features discussed in this paper. It is freely available at http://h2o.law.harvard.edu.

2.5 Discussion assessment

A continuing research problem is how to assess discussion contributions (Mochizuki et al 2003). Assessment was not included in most of earlier discussion models. Typically, they have been used to share ideas and helping out each other. Many were not formally linked to learning activities, outcomes and finally to assessment. However, messages in discussion forums can be useful for assessing collaborative learning (Mochizuki et at 2003).

Assessing a contributor is very hard and time consuming (Laurillard 2002) as there are few techniques available. A common one is to count the number of postings (Salter 2000). This strictly quantitative approach does not necessarily correlate with learning or effort. Indeed, it may encourage students to simply post frequent and/or large messages but without making a serious attempt.

In fully online courses, the volume of posting may be huge to read and assess. In this case assessment may be done by the contributors themselves or by peers. The 'Peer and Self Assessment System (PSAS), suggests ways in which this might be done (Resta 2003) see http://dl.aace.org/14156. However, this kind of system may have some problems such as it

can be biased, time consuming and difficult to integrate into the main assessment system. Peer grading can provide strong motivation to do quality work, but students are often uncomfortable grading one another (Salter, 2000). A simple rating system (eg. excellent, good, fair, poor) can be used or students may be required to make only positive critiques (leaving the negative comments to the instructor).

Another assessment technique is text mining (Fujitani & et al 2003). However this example is used for self assessment and only to see over-all discussion patterns but it is not linked to actual student assessment. Other assessment methods are provided in Salter (2000). However, whichever technique is chosen, greater management by the discussion model can make marking easier, particularly given the volume of responses generated by most discussions.

3. Template based discussion system

The structure of online discussions is an important aspect involved with encouraging collaborative learning. It requires planning and management (Mason 1998, Laurillard 2002). To assist in this the following web-based online discussion model (Figure 1) is proposed.

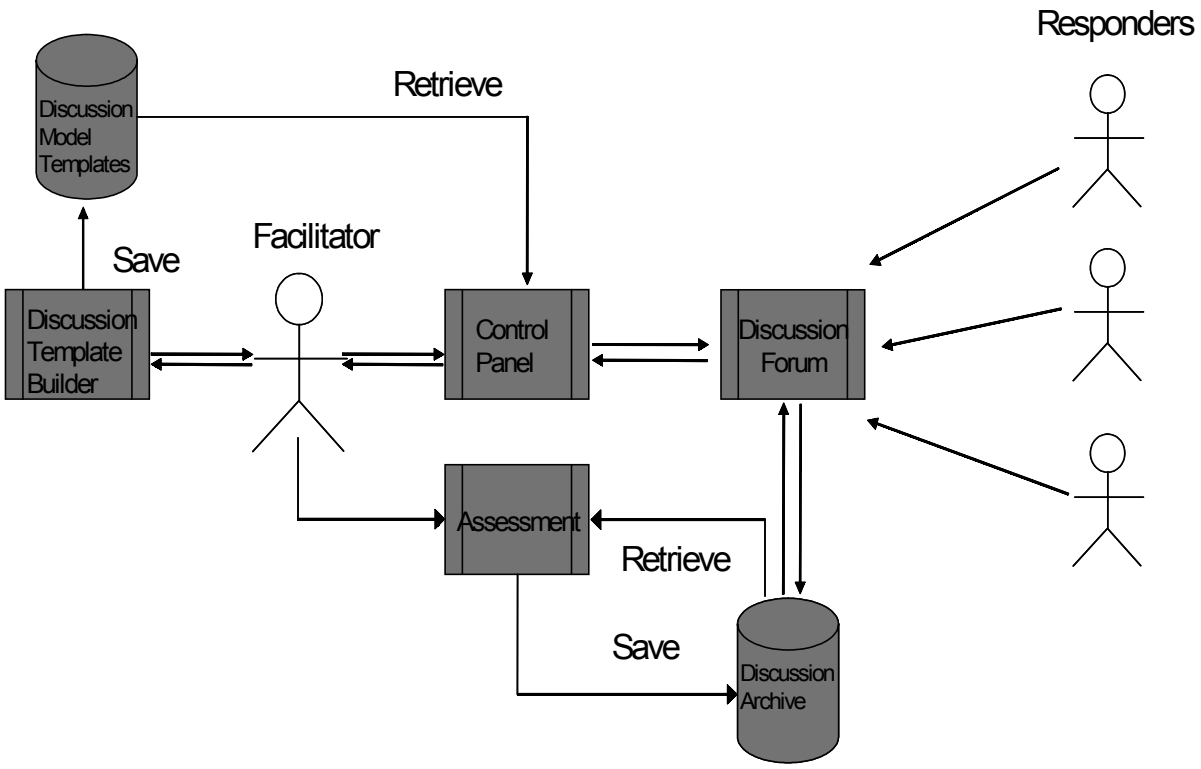

Figure 1: Proposed online discussion model

3.1 System: Actors & components

1. Facilitator: the instructor or moderator who controls the online discussion as controller.
2. Responders: students who responds to facilitator's question/task or other students' postings.
3. Discussion Template: discussion questions and stored settings from the control panel.
4. Control Panel: allows the facilitator to configure each discussion.
5. Discussion Forum: a password protected web interface where responders post their messages. On submission each message is automatically saved.
6. Assessment: allows the facilitator to access different responses and mark them.

3.2 Process

Figure 2: Application homepage

A facilitator starts the activity by either creating or choosing an online discussion template stored in the Discussion Model Templates database.

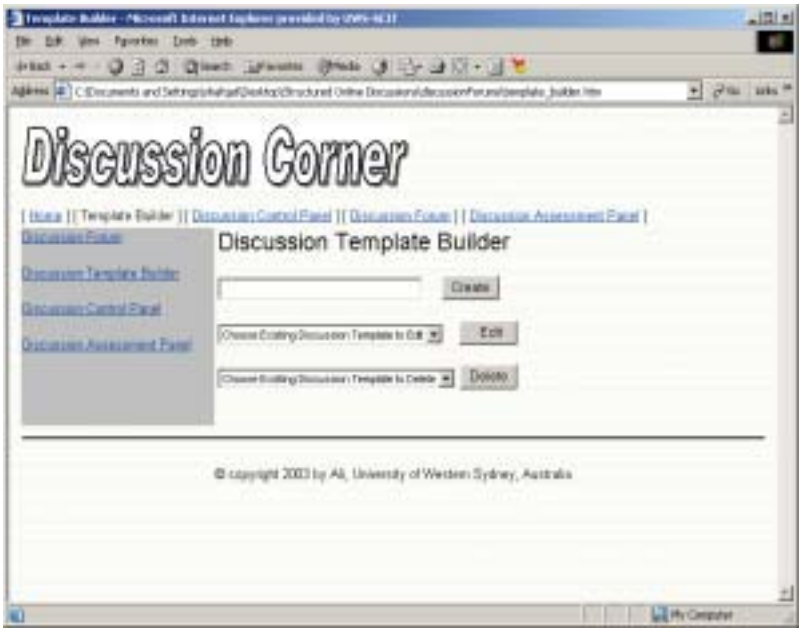

Figure 3: Discussion template builder

The Discussion Template Building environment allows the facilitator to specify the elements required for a particular online discussion and then save it as an online discussion template.

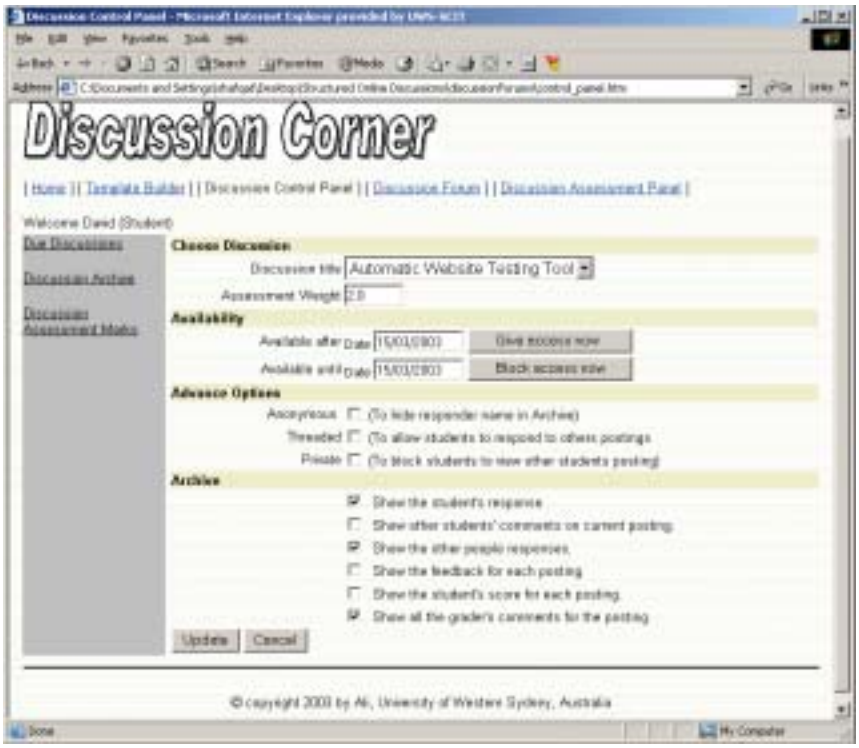

Figure 4: Discussion control panel

The control panel component allows the facilitator to set parameters for the discussion such as release and finish time, anonymity, assessment weight, public/private, attachment options, archive options and whether the discussion is threaded or unthreaded.

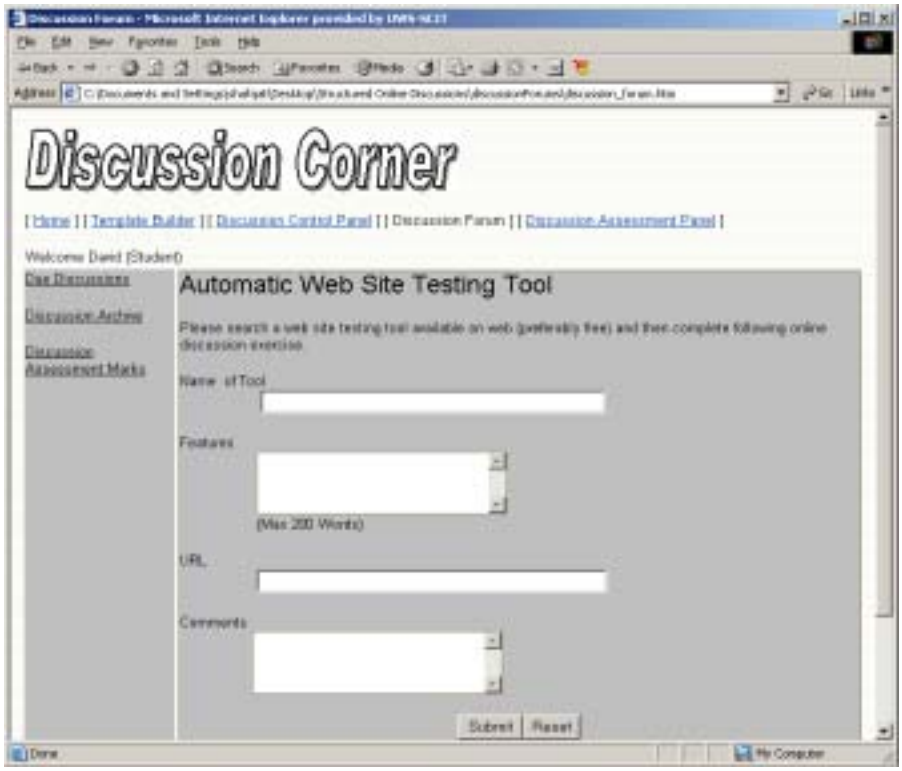

Figure 5: Discussion forum for students

Responses in the forum follow the structure set by the facilitator.

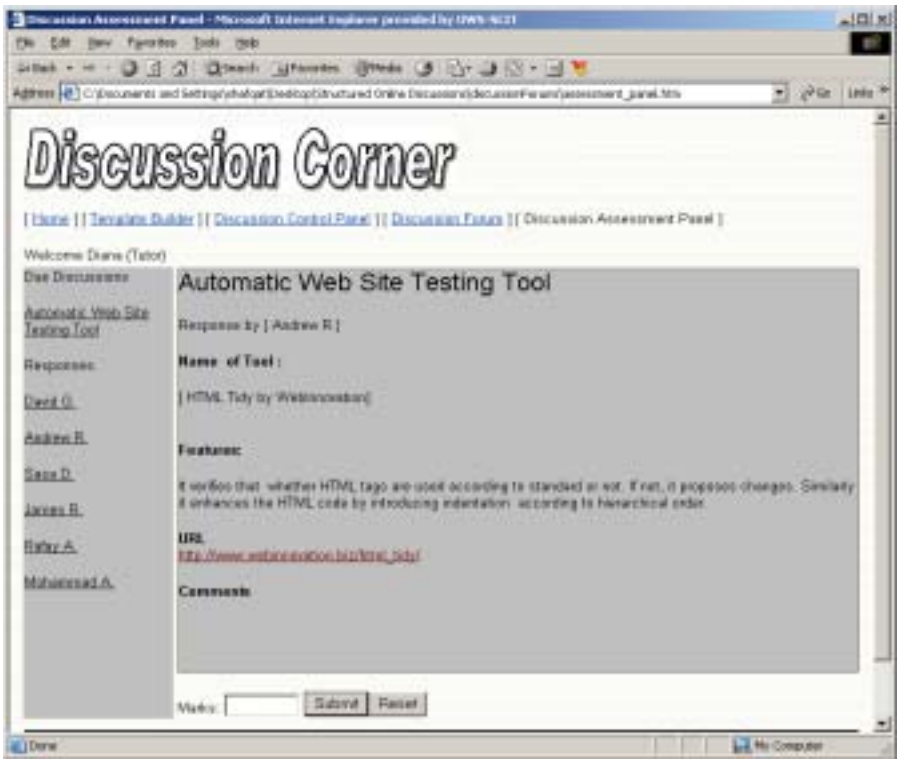

Figure 6: Discussion assessment panel

If there is an assessment weighting associated with that particular discussion activity the facilitator is able to grade the response.

If requested the discussion will automatically be saved in the Discussion Archive.
For example, suppose a lecturer wants the students to explore some free web resources available for automatic website testing. The work needs to meet a deadline and will be marked. The postings should be available to other students to avoid repetition of the same testing tools. Finally, the work will be reused in another activity where students will rate and categorise the web site testing tools listed.

Using existing discussion models, the lecturer would have to put in considerable effort moderating the discussion to check the deadline, manually marking the students' postings and creating a usable discussion archive at the end.

Using the proposed system (Discussion Corner) a template is created:

Web Site Testing Tool
- Name: (mandatory)
- URL : (mandatory)
- Features: [maximum 250 words] (mandatory)
- Comments

After that, other options are set using the Control Panel:
- Archive: Yes (the work will be re-used)
- Selective Release to: None (discussion is for whole class)
- Available Date: 30-11-03 12:00 (when student can see it)
- Due Date: 07-12-03 00:00 (student submission date)
- Release Date: 07-12-03 (student only can see others' posting after release date, as the lecturer does not want students to see others postings before this.)
- Anonymous: No (Students posting will be personalised)
- Comments: Allowed (After release date students can annotate comments to others postings)
- Threaded: No (Students can not respond to students postings, as this is not on-going threaded discussion)

4. Expected benefits

The proposed system should provide the following benefits -

4.1 Structured discussion objectives

In online discussions, the nature and structure of discussion questions is very important

(Muilenburg & Berge 2002). The proposed model will help enforce this by providing a template-building environment for the facilitator. Rather than settle for questions that concentrate on recall (eg. give a definition of X?), more creative examples can be built into the templates. These might include -

- Rating alternative information sources
- Evaluating a list of alternatives based on multiple criteria.
- Electronic Brainstorming for a specific question or issue. (Salter, 2002)
- Group outlining to generate or group ideas into a familiar hierarchical structure. (GroupSystems.com, 2002)
- Providing an annotated bibliography
- Voting and survey questions

In particular, this will assist those teachers who are new to online discussions to set meaningful discussion questions that encourage evaluation and/or deep learning.

4.2 Students' interest and reusability of their work

Specific and well-structured discussions questions are more likely to hold students' interest especially when there is some assessment weighting attached to it. Student work is not necessarily discarded when the semester is over. With permission, this work can be analysed or built upon by students in future semesters. By supplying samples of good quality previous work the authors have noted anecdotally that the standard for subsequent semesters continues to increase. In other cases, students have analysed the previous work in a new manner. For example, student ratings on an issue from a previous discussion can be collated and graphed.

4.3 Well managed discussions

Discussion management is a challenging aspect of online discussions, especially in an educational environment (Burford & Cooper, 2003). It is also a very time consuming job (Laurillard, 2002). For example, without a set ending date, discussions can be viewed as 'never-ending' and the purpose can be lost. Having set opening and closing times for a discussion helps avoid information overload and keeps students focused on the task (Salter, 2000). The proposed system allows the facilitator to have much more control over the management of the discussion.

4.4 Assessment

Assessment in discussion forums is gaining importance (Mochizuki, 2003). In educational environments, assessment is linked to learning outcomes which in turn are linked to learning activities (Burford & Cooper, 2003). The proposed system assists teachers if they want to include assessment weightings and provides a facility for marking. Rather than simply using a quantitative system for marking (eg. number of posts) a more qualitative approach can be taken. For example, students may have to submit a draft version for others to critique before producing a final version (Salter, 2000). Using the system both the final version and the critiques could easily be marked.

5. Future research

This paper focuses on a work in progress. The real test will come when the proposed model is applied in a higher education environment. Using an action research model, the following questions will be answered -

- Do students find the forum easier to use and follow? Does it support and enhance their level of collaboration? Does it improve the quality of their work?
- Do staff prefer the forum to create and manage online discussions? Does it minimize their effort in managing online discussions?
- Is reusability of discussion templates good idea in practical sense? Will it save time and effort?
- What is the best framework to reuse the outcomes of students' postings?

6. Conclusion

There are some problems associated with the current models of online discussions in higher education. Discussions can end up as an open-ended, non-productive learning activity, there may be a lack of students' participation, discussions may not be well structured or easy to initiate and assess by staff. The proposed system has been designed to help overcome these problems. This may lead to better outcomes for both students and staff. These expectations are going to be tested through action research where the proposed system will be tested by faculty and students.

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