Online Forum for E-learning

Image copyright Fiona Chatteur

Summary	*This pattern outlines the logical design structure and teaching practices involved in the creation of an online forum for a class of 5-30 participants.*	
Primary Author	*Anonymous*	**Contributors** *Fiona Chatteur*

Problem

Students need to communicate with each other about the course (subject). How does one design a forum to facilitate and encourage collaborative learning?

Forces

- Isolation from colleagues in an online environment,
- Lack of coaching, modeling, scaffolding from tutor,
- Need for socialization,
- Need to stay "on topic",
- A place for reflective practice,
- Ability for private versus public communication,
- Time constraints (time wasting) for both student and tutor,
- Usability frustrations.

Context

Many online forums for students currently exist. Due to their design, or the way they are used, many forums do not enhance student learning, and worse, may waste time and hamper students' efforts to collaborate and learn. An online environment for a student forum can be designed so that it meets certain baseline requirements, and therefore
a) does not frustrate students and
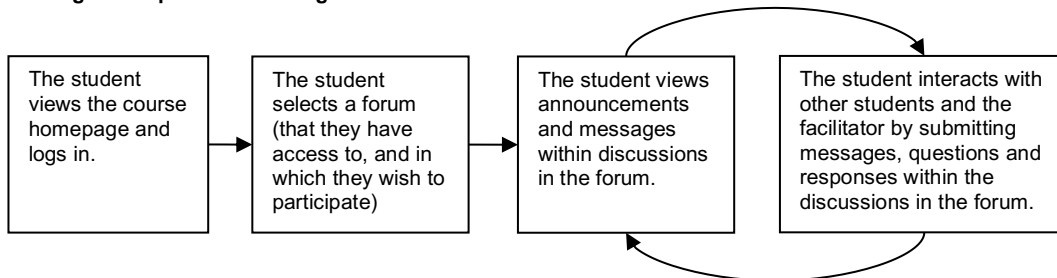b) potentially enhances the learning experience.

This document describes a "baseline" design of the *logical structure* of an online forum. It is intended to be used by Web designers as a "best practice" forum structure, to ensure that all *logical elements and structures* are included. It does not specify any actual content, page layout, look and feel. The document does however suggest ways that the forum should be used by course facilitators once the forum has been built and is in production.

For this forum design, it is assumed that the number of individuals (students) and posts (messages) will be able to be moderated (handled) by one facilitator (tutor), as is usually the case in face-to-face classes. This forum design is therefore intended for typical class sizes of 5-30 students. If there are fewer than 5 participants, we assume that the interactions would not be sufficient to warrant an online "forum". If there are more than 30 students, there is the risk that too many threads and too many messages will cause "information overload". Information overload would result in poorer learning outcomes, with students likely complaining that there were simply too many messages to read and keep up with.

The forum design also assumes that the class is not online at the same time, in other words, the discussion is normally asynchronous. The class does not necessarily need to meet in person; the course could be fully online.

Solution

The high level process of using the "baseline" online forum

| The student views the course homepage and logs in. | → | The student selects a forum (that they have access to, and in which they wish to participate) | → | The student views announcements and messages within discussions in the forum. | → | The student interacts with other students and the facilitator by submitting messages, questions and responses within the discussions in the forum. |

The solution should have all basic "housekeeping" elements so that the students are

not hampered. These elements can be considered as "hygiene-factors" for a basic, functioning forum.

What should the student be able to see and where is the content?

Students should be able to see two types of content:
- Announcements (posted by the facilitator and/or system administrator)
- Messages (posted by both the facilitator and students)

Announcements are not part of the forum itself and are not discussed further, however are an important method of communicating urgent information to students, particularly if the site is down for maintenance.

Messages contain the bulk of the content and are the source of interaction between students. Messages may contain:
- Questions
- Answers
- Information
- Pointers to other information sources
- Rich media elements

In order help students understand what kind of messages should be posted where, a sensible information structure should be designed by the *course facilitator*. The forum designer should therefore enable the content to be organised so students can see:

- Multiple forums (eg different courses the student is enrolled in)
- Multiple topics/discussions within a forum (eg Assessment, Social, Technical)
- Multiple threads within one topic/discussion (eg Assignment 1, Week 3 Meeting)
- Multiple messages within one thread (eg Extension for Assignment 1)

Who can see which pages in the site?

The overall site should be designed so that there are two "modes": the first is "public" ie not logged in and the second is "private" ie logged in. The first set of pages is available to anyone browsing the internet, and the second set of pages is only available once the student has logged in.

What are the interface/navigation elements that should be placed on every page?

Every page in the public section should have the following logical page elements:
- Log in field (or button)
- Menu Navigation
- Online Status Display
- Search field (and/or button)

Every page in the private section should have the following logical page elements:
- Log out button (or link)
- Menu Navigation
- Online Status Display
- Search field (and/or button)
- Bread crumb links
- Help link

Which pages are public?

Pages that should exist in the logical site structure are:

The **home page**, which is the first page a user comes to when they access a site. It is the starting point of a user's journey through a site. It may contain branding identification, login and navigation items.

A **forum registration** page, that allows a student to register in the database as a user of the forum. It records a login name and a private password so that other users of the forum can identify a user when they post messages The registration process grants the user access to areas not available to non-registered users.

FAQ page: This page contains frequently asked questions, such as how to register for a forum and who may register. It is similar to a help page, however it is much shorter as it is for a general audience; in this case, it is not specific help on the application or tool.

Which pages are private?

Student home page: This is the first page a student comes to after they have logged in. This should contain the list of forums that are available to the student. One student may be enrolled in several subjects and therefore have access to multiple forums.

A student profile page: This allows students to reveal personal details about themselves if they wish. It contains fields where students can fill in information. It may contain information on location, interests, subjects studied etc.

Forum page: Students can see general announcements and a list of topics for discussion. The interface design should clearly denote any activity since the student last logged in (eg by using bold). Ideally a timestamp should be included with the time of the last activity. Under each discussion topic, it would be useful (space permitting) to show the most recent threads that have been updated. The forum page may also contain rich media elements.

Discussion/topic page: For each major discussion topic, there should be a separate page. For example, a separate topic or discussion page would be set up by the facilitator for "Social" discussions so they are separated from course content. The purpose of the

segmentation is to organise the material (ie messages) so that students can focus on the topic they are currently interested in. Each topic/discussion page will display the titles, and links to, the most recently updated threads. (eg 3-5 most recently updated threads). Some examples of discussions/topics that would be set up by the forum facilitator are:

- "Technical, Administrative and General discussion"
- "Social discussion" or "Chat" or "Off-topic"
- "Assessment" or "Assignments"
- "Part 1: Units 1-6" or "The Social Impact of the Internet"

Threaded message pages. These pages allow discussion messages to be organized in "threads" where related messages are displayed beneath the original message. These replies are usually indented. In this way users are able to follow an online conversation between participants. The thread title is similar to a subject line in an email, as entered by a student or the facilitator. Some examples of thread titles are:

- "Assignment 1 guidelines"
- "Location for the meeting on Friday"
- "Help with finding a message that I posted last week"
- "Reflecting on the discussion from Week 1"
- "Extension of the deadline for Assignment 4"
- "Questions about content in Chapter 7"
- "Additional material for advanced students"
- "Feedback on this forum"

The thread/message title contains a link to the associated message content. The discussion area will contain a number of thread/message titles. Each message should have a time stamp display, which shows the time and date that a message has been posted. This allows users to see how recent the messages are. Time stamp displays allow users to identify current and hot topics that are currently being discussed.

New Message Page: This page allows the user to create a new message. It contains fields for the message's title and message body. It may contain a field for a message subtitle.

Help pages. These pages contain a set of instructions as to how to use the site. These instructions may be for the entire forum or may be context sensitive, for the particular area that the user is in.

Other pages

Forum administration pages that allow administrators of the forum to change the forum settings. These are not specified in detail in this document.

How many pages would be expected at each level?

The recommended volume of items at each level of the hierarchy is in the table below. You will need to discuss the details of this with your client. This is important for you as the forum designer to consider; if there are hundreds of links on a page, navigation elements such as "Next" and "Previous" will be required. It is also recommended to give the student the ability to choose how much is displayed on one screen (eg 10 messages? 50 messages? 100 messages? All messages?)

In the table below, "Av" denotes an approximate average number of items that would be expected at this level in the hierarchy. It is not intended to be a mathematical average, but rather a number of items that one would usually expect for a functioning forum.

	Min	Max	Av	Comment
Forums	0	10	3	The minimum number of forums has intentionally been set at zero. Even if the student is not currently enrolled in any subject, for example if they are "in-between" semesters, there is no reason to refuse access to the forum overview page. They will however see no links to any forums. The maximum of 10 is suggested, as any student is unlikely to be enrolled in more than 10 subjects simultaneously. It would, however, be quite common to be enrolled in two or three subjects at the same time.
Discussions / Topics	3	10	7	There should be a minimum of three topics in each forum, one for course content, one for technical assistance and one for social or general discussion. The labels (ie headings) for these discussions are not specified, however they should be sufficiently clear that they cover these general student needs. They should be clear enough that questions about the system, or about social events, are not posted within the discussion on course content. A fourth discussion that would be common is for "Assessment", however it is not assumed that the subject will include any assessment. The recommended number of topics is seven, taking in to account: • that there may be several topics for discussion within the one subject, and • the assumed short term memory of humans can cope with approximately seven items or categories.
Threads	1	1000	n/a	There should be at least one posting to clarify the purpose of the topic/discussion. There is no suggested limit to the number of threads in any discussion. Arguably, once the number of threads reaches an upper limit of 1000, a new

				topic/discussion should be started by the facilitator.
Messages	1	1000	50	If any thread is started, it will, by definition, contain one message. The recommended average of 50 is purely a suggestion to the facilitator that a new thread could be started; the designer of the system should not assume any hard limit for the number of messages. A system-generated limit or database limit of 1000 messages would be reasonable, however the page flow for this is not described in this document.

The diagram below shows the result of the process of designing the pattern template using the *"pattern pack"*. It is included to demonstrate the outcome of the pattern-design process rather than for the specification. Please note that any text in this document supersedes the diagram below.

- Left and above the line indicates public pages
- Left and below the line indicates private pages
- Right hand upper corner shows elements that should be on all public pages
- Right hand lower corner shows elements that should be on all private pages
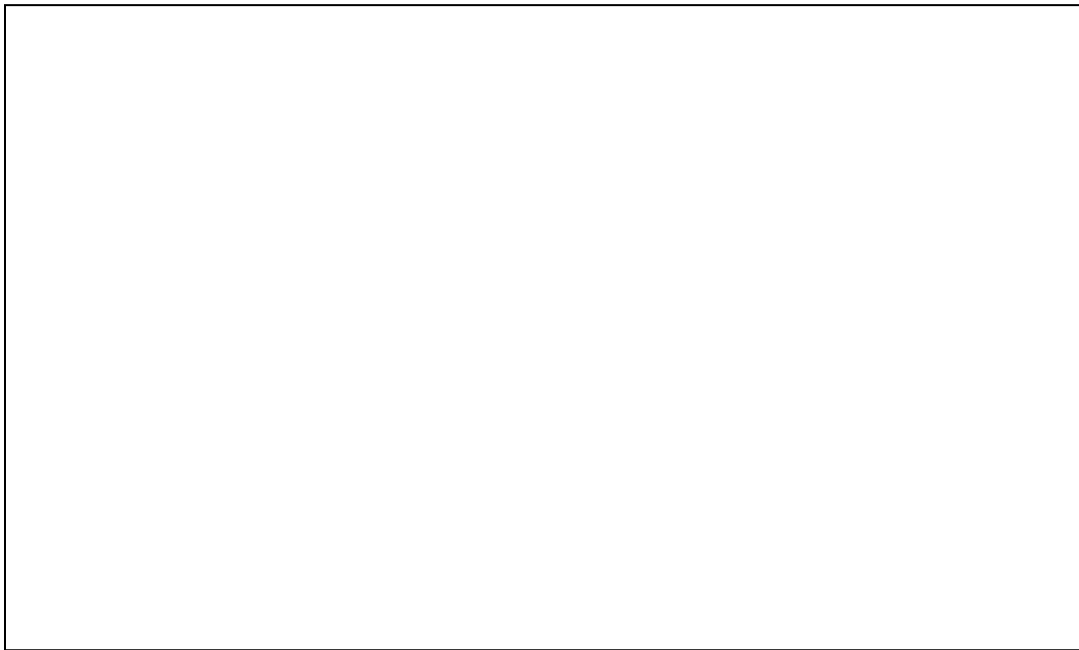
Teaching Strategies

The following teaching strategies are critical to the success of any online forum (REF).

Any potential facilitator of the forum should be trained in these principles and keep these in mind throughout the course. In addition, at the conclusion of the course, the facilitator should seek feedback on whether, or how well, they have been able to follow these principles.
The principles below should guide:
- The announcements posted
- The actual messages, content and questions
- The timing of the messages
- The construction of the thread or "subject line"
- The actual discussion topic structure
- Any guidelines that are posted for online forum etiquette

Create a calm and friendly atmosphere
Creating a calm and friendly atmosphere means that interactions on
the forum should be kept friendly and with the minimum of "flaming" or
aggression. This is crucial to establishing trust by the students in posting on the forum.
This helps draw out reticent students who would not otherwise post.

**Don't dominate discussions; support student-to-student
interaction**
Allowing students to support each other's learning is one of the main tenets of
constructivism. By allowing students to answer each other's questions you not only
afford opportunities for learning, you increase social interactions which add an often
missing dimension in the elearning experience.

Encourage social interaction
One of the ways to getting students to know each other is by encouraging social
interaction. Although these posts often seem "off topic", these interactions establish
relationships between course participants which is important for collaboration and co-
operative learning. It also makes the experience of online learning richer and more
engaging. The social interaction aspect is all the more important if group assignments are
part of the course assessment. The group will need to work its way through the stages
(forming, norming, storming, performing). Group performance will be enhanced if social
interaction is encouraged.

Encourage students to critically analyze their own views and maybe rethink them
Rethinking existing theories, revising them and forming new theories are some of the
tenets of constructivism. Knowledge is formed by revising incorrect theories. In order to
do this, existing theories need to be critically examined in light of the learning
experience. By encouraging students to critically analyze their own thinking you allow

opportunities for new knowledge formation.

Encourage peer feedback
Social constructivism states that social interaction and knowledge formation goes hand in hand. By encouraging peer feedback you afford opportunities for knowledge construction. It serves the function of allowing new ideas to be canvassed, for social interaction and, on a practical level can reduce the tutor's dominance of the discussion and workload.

Ensure each message has a reply
One way to encourage confidence and trust in the forum is to ensure that each message has a reply. It is not necessary that this reply comes from the tutor/facilitator/moderator. Interactions between students are to be encouraged.

Exploration
One of the elements in the constructivist teaching cycle, exploration is when students examine the subject and begin to form new theories. In a forum it is the facilitator's role to ensure that students are motivated to explore new theories and information, both by the structure of the course materials presented and the types of questions that are posed. Rich media content will allow enhanced online exploration of course material, however this is not specifically required; students can explore and examine content without rich media.

Formulate a process for deeper enquiry into subject
Formulating a process for deeper enquiry into the subject can be done by asking provocative questions, by perturbing students existing theories in order to get them to rethink them and by asking open-ended questions. By taking the students out of their "comfort zone" in terms of the subject being examined encourages new knowledge formation.

Give positive feedback
By giving positive feedback, that is, by complementing students when they have achieved a correct result, students are encouraged to continue with their enquiry into the subject, and are kept on the correct line of enquiry. Indeed if the facilitator starts providing positive feedback, and sets this as a "norm" for the group, then other participants will be encouraged to follow suit.

Make discussion objectives clear
Giving clear direction as to what is expected of students in the discussion facilitates interactions. Students are given a clear path to follow so that they don't feel that the discussion is pointless. It is helpful to students if the first post in each discussion clarifies the purpose of that discussion topic.

Outline learner activity goals
By outlining learner activity goals, students understand what they are expected to learn from the activity. This guides the student's thinking so that they "stay on track" and don't waste time examining issues that are not related, or become bogged down or confused.

Reflection/reflective observation

Reflective observation is the ability of learners to reflect on their own experiences from many perspectives. Reflection and reflective observation fall into both constructivist and experiential learning theories. It is through reflection that learners are able to move on to the next step, forming new theories from observations. The facilitator should not underestimate their role in encouraging reflection, both by the questions that are asked and by the discussion topics that are set up.

Scaffolding

Scaffolding involves task definition, direct or indirect instruction, specification and sequencing of activities, providing learning materials, equipment or facilities. It involves assistance with planning, organizing and such assistance should be provided in a timely manner. The facilitator can "scaffold" by providing clear task definitions as the first post in a series, or as part of the announcement section of a forum.

<u>Alternate pedagogical solutions</u>

The solution is supported by behavioural learning theory, in that the design of the environment should positively impact the student's learning.

Related Patterns

MODERATION SETTINGS – outlines the design of the back end of the forum, and how the different levels of freedom granted to users require differing levels of pedagogical support.
PRIVATE MESSAGES – outlines how students can contact others in their cohort to clarify points, work collaboratively or ask tutor for support.
SOCIAL SPACE – describes places that students can frequent that are no directly course related, but allow for valuable social interaction. Such spaces can be either 2d or 3d, . MUDS, MOOs or online chat.

Notes, Links and References

Potential risks in any e-learning forum can be:

- The forum dies through lack of use.

- The forum disintegrates into social chit chat with little or no learning content.

- The moderator stifles all conversations.

- The forum is unusable.

The forum could be extended with the use of other communication software such as chatrooms, instant messaging, links to social networking, wikis, personal email, video conferencing and online telephony (including video stream).