Appendix 3: Writer Consent Forms and Patterns

The University of Sydney

Patterns and Pedagogies: approaches to developing e-learning environments

PARTICIPANT INFORMATION STATEMENT
PATTERN WRITERS

[Text of the participant information statement]

This information sheet is for you to keep
Appendix 3: Writer Consent Forms and Patterns

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Patterns and Pedagogies: approaches to developing e-learning environments

PARTICIPANT CONSENT FORM
Pattern Writers

I, ........................................, give consent to my participation in the research project
Name (please print)

TITLE: Patterns and Pedagogies, approaches to developing e-learning environments

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.

2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researchers.

3. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s) now or in the future.

4. I understand that my involvement is strictly confidential and no information about me will be used in any way that reveals my identity.

Signed: ..............................................................................................................

Name: ..............................................................................................................

Date: ..............................................................................................................
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Pattern A

Forum

Picture

A Forum forms a part of a COURSE/SUBJECT within a DEGREE PROGRAM OF STUDY at a particular FACULTY and UNIVERSITY as a type of E-LEARNING TOOL.

Background

A Forum is a part of a course/subject within a degree program of study at a particular faculty and university as an e-learning tool.

Problem

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

Body of the problem: According to constructivist theory (constructing knowledge and learning through experience), learning is embodied by both personal, or individual experiences, and collaborative, social experiences. Communication between students and their teacher and peer collaboration as a part of learning. Methods through which learning (given a constructivist perspective) are facilitated include articulation and reflection, asking students to think about the problem and explore in order to reach autonomy of thought. Guidelines for supporting this include utilizing menus and links to incite exploration, and fostering socializing between students to enhance communication.

Solution

A Forum should utilize several design elements as a solution for facilitating communication and collaboration between students:

- Includes a homepage as the starting point for students to enter the forum. The homepage should give a sense of presence and community, as well as a social place and learning place.
- List the current forum available for use. This will encourage their exploration of the forum and incite interaction and socialization, and help their learning through articulation (creating new messages) and reflection (reading other messages). This list should be made very prominent on the main home page, and possibly every subsequent page.
- Includes a new message page for users to create messages for other students and the teacher. This will facilitate their articulation (after thinking about the problem, and reflecting on their thought).
- Support threaded discussion pages, which allow students to keep track of their own thoughts, and others’ development of ideas through the processes of apprehension (perceiving the environment: the forum messages) and comprehension (reflecting on what they have read).
- Show current activity through time stamp and new message displays. This encourages students to click through to threaded discussion pages and student profiles, which facilitates reflection, articulation, and creates a social environment to collaborate in. As with the list of current for available, current activity should be placed...
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prominently on the main/home page, and possibly as a summarized smaller version on all subsequent pages so that users are given immediate access to the latest updates, information, and discussion.

- Display student profiles in order to create a social atmosphere. This will support students in collaboration (to construct experience) between peers and lecturers. Student profiles should be linked to from all contributions a student makes (e.g. in the forum, attached to the media elements they have uploaded).
- Show each student’s current online status so that other students can communicate instantaneously with each other. Support messaging and emails between forum participants. These tools promote socializing through more informal means of communication (that are not the main forum). The use of icons or symbols to indicate status facilitates immediate recognition of who is online and who is available to socialize with, as well as the overall current activity status of the forum.
- Provide help pages so that users can learn how to explore areas of the forum which they haven’t used before. Aids exploration.
- Integrate rich media elements and support files such as images (e.g. as slideshows) and videos both to supplement student’s social place in the forum, but also as a means for disseminating study material. These create more visual cues for comprehension that are more vivid than text, and make available real world examples of the study material in visual form.

diagram

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teaching strategies

The pedagogical philosophy for this particular pattern language is based on constructivism and experiential learning. Consider:

- Do not dominate discussions. Instead, support student-to-student interaction.
- Similarly, encourage peer feedback and social interaction between students to enhance the social nature of the forum, which facilitates collaboration.
- Ask open-ended questions to elicit reflection (when reading others’ posts) and articulation (when formulating students own posts).
- Make the discussion objectives clear and outline learner activities to ensure students know what they are learning. This process of guidance or coaching helps provide a model for students to observe and learn from. Also, make these objectives clear from the beginning to support both reflective learners and those who jump in (so they students make work at their own pace, and skip ahead to other activities, with clear goals, in the own time).
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 tutors for support.
SOCIAL SPACE – describes places that students can frequent that are not directly course related, but allow for valuable social interaction. Such spaces can be either 2d or 3d,
MESS, MOOs or online chat.

case studies

The infostudio2008.ning website exemplifies some key points.

Firstly, its main page gives users access to all the information needed, including the message list, latest activity (with time stamps), student profiles, and the forum, in the form of threaded discussions.

Ning also supports student profiles, where each has been encouraged to type in their interests, and goals, which helps to facilitate social interaction between students. Also, the online status of students is visible, and participants are able to send messages directly between each other.

Rich media elements, including photo slide shows, and videos, as well as the use of pictures to represent student participants, have been used as a more visual and vivid way of presenting information in the forum.

references

infostudio2008.ning.com
(and the references/literature given).
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Pattern B

title
Design students

background
Some e-learning web sites have too much information on the first page. This can make students confused and bored when they are using it. It may lead to avoiding using the website. As a result of this, the design of the website should be very creative and attractive by using multimedia elements, but it should not have too much information in the first page. In contrast, the first page should have the least new things that they must be informed about for that period of time. It should have a menu that students can choose what they want to know for each time entering the website.

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

It is very important to have some areas that students can express themselves to their friends and can chat immediately while they have something to discuss. There will encourage the students to communicate with each other more often. The instant message page seems to be helpful solution for the website.

solution
1. Menu Navigation and Page Structure
   Create a very clear structure of the website. This can help the users to get what they want quickly.

2. Rich Media Elements
   Putting rich media elements will make the website look attractive and create a calm and friendly atmosphere. (If the users are teenage students, they may want to see something that has high technology and in trend.) In addition, rich media can encourage them to get some information that the administrator of the website would like to inform them of quickly.

3. Student profile page, email message page and instant message page
   These three things are used to show themselves to their friends and to encourage the students to communicate freely to their friends.

4. List of available form page
   This page can help students to go to the helpful website or the websites that are parts of their study. The administrator of the website should update all the links, so they can learn from the website by themselves.

   It also should link to the bulletin board/ forum. This can help the students to learn from the others as well as they can share their experience to the others.

5. Help page
   It is very important, but it always is forgotten. This is a place that the students can find the support when they face some problems or difficulties. One good example of a help page would be an ICT website that contains some FAQ, so the users can learn to solve problems themselves. However, if they cannot solve that problem, they can contact to the technicians in order to fix the problem.
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teaching strategies
Too much information can make students feel bored. Therefore, the website should contain some optimal information at one time, but which can be changed very often. Let’s have some space for the students to show themselves or problems after that they will learn how to solve the problems from their friends or others by using a forum, links, instant messages or email.

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 not directly course related, but allow for valuable social interaction. Such spaces can be either 2D or 3D.
MUDs, MOOs or online chat.

references
A list of references in APA referencing style.

case studies
An OPTIONAL case study is a completely worked-out solution to the design problem, and should be supplied to the end user as a sidebar or textbox. Delete if not used.
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Pattern C

Title
Forum to encourage collaborative learning

Picture

Background
The pattern is within an online learning student portal. It is a subset of the portal, which also contains other sections, including an EMAIL SYSTEM, SYLLABUS TRAINING MATERIALS, HELP, and ASSESSMENT. The diagram below best illustrates the relationship of this pattern to the other patterns within the portal:

![Diagram of portal structure]

Problem
Students need to communicate with each other about the course. How does one design a forum to facilitate and encourage collaborative learning?
- Students need to collaborate between classes or if they are remote
- They need a way to see if there are new messages posted
- They need to be able to see the title, time, and date of each message in sequence, even before opening an individual message
- They need to be able to access help whilst in this system

Solution
The forum should contain the following components in a hierarchy as shown by indent below:

LOGIN – this allows students to access the forum

LIST OF MESSAGES BY THREAD – A list of messages currently in the forum. Each message should be visible by TITLE, AUTHOR, TIME & DATE, THREAD to which it belongs

TITLE
AUTHOR
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TIME/DATE
LIST
NEW MESSAGE BUTTON – this allows a user to create a new message
NEW MESSAGE PAGE – this is the page within which the user
create their posting
HELP – help when writing the message
FORUM ADMINISTRATION – Admin section
HELP – Help on forum issues

The main design issues are that the user should be able to get a snapshot view of the messages in sequence, and can then choose to look at a message in more detail, or write their own.

Indents should be used to indicate responses to messages within a particular thread.

This pattern is to be used when multiple people are to collaborate or communicate in an asynchronous way – not when synchronous communication is required, and not when rapid responses are required.

diagram

Login to Forum

List of messages
Title of message
Author of message
Time message posted
Threaded list

New message display
New message page
Forum Administrator
Help

***

teaching strategies

The forum encourages students to post problems, questions and answers in a non-threatening way, and gives others time to reflect and respond.

Because everyone can see everyone else’s questions and answers, it becomes a collaborative and public space within which the students can work.

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 tutors for support.
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MUDs, MOOs or online chat.

references

A list of references is APA referencing style.
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Pattern D

| Scaffolding                  | Formulate process for deeper inquiry | Outline activity goals | Concrete experience | Abstract Conceptualization | Be flexible guide discussion and go with the flow
|------------------------------|--------------------------------------|------------------------|----------------------|-----------------------------|--------------------------------------------------
| Encourage social interaction| Articulation                         | Active experimentation  | Interactive simulation of concrete process | Interactive simulation of Abstract concept | Don’t dominate discussions support student to student interactions
| Give positive feedback       | Ask open ended questions             | Exploration            | Game space for Competitive testing |                                            | encouragement of follow-up and feedback
| Encourage students to       | Reflection/reflective observation    | Evangelize your team solution | Encourage peer feedback |                                            |                                                  
| Critically analyze their    |                                      |                        |                      |                                            |                                                  
| views and maybe rethink them|                                      |                        |                      |                                            |                                                  |

Background

Put a paragraph explaining the context of the pattern here.

Two types of simulators used to explore processes and concepts.

1. Soccer/robot soccer dog. Students teach one and then more dog robots to play soccer. They then compete against other teams to test the quality of their solution. This is a real-world physical simulator operating in concrete space.

2. Envirosub simulator. Based on the Simons. Households, streets, and suburbs discover the best ways to cooperate to save energy and the planet.

This simulator explores social interactions, and technologies such as co-generation heating from methane composting. The simulator is in the abstract computer space and can be used by remote teams.
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**Problem**
Students need to communicate with each other about the course. How does one design a forum to facilitate and encourage collaborative learning? (in non-bold type)

**Solution**
In bold type written as an instruction.

<table>
<thead>
<tr>
<th>Online portal page</th>
<th>Home Page</th>
<th>Menu Navigation</th>
<th>Student Log in field</th>
<th>List of available for a page</th>
<th>Help Pages</th>
<th>Log out button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forum log in page</td>
<td>Forum registration page</td>
<td>Forum admin pages</td>
<td>Bulletin board forum</td>
<td>Threaded discussion pages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rich media elements</td>
<td>Interactive simulation of concrete process</td>
<td>Interactive simulation of Abstract concept</td>
<td>Game space for Competitive testing</td>
<td>Instant messaging page</td>
<td>Email page</td>
<td>Bread crumbs links.</td>
</tr>
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Diagram

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teaching strategies
Generality example practice, or example practice, generality.
Discovery learning, and constructivism.
The task is to learn concepts and processes, then apply them in practical simulators, and test them for fitness against other teams.

alternate pedagogical solutions
An OPTIONAL paragraph outlining the solution in terms of differing pedagogical theories.
Dave Merrill’s Generality Example Practice model.

related patterns
MEDITATION 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 tutors for support.
SOCIAL SPACE – describes places that students can frequent that are not directly course related, but allow for valuable social interaction. Such spaces can be either 2D or 3D, MUDS, MOOs or online chat.

Case studies
An OPTIONAL case study is a completely worked-out solution to the design problem, and should be supplied to the end user as a sidebar or textbox. Delete if not used.

References
A list of references in APA referencing style.
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Pattern E

Title
Encouraging Students to Speak Up!

Background
Students can often fail to speak out about their views, or about questions that they may have in order to avoid looking foolish and not knowledgeable. Often therefore important information does not get shared because the environment within which to share information is not conducive to free and open communication.

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

In order for students to effectively communicate with each other, they need an environment which allows for rich self expression, encouraging independent thinking and avoiding “group think” (situations where individuals avoid speaking up about their own views in order to not stand out and create tension. In such environments, consensus always prevails).

Solution

Menu Navigation and Page Structure
Create a clear and coherent page structure which has a low barrier in terms of time required for familiarity, to facilitate high participation rates. In order to accomplish this key navigation elements should be prominent features on the page through the use of bold text or large size in relation to other text elements.

Rich Media Elements:
Create an environment of rich media elements containing a mix of as many of the following:

- Text
- Audio
- Still Images
- Animation
- Video
- Interactivity

The reasoning is that a rich environment of communication opportunities is more likely to encourage and lead to the rich communication of ideas and information.

Such elements should be clearly displayed and prominent on the main page, possibly by showcasing already produced work of rich media (such as video or images) made by students. This way participation is encouraged by example. For example the content of recent discussions between students may be displayed on the main page, this may have been in the form of text, image, or video) quickly capturing a visitor's attention and promotes their involvement in the discussion.

Promote Informal Discussion
Allowing for such features such as instant messaging and threaded discussions puts the student and user at ease, by facilitating quick informal interaction that approximate informal face to face communication.

Sense of Ownership and Creation of Place
A forum should allow students to express themselves and feel a sense of ownership. This can be achieved through the use of student profile pages, and also generally by allowing rich media creations by students to be prominently displayed on the main page of a forum. Student creations should be clearly identified in terms of who was responsible for their creation, through the use of text or possibly an image of the student.
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### Diagram

- Encourage Social Interaction
- Online Portal Page
- Create a Calm and Friendly Atmosphere
- Scaffolding
- Menu Navigation
- Threaded Discussion Page
- Instant Message Page
- Student Profile Page
- Message Title Display
- Rich Media Elements
- Bulletin Board/Forum
- Concrete Experience
- Student Login Field
- Online Status Display
- Encourage Students to Critically Analyze their own Voices and reframe
- Don’t Dominate Discussions, support student to Student Interactions

### Teaching Strategies

In order to encourage students to participate and express themselves more freely, it is vital to allow for as much flexibility as possible within a forum environment. In this way students can choose the means with which to express themselves (text, images, video etc), and in this way you create within a student the impression of ownership and belonging, through experimenting with their online identity. This teaching methodology differs markedly from a forum climate where there is a rigid, top down, prescriptive guidance, involving dominance of discussions and less possibility for student to student interaction.

It is also equally important that there is some clear structure to discussions and the forum environment generally. The teaching strategy should be one therefore of balance between guiding discussion and going with the flow; allowing breathing space for students to feel free to deviate when necessary. For successful tutor participation should be restricted to between ¼ to ½ of posts, this is enough tutor participation to see that any assignments or raised issues are completed, though leaving plenty of room for student to student interactions.

### Case Studies

An OPTIONAL case study is a completely worked-out solution to the design problem, and should be supplied to the end user as a sidebar or textbook. Delete if not used.

### 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 not directly course related, but allow for valuable social interaction. Such spaces can be either 2D or 3D.
- MUDS, MOOs or online chat.

### References

A list of references in APA referencing style.
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Pattern F

design for pedagogy pattern template

title
Forum

Picture

background
Put a paragraph explaining the context of the pattern here.

The FORUM pattern will be situated within an ONLINE COURSE as part of the overall E-LEARNING PORTAL that students will access to, possibly via their specific FACULTY and/or PROGRAMME OF STUDY.

***

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

“Learning, according to the social constructivist approach, occurs not only with the student’s interaction with the learning materials, but also with the teacher and with the student’s peers, the community of scholars and like-minded students. Social constructivism maintains that knowledge and social interaction go together. Learners construct their knowledge from these interactions. Fellow students also on a number of roles, they are not only authors and presenters, but also peers, reviewers and active listeners. Learning through guided discovery promotes active reflection in both student and teacher. However, in distance education these interactions between student and teacher and fellow students are often limited, to the detriment of learning.

It is not enough to simply point the students in the direction of readings, interactivity or activities. They need mentoring by lecturers or teachers; they need to be able to socialize and interact with their fellow students – they need to be embedded in a learning environment.”
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solution

In bold type written as an instruction

General design principles/assumptions:
- It is assumed that this forum is only applicable to discussions related to a specific course or program, and it will only be used by students in a class of average size (e.g. around 30). Therefore, the overall layout of the forum will be relatively flat, and really only offer the following two levels:
  1. The home page or search results page that shows a list of threaded discussions in the main window
  2. A page showing the details of the selected threaded discussion
- This "flat" design will only be applicable relatively small, self-contained forums that address the problem as described — larger forums may require a more hierarchical structure divided along the main themes, which will allow the contents of the forum to be more easily digested by the users
- In addition to the relatively flat layout, tags will be used to categorize discussions as opposed to a hierarchical folder structure as they allow more flexibility

The top frame of the forum will remain constant regardless of navigation throughout the forum and will contain the following elements:
- A search field, that the student can enter search terms and hit the "search" button to show a page of most relevant results:
  - It will be possible to order the results by relevance and date
- A tag cloud that the student can select a popular term which will show the resultant conversations
- Bread-crumbs links that will allow the student to clearly see where they:
  - E.g. E-Learning Portal -> Faculty -> Program -> Forum -> Discussion Subject
- A link to the forum help page
- A link to the settings so the student can customize certain elements of the page (e.g. colours, font, etc)
- If the student has already logged on at a higher level page (e.g. the main e-Learning portal) then the credentials will be inherited by the forum
- If they have logged-in, it will display their login name and link to their profile
  - Next to this will be an option for the student to log-out
    - If the student logs out they will be redirected to the Forum home page
- If they haven't logged-in, they will be presented with a login and password fields:
  - A link will be provided for students to register who don't yet have an account
  - Assume security (e.g. SSL) is enabled at this point so the student can feel secure in their login credentials: are safe (note if there is this necessary in this pattern...?)
- Students will be able to view the forum discussions without logging in, but they will need to be logged in to interact with the site (e.g. to post a new question or reply to a discussion)
- Once the student has successfully logged in to the site, the top frame will also contain a list of other students who are currently logged on, showing avatars which represent the students (e.g. avatars)
  - Should too many students be logged on to display them all without cluttering the page, the top few most recently active students will be shown, with a link to another page that will list all students currently online

To encourage social interaction, a main set of constructivism, it will be possible to interact with other online students via instant messaging, and the site will support multiple students participating in the same chat (i.e. it will support group chat):
- Instant messages will be saved in a similar format to posted questions and discussions, and it will be possible to tag and search chats as with posted questions and discussions:
  - In this sense, the only real different between discussions and chats is the real-time nature of replies in chat sessions, versus the asynchronous nature of discussions (i.e. people reply whenever they are able)
  - It will be possible to turn the chat session "offline" such that they aren't saved should the chat be about any study related topics that the students don't wish to be saved or visible to other students
- By clicking on the page that shows which students are online, it will also be possible to view which (public) chats are taking place in real time, and any student has the ability to join any existing chat

The main body of the forum homepage will contain an ordered list of a summary of the most recent discussions:
- The summary will contain the discussion subject line, the date it was last modified, and the most recent contributing student, a flag indicating if the message is newly posted since the student was last logged in, a flag indicating if the student has read this particular discussion or not, and any tags relating to this discussion

If the student selects a discussion the main body of the page will change to display the full content of the discussion in a similar manner to email discussions (is this descriptive enough?)

The student will have the ability to customize their profiles that support rich media elements (e.g. pictures, hyperlinks to other media).
### Teaching Strategies

- Constructivism states that people learn through social interactions, therefore teachers are also encouraged to participate in real-time chats with other students so they are more approachable, helping to create a calm and friendly atmosphere that will help facilitate these types of learning interactions for all students, including the most resistant. This will also help ensure that each message has a reply.

- In the threaded discussion pages, teachers will need to seed the discussions by asking open-ended questions to which the students can participate and respond, clarifying ideas through group discussion and feedback. At the same time, the objectives of the discussion need to be clear, and the students understand what they are expected to learn from the activities.

- Teachers will need to flexible in guiding the threaded discussions and real-time chats such that they allow the conversations to flow freely without constraining or restricting them. Guidance is required to nudge the posts if they wander too far off topic, but it is important to allow discussions to diverge, as it may lead to new learning opportunities for the students.

- In line with constructivist thinking, during the discussions the teachers will need to encourage students to provide peer feedback, as well as reflect upon and critically analyse their own views and potentially re-formulate them based on feedback.

### 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 not directly course related, but allow for valuable social interaction. Such spaces can be either 2D or 3D, MUDS, MOOs or online chat.
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Pattern G

design for pedagogy pattern template

title
Online forum for classes of 5-30 participants

picture of the use case for this pattern

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.

background

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 (tbody), 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 discussions is normally asynchronous. The class does not necessarily need to meet in person, the course could be fully online.

***

problem

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

solution

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?
Appendix 3: Writer Consent Forms and Patterns

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 they 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” if not logged in and the second is “private” if 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.
Appendix 3: Writer Consent Forms and Patterns

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 (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 organize the material (as 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 (e.g., 3-5 most recently updated threads). Some examples of discussion 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 subject.

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 (e.g., 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.
### Appendix 3: Writer Consent Forms and Patterns

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Av</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forums</td>
<td>0</td>
<td>10</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>Discussions / Topics</td>
<td>3</td>
<td>10</td>
<td>7</td>
<td>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 (e-heading) 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 posed 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.</td>
</tr>
<tr>
<td>Threads</td>
<td>1</td>
<td>1000</td>
<td>na</td>
<td>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.</td>
</tr>
<tr>
<td>Messages</td>
<td>1</td>
<td>1000</td>
<td>50</td>
<td>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 design 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.</td>
</tr>
</tbody>
</table>

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**Diagram**

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 supercedes 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

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*Design for Pedagogy Patterns for E-Learning*
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 e-learning experience.
Appendix 3: Writer Consent Forms and Patterns

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.
Appendix 3: Writer Consent Forms and Patterns

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.

Alternate pedagogical solutions
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 not directly course related, but allow for valuable social interaction. Such spaces can be either 2d or 3d, MUDS, MOOs or online chat.

References
A list of references in APA referencing style.
Appendix 3: Writer Consent Forms and Patterns

Pattern H

design for pedagogy pattern template

title
Forum

Picture

background
The forum pattern is contextualized as part of a bigger technological learning environment. Its aim is to provide a collaborative space for teachers, students, and staff within an organization. It fits under several other patterns depending on the group of people that could be part of the collaboration. A forum can be a part of the PORTAL to allow all members to share ideas and opinions at the organization level, in the same way it could also be part of the FACULTY to serve a smaller group. However, the most common use for the pattern is within an ONLINE COURSE, where teachers and students participate in the delivery of a learning experience within a curriculum.

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

Body of the problem:

A forum has two main uses: As a tool to facilitate natural communication needs with the students, and as a tool for the teacher to promote useful collaborative experiences. It is important to have this in mind when designing the forum, the two roles that a forum plays must be reflected in the design and the structure of the forum.
Appendix 3: Writer Consent Forms and Patterns

The roles that a forum plays are tightly connected with the context in which the student interacts with the learning system. When a student is reading some course materials, this context indicates that a forum where students can reflect on the content, with the proper coaching from the tutor/teacher. In the same way, if a student is engaging in a learning experience like a simulation of a real problem, a forum at the beginning that focuses on articulation, and then one at the end that focuses on abstract conceptualization.

**Solution**

- The forum must provide a login awareness tool, which includes an online status display, a students’ login field, “logout” button, link to the forum registration page and a link to the help pages. These must be always present when interacting with the forum, either provided by the pattern above the forum or by a header in the forum interface.
- The interface for the forum must always show a menu navigation, that must allow the user to navigate to any forum category. The forum categories must follow two criteria: The structure of the learning system (facilities, courses) and the pedagogical actions (experiments, activities, agora, etc.)
- A list of the available fora page must be provided and must be reached when the user selects the root level on the navigation menu. In this page, a list of the fora categories must be shown (the same as in the navigation menu), and below each category a list of its available forum must be shown. Each forum must show a new message display.
- From the list of fora page and deeper, bread crumb links must be provided, following the categories the user selected to navigate to the actual page. The fora list must provide a button/link to post a new message next to every forum title.
- A pedagogical actions display must be provided next to every forum, it must indicate the type of activity that the forum was originally intended by its creator. This display must be also clear in the forum page.
- A student profile page, indicating personal details that the user decided to show, a list with the forums in which he is participating and the different user roles he has (moderator, tutor, lecturer). A ranking display should also be shown in the profile, indicating the user’s rank as collaborator among the rest of the users.
- From the list of fora page, or the search results page, a forum page can be reached by clicking on its title. The forum page provides a list of the discussions within that forum, sorted by the date of the last message posted in it. Each discussion shows the title of the messages and a small excerpt of the content. The messages must be sorted by date. The discussions with no unread messages must be shown collapsed (showing only the first message in the discussion). Each message should show: Title, author, date and time of the posting, number of visits, and other details depending on the activity type.
- An activity summary display must be shown next to each message summary. Depending on the activity this could be an indicator of the message that is a validated answer to the original question (in a question/answer activity), an indicator of the most popular opinion voted by the readers, or the message(s) chosen by the moderator as the most valuable.
- From each forum page, the navigation menu must allow the user to reach the forum ranking page, which shows statistics on the participation within the forum for particular activities. For example, in a question/answer forum, it can show the user with most questions proposed, most answers, most validated answers, etc.
- By clicking on any message title, or excerpt. The user must reach the threaded discussion page, which shows all the messages in a threaded display. No matter the message they click on, the same page, with the whole discussion must be shown; however, the screen focus must move to the message that was selected by the user. The whole content of every message must be shown in this page. And buttons/links must be provided for the user to interact with each message depending on the activity, for example to choose the best answer to a question/answer activity, or to rate the message in an open discussion.
- The message detailed display, where the content is displayed should present any rich media attached to it immediately as embedded content.
teaching strategies

The forum facilitates experiential experience and collaborative learning. In particular, the teaching strategies suggested in this pattern are three: Forum as open discussions, forum as question-answering and forum as collaborative construction of knowledge.

Forum as open discussion: This activity is the most common forum, which is open to every participant, both to post messages and reply. Participation must be encouraged directly by the tutor/lecturer and is not directly supported by the technology.

Forum as question-answering: This activity focuses on support for users to find a quick solution for common questions they come to find in their learning experience. Questions can be posted by anyone, and to replies, however, the author of a discussion is the only one that can select a reply as the answer to the original question. The system should also support a more constrained version where answers can be only posted by the tutors or the lecturers.

Forum as collaborative construction of knowledge: This activity involves the voting of the students for the message that corresponds to their agreement on the best representative solution to a particular problem. In this way, a student proposes a solution by posting a message, and the rest of the students can vote for the message they consider the best solution (and keep discussing in the same forum). Students can change their vote until a level of agreement is achieved or when the tutor/lecturer decides.

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.

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