Appendix 2: The Pattern Pack

Constructivism: a primer
Fiona Chatteur

ABSTRACT
Constructivism states that knowledge is constructed either through the personal experience of the learner or through collaboration with others. This primer outlines the use of constructivism in e-learning.

Keywords: Pedagogical theories, constructivism.

1. INTRODUCTION
The work of constructivist theorists, primarily Piaget and Vygotsky, outlined the two main constructivist learning models, those of individual and social constructivism. Individual constructivism states that knowledge is constructed through the personal experience of the learner. Social constructivism states that learners acquire knowledge through collaboration when meaning is seen through multiple perspectives.

2. CONSTRUCTIVIST THEOREY
Constructivist theory sees learning as an active process where the learner makes links through the materials and prior knowledge. Taking an epistemological perspective, constructivist is concerned with how we know and how we develop meaning. This process has to be internalized to the learner by integrating knowledge into pre-existing schemes (assimilation) or by changing the existing schemes to fit the new environment (accommodation). In order to be effective, a task must be included in an actual context using real-world examples and a collaborative context. This allows learners to understand the motivation and the final goal of the task itself, but also to incorporate other learners’ opinions.

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 students 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 take 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 dateline of learning.

It is not enough to simply point the students in the direction of readings, activities 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.

Each person has a representation of knowledge. Learning occurs when a gap occurs in the learner’s knowledge or an inconsistency arises between their knowledge representation and experience. Learners seek a cognitive apprenticeship, which should be dealt with by employing six teaching methods: modelling, coaching, scaffolding, articulation, reflection and exploration. Modelling, coaching and scaffolding lead to the acquisition of cognitive and metacognitive skills through observing, then being supported and coached as they put their new skills into practice. Articulation and reflection allow students to think about problem solving and finally, exploration leads to learner autonomy and problem formulation.

3. DESIGN PRINCIPLES
Based on these constructivist concepts of learning and interaction between the learner and the learning context, we identified a number of general interaction design principles when applying constructivist approaches to e-learning design:
- Choose materials that allow interactions with real-world examples. Simulations are one example that works well.
- Design for collaboration and ease of access to collaborative tools, both on menus and through links within the content.
- Assign tasks that involve collaboration.
- Allow a community of scholars to organize. Allow socialization as well as on-topic communication. Use tools such as bulletin boards, chat and social facilities such as Facebook or Second Life.
- Create learning through guided discovery. This can be achieved with highly interactive exercises using tools such as Flash.
- Facilitate as much tutor to student contact as is practical to allow monitoring, scaffolding and coaching. This can be on a public-facing tool or privately via messaging, Skype, or e-mail.

4. REFERENCES
Appendix 2: The Pattern Pack


Experiential Learning: a primer
Fiona Chatteur

ABSTRACT
Experiential learning theory is based on the work of David A. Kolb. It takes as its main tenant the view that learning is based on experience, and without ‘real world’ use of the knowledge, learning will not be consolidated.

Keywords: Pedagogical theories, experiential learning, Kolb, Piaget, Lewin, Dewey; concrete experience.

5. INTRODUCTION
Experiential learning theories takes as its basic tenant that people learn from their experience. The theory draws primarily from the intellectual background of Jean Piaget, John Dewey and Kurt Lewin. (Kolb, 1944, p. 43) A reaction against behaviourism, it offers the foundation of an approach to education and learning as a lifelong process and is based in the intellectual traditions of social psychology, philosophy and cognitive psychology. The experiential learning model links the basic competencies of job demands and corresponding educational objectives, emphasizing the critical linkages between the classroom and the ‘real world’ with experiential learning methods. (Kolb, 1984, p. 4)

As John Dewey put it “... there is an intimate and necessary relation between the processes of actual experience and education” (Dewey, 1918, p. 19-20) Experiential learning theory examines and strengthens the linkages between education, work and personal development. (Kolb, 1984, p. 4)

6. THE EXPERIENTIAL LEARNING PROCESS
Based on the work of Dewey, Levin and Piaget, Kolb’s experiential learning theory takes a different philosophical view to that of most traditional educational and behaviourist approaches. Traditional approaches state that there are mental atoms, or simple ideas that are immutable — they are constant fixed elements of thought. Experiential learning theory assumes that learning is a process and that ideas are constantly formed and re-formed through experience. Concepts are derived from and constantly reviewed and modified based on experience. The emphasis is in the process of learning, not necessarily the memorizing of a body of knowledge. Learning is a “process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 36).

Kolb proposes that effective learners have to have four different kinds of abilities; concrete experience, reflective observation, abstract conceptualization and active experimentation (see Figure 4).

Kolb defines concrete experience as the learner’s ability to involve themselves fully and openly in new experiences. Reflective observation is the ability of learners to reflect on their own experiences from many perspectives. The ability to integrate these observations into logically sound theories is abstract conceptualization. Learners have to be able to use these theories to solve problems and make decisions — active experimentation.

There are also two distinct modes of grasping experience — comprehension and appreciation. Appreciation is the environment’s input into a person’s sense. This changes as soon as a person leaves a room, for example, as new observations are sensed through sight, hearing, touch, taste and smell. Comprehension is the recording of apprehended experiences so they can be communicated to others.

7. APPLICATIONS IN E-LEARNING
A “trying out” or experiences based approach is at the core of Kolb’s experiential learning theory, and if incorporated in a collaborative learning space provides the real-world context outlined in social constructivist theory. The what-if ability available in e-learning is the difference between e-learning and classroom-based learning and according to both experiential and constructivist learning theories afford additional opportunities in the consolidation of knowledge.

E-learning provides the unique opportunity to cater for learners who transform their knowledge via intention (the more reflective type of learner) and for those who transform via extension, (those who jump into a learning activity and are able to cope with mistakes). Those who transform their learning via intention need time to contemplate the theories and information given, to be certain of their thinking before they commence a learning activity. Because much of e-learning is not subject to time constraints these learners are able to spend the time they
need to assimilate the knowledge enough to be confident when undertaking a learning activity. Similarly those who transform via excursion – the type of learner who likes to “jump in” to a learning activity can do so as the intensive nature of e-learning allows them to skip ahead to engage in the interactive activity before reviewer additional materials as needed.

8. DESIGN PRINCIPLES

Interaction design principles arising out of experiential learning theory that can be applied to e-learning are:

- Create interactive learning exercises that incorporate for all four different kinds of abilities. Allow ease of switching (e.g., through navigation) between them.

- Use visual cues to allow appreciation. 3D applications such as Active Worlds or Second Life provide environments that afford appreciation.

- Create exercises where learners can “try out” their new knowledge. This “hands on” approach is best done with highly interactive applications such as Flash or by using simulations.

- Cater for both reflective users and those who like to jump straight in to the exercises and create easy navigation between the different areas.

5. REFERENCES


creating design for pedagogy patterns

You have been asked to participate in this research as a “design for pedagogy pattern writer”. A design for pedagogy pattern is a generic design solution that can be used over and over again, that show relations between design (interaction) elements and their use for teaching and learning.

Design for pedagogy patterns differ from other pattern languages in that the teaching and learning that accompany the design are included in the pattern. You will be writing a document that will be used by designers as they are designing e-learning courseware.

Your goal is to find:
1) teaching and learning practices
2) interaction design elements that support teaching and learning practices.

The Problem:

Students need to communicate with each other about the course content. How does one design a forum to facilitate and encourage collaborative learning?
the solution
“creating repeatable design solutions”

Design for pedagogy patterns create not only repeatable design solutions but also embed within them educational theories and pedagogical practices. Your task will be to write a document to guide design and teaching practices in the interaction design of a forum for e-learning. You will be given guidance as to how to go through this in the form of a “pattern pack”. The “pattern pack” aims to help you write a design for pedagogy pattern by providing you with a template, instructions and readings to give you the background information that you will require for this task.

the benefits
“the pedagogy of the resulting designs is improved”

Design for pedagogy patterns will be an improvement over existing standard design patterns when applied to e-learning. By providing design and pedagogical guidance for designers, the complex task of designing e-learning courseware will be facilitated. The methodology for the development of design for pedagogy patterns will allow the development of an entire pattern language. Design for pedagogy patterns will result in designs that incorporate teaching and learning practices within them so that the pedagogy of the resulting courseware is improved.

the process - using the “pattern pack”

step 1
Read primers on constructivism and experiential learning. Then look at the background readings for solutions that facilitate these types of learning. Outcome: understand what pedagogical practices are.

:: Investigate ::

step 2
Using the cards and a flat surface, identify elements in each online forum, photograph, then identify common elements and pedagogical practices. Take 10 minutes per forum.

:: Evaluate ::

step 3
Using these common elements and the pattern writer’s template, create a design for pedagogy pattern. Use the cards as a starting point, then integrate best practice as seen in the readings into the pattern.

:: Create ::
Appendix 2: The Pattern Pack

step 1
"investigate the two learning theories and peer-reviewed research"

Place the CD in your drive and locate the folder called “primers”. These two documents explain constructivism and experiential learning theories, and outline some of the general design principles that promote these types of learning. It’s okay to refer to these learning theories when writing your pattern.

Find the folder called “peer-reviewed literature” and read “Executive_Summary.doc”. It is a summary of the readings (also provided) to save you time. When reading, look for generic design features that are used for online forums when used in an e-learning course. Also look for teaching practices you feel reflect constructivist and experiential learning theories. You will be using both in your design for pedagogy pattern.

At this stage you might want to look at the cards to see if any of these elements are listed. Otherwise write them down.

step 2
"identify common design and teaching and learning elements to include…”

You need access to an online computer and a flat surface. Examine existing online forums. URLs and login details are in “Forum List.doc”. Look at each forum one at a time, TAKE ONLY TEN MINUTES PER FORUM and use the cards to identify design and teaching elements. Organise the cards in a hierarchy, like a flow chart. Elements that appear in the same area in the forum should be at the same level on the hierarchy, e.g. if you see a threaded discussion, and teaching practices within that, they would be at the same level.

If you have identified an element that is not on a card, use the spare cards and create a new element. Take a photograph and repeat the process for the next forum. Once you have examined the forums, look at the photos to identify common design and teaching and learning elements to include in the pattern. Then take a break. Do step 3 later, preferably on a different day.

step 3
"you are looking for design solutions first. The second consideration is teaching practices…”

Step 3 should be done after you have taken a break. For the first part of the pattern, the focus is on design. That is,

1. Content design.
2. Information design (how is this content put together? What is the organizing principle guiding this material?)
3. Interface/Navigation design. (Screen graphics and information architecture, how people can move from section to section, menu buttons, tabs, icons, graphic design)

Read and keep on hand the “Template_explained.doc”. Open up the “Empty Template.doc” in Microsoft word and start to write your pattern. Keep in mind that the pattern is a design for pedagogy pattern, so you are looking for design solutions first. The second consideration is teaching practices to facilitate the use of what has been designed. You might also want to use one of the forums you have looked at as the optional case study.

the design for pedagogy methodology

1. read primers, read summary, identify elements
2. review forum, identify elements, use cards, create hierarchy, photograph, repeat, create generic elements
3. read “template explained”, use elements, use “empty template”, write design solution
Peer-Reviewed Literature – Executive Summary

eModerators.com - The role of the online instructor-facilitator

Learning involves two types of interaction: interpersonal and with content. Provide an environment in which both kinds of interaction can occur.

Conditions for successful online tutoring are:

<table>
<thead>
<tr>
<th>Pedagogical</th>
<th>Social</th>
<th>Managerial</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have Clear Objectives.</td>
<td>Be Accepting of Lurkers.</td>
<td>Encourage informality</td>
<td>Use technical support staff</td>
</tr>
<tr>
<td>Maintain as Much Flexibility as You Can.</td>
<td>Guard Against Fear in Your Conference.</td>
<td>Distribute a list of participants</td>
<td>Provide feedback</td>
</tr>
<tr>
<td>Encourage Participation.</td>
<td>Watch the Use of Humour or Sarcasm.</td>
<td>Be responsive</td>
<td>Develop a study guide</td>
</tr>
<tr>
<td>Maintain a Non-authoritarian Style</td>
<td>Use Introductions.</td>
<td>Request comments about the course</td>
<td>Provide time to learn software</td>
</tr>
<tr>
<td>Be Objective.</td>
<td>Facilitate Interactivity.</td>
<td>Be patient</td>
<td>New methods for online feedback</td>
</tr>
<tr>
<td>Don’t Expect Too Much.</td>
<td>Praise and Model the Discussant Behaviour You Seek.</td>
<td>Synchronise – students should start activities at same time</td>
<td>Promote peer learning</td>
</tr>
<tr>
<td>Don’t Rely on Offline Materials.</td>
<td>Do Not Ignore Bad Discussant Behaviour.</td>
<td>Don’t dominate – contribute ¼ to ½ of posts</td>
<td>Don’t lecture</td>
</tr>
<tr>
<td>Promote Private Conversations</td>
<td>Expect that Flames May Occur.</td>
<td>Use private messages/email to encourage debate</td>
<td>Give direction</td>
</tr>
<tr>
<td>Find Unifying Threads.</td>
<td></td>
<td>Be clear</td>
<td></td>
</tr>
<tr>
<td>Use Simple Assignments.</td>
<td></td>
<td>Don’t overload – one long post a day will suffice</td>
<td></td>
</tr>
<tr>
<td>Make the Material Relevant.</td>
<td></td>
<td>Vary participant’s amount of contribution</td>
<td></td>
</tr>
<tr>
<td>Required Contributions.</td>
<td></td>
<td>Student moderators</td>
<td></td>
</tr>
<tr>
<td>Present Conflicting Opinions</td>
<td></td>
<td>Allow extra preparation time</td>
<td></td>
</tr>
<tr>
<td>Invite Visiting Experts.</td>
<td></td>
<td>End discussions so they don’t drag on</td>
<td></td>
</tr>
<tr>
<td>Don’t Lecture.</td>
<td></td>
<td>Have experienced instructors</td>
<td></td>
</tr>
<tr>
<td>Request Responses.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Facilitating interpersonal interaction & Learning Online: Linking Theory & Practice

Get participants to use introductions, short biographies and to post photographs of themselves to promote social interaction. Use an informal facilitation style and consciously try to create a comfortable learning environment. Provide technical orientation and educational expectations and provide telephone help for ongoing assistance. Answer every specific question to make participants feel the moderator is more involved. Answer questions with a question to keep the interaction going. Use open-ended questions. Try to draw out the wallflowers. Try to convey an open and friendly manner.

Using constructivist theory to inform discussions involves asking participants what they hope to gain from the course related to their professional practice; encouraging learner to learner interaction based on case-based questions; encourage group problem solving of practical issues.

Other learning theories in this paper also inform online practice. Facilitate learning through interaction, that is learning from each other and deeper thought in response to questions.

The Development of Social Climate in Virtual Learning Discussion Groups

Developing a social climate is important making students feel like insiders in the learning environment. This paper reports on 5 studies examining various aspects of the social climate of virtual discussion groups engaged in online courses. In one study, the teacher focussed on the learning assignment, which stifled social interactions between students. As the teacher dominated, posting 40% of the posts, students interacted more with the tutor than with each other. In another study, more content-related discussions were used in a discussion using nicknames than with those using real names. In non-moderated discussions, using real names, the number of social to content related discussions were about the same. The highest amount of social interactions occurred when students used nicknames and the forum was not moderated. Anonymity was detected as a factor that encourages the participation of the whole group.

The last study closely traced the development of social interactions in informal virtual spaces. A “cafeteria” was established for social interaction and a “corridor” for help functions. Initially a large number of posts were done in the “cafeteria” as students got to know each other. Then the posts became more procedural and technical, which was when the “corridor” was created. Students then used both spaces. Students needed the acquaintance phase, to have small talk, and to discuss problems - technical or methodological - arising in the course of learning.

- Conclusions from these studies indicate that group activities are not limited by place or time boundaries, and group members communicate whenever convenient for them, thus contributing to the creation of a learning atmosphere free from pressure and compulsion, and enabling the emergence of social interactions as well as completion of learning assignments.
- Group members can assume various roles and even (in less formally defined situations) various identities according to changing situations (see Study 2). Anonymity supports the appearance of social relations and even affects the accomplishment of the learning assignments as well.
Forum List and Login Details

TAKE A MAXIMUM TIME OF TEN MINUTES PER FORUM
– just dip in quickly and note what you see.

Forum One
University of Sydney Faculty of Architecture forum
http://groups.google.com/group/deco2205

Forum Two
Open University Forums
Go to http://www.open.ac.uk
Username: fc2246
Password: lucien
This will take you to the portal page.
Under links on the LHS click “Limited to FC1” then click “Open University” from here you can navigate to any forum on the OU.

Forum Three
University of Sydney Design Studio forum
http://infostudio2008.ning.com
Pattern Template Explained

The pattern should be written in a style that makes knowledge assimilation easy for the end user of the design pattern. (Clancy, 1999) What this means is:

- The writing style of the pattern should explain how it can be used in context. (Rather than just describing what it does.) Remember, designers will be using your pattern to help them create their designs.
- It should be written as an instruction.
- Don’t use jargon.
- Try to make the solution a generic one. So you’re looking for design elements for an online forum that you can see used over and over in more than one forum.
- Think about the solution firstly in terms of:
  - 1) Content design,
  - 2) Information design

Remember, a design for pedagogy pattern firstly focuses on design, and then on the teaching and learning practices (pedagogy) that should accompany that design.

- Keep the pedagogical solutions that support the pattern for the teaching strategy section. In that way you can separate the pedagogy from the design problem.
- Always try to include a case study so that users can see how the pattern can be used in a real world example. This makes the pattern easier to use.

The components of this pattern are: TITLE, PICTURE (optional), BACKGROUND, PROBLEM, SOLUTION, A DIAGRAM, TEACHING STRATEGIES, CONSIDER THESE OTHER PEDAGOGICAL SOLUTIONS (optional), CONSIDER THESE OTHER PATTERNS, CASE STUDIES (optional) and REFERENCES.
title
A descriptive title of the pattern.

picture
An OPTIONAL picture that illustrates the pattern solution in practice [if possible.]

• This should be a photo or a screen grab that illustrates the pattern in use, or that shows the general idea.
• For this pattern this might be a screen grab of an existing e-learning forum.

background
An introductory paragraph that sets the context for the pattern. The pattern that you are going to be writing will be used in conjunction with a whole lot of other patterns, making up an entire pattern language. This section outlines where this pattern sits within this language. Where it sits in the pattern language and why it is where it is.

• The background section should explain how this pattern completes larger patterns that sit above it in the pattern language structure.
• In writing this section, think about the context of the problem is, what this pattern solution does and hence how this fits into the larger patterns above.

For example: a FORUM pattern may have sitting above it: E-LEARNING PORTAL, FACULTY, PROGRAMME OF STUDY and ONLINE COURSE of which it is a part. Higher patterns should be typed in capitals, as seen here.

• Don’t talk about patterns that would sit below this one in the pattern structure here, put them in the “Consider these other patterns” section.


(The three diamonds mark the beginning of the problem.)

problem
A headline in bold type, to give the essence of the problem in one or two sentences. In this case, in the empty template document, this will be filled in for you.

Body of the problem:
• This might be background information that the user of the pattern should know in order to understand some of the concepts encompassed by the pattern, evidence for its validity, a range of different ways the pattern can be manifested.
• In non-bold type.

Solution (use the white cards)

Solution: in bold type. This is the heart of the pattern – the field of physical, virtual and social relationships which are required to solve the stated problem in the stated context. In this section you are outlining design solutions only – use the white cards only.

• State the solution as an instruction.
• The solutions that you choose to write about here should be those that you think facilitate constructivist and experiential learning. Remember, the aim is to get the designers create e-learning courseware in a way that helps people to learn.
• Outline how the solution can be used by the designers, don’t just describe what it does.
• Give specifications as to how to use this either in information design, interface/navigation design and/or content design.
• Give the users the context of your solution, and examples of how it can be possibly used.
• Tell the users the circumstances as to when this pattern can be used, and under what situations you would not use it.
• Try to use generic solutions that can be used over and over, so don’t be too specific.
• The content of your pattern should contain solutions that support constructivist and experiential learning theories.
design for pedagogy pattern template

title
Forum

Picture

Place your picture here. This is an optional field – delete this section if you are not using it.

background

Put a paragraph explaining the context of the pattern here.
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: (in non-bold type)

diagram

Place your sketch or picture here.

teaching strategies

In non-bold type expressed as an instruction
alternate pedagogical solutions
An *OPTIONAL* paragraph outlining the solution in terms of differing pedagogical theories. 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.

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.

Design Cards
<table>
<thead>
<tr>
<th>BREAD CRUMB LINKS</th>
<th>BULLETIN BOARD/FORUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-MAIL MESSAGE PAGE</td>
<td>FORUM ADMINISTRATION PAGES</td>
</tr>
<tr>
<td>FORUM LOGIN PAGE</td>
<td>FORUM REGISTRATION PAGE</td>
</tr>
<tr>
<td>HOME PAGE</td>
<td>INSTANT MESSAGE PAGE</td>
</tr>
<tr>
<td>LIST OF AVAILABLE FORA PAGE</td>
<td>LOG OUT BUTTON</td>
</tr>
</tbody>
</table>
Appendix 2: The Pattern Pack

Bulletin Board/Forum
A bulletin board, otherwise known as a forum, is a place where users can post messages that can be responded to by other people who visit. Fora serve as a community space for like-minded users who can post asynchronous messages. Some fora can be accessed via USENET, others are web-based and can be seen using a web browser.

Forum Administration Pages
Forum administration pages allow administrators of the forum to change the forum settings. These may be moderation settings, user groups, forum creation or may allow users access to certain forum features. These settings can also determine if discussions are threaded, hybrid or organized by time stamp.

Forum Registration Page
This section allows the user 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. The registration process may grant the user access to areas not available to non-registered users of the forum.

Instant Message Page
An instant message page contains controls that allow the user to send an instant message to other users of the site. Instant messages (IM) are personal messages that are sent immediately to other users and can be responded to immediately.

Log Out Button
A log out button disconnects the user from the area to which they have logged in. Once the user has logged out they cannot access the area unless they have the appropriate user name and password and use them to log in. Important for security purposes.

Bread Crumb Links
Bread crumbs are keywords that describe the path that the user has taken to get to the current page. Usually clickable interactive elements, they not only serve a cognitive function, like a road map, but also a navigation structure that enables the user to return to previously viewed pages.

E-mail Message Page
An e-mail message page is a separate area that allows users of a forum to e-mail each other. It contains minimally a TO: field and a message field. It usually also allows access to e-mails that the user has been sent by other forum users.

Forum Login Page
This page allows the user to enter a user name and a password to gain access to the forum. It checks this user name and password against a database of registered users. The registration process allows a discreet user name to be displayed when the user posts a message, which establishes trust amongst other users as to the identity of the poster.

Home Page
A home page 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.

List of Available Fora
This page allows users access to all the available fora. In the case of an e-learning site, it may be organized according to faculty, subject area and course. If the available fora are extensive, there may be more than one such page.
<table>
<thead>
<tr>
<th>Threaded Discussion Pages</th>
<th>Time Stamp Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Title Display</td>
<td>New Message Display</td>
</tr>
<tr>
<td>New Message Page</td>
<td>Online Portal Page</td>
</tr>
<tr>
<td>Online Status Display</td>
<td>Rich Media Elements</td>
</tr>
<tr>
<td>Student Login Field</td>
<td>Student Profile Page</td>
</tr>
</tbody>
</table>
Help Pages
Help pages contain a set of instructions as to how to use an application. These instructions may be for the entire application or may be context sensitive, for the particular area that the user is in.

Menu Navigation
Menu navigation contains links to areas of the site that are commonly accessed. Menu navigation may be in the form of buttons, drop down menus or tabs, to name a few. Menus contain short keywords that describe the area to be accessed when the links are clicked.
## Pedagogy Cards

<table>
<thead>
<tr>
<th>Abstract</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptualization</td>
<td>Experimentation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ask Open-ended Questions</th>
<th>Articulation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Be flexible - guide discussion while “going with the flow”</th>
<th>Coaching</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Create a calm and friendly atmosphere</th>
<th>Concrete Experience</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Don't dominate discussions, support student-to-student interactions</th>
<th>Encourage Social Interaction</th>
</tr>
</thead>
</table>
Active Experimentation
Active experimentation is the last main part of Kolb's learning cycle, where learners put their newly formed theories into practice. Learners actively experiment when they use newly formed theories to solve problems and to make decisions.

Abstract Conceptualization
Abstract conceptualization is one of the four main parts of Kolb's learning cycle. After learners have involved themselves in new experiences and reflected upon them, abstract conceptualization is the ability to integrate these observations into logically sound theories, which later they are able to put into practice.

Articulation
Articulation is one of the elements in Chee's teaching cycle, where teachers encourage students to articulate about the task in hand. By doing so, students probe the problem in hand and outline new theories as to how to tackle the task.

Ask Open-ended Questions
Open-ended questions are those that cannot be answered by a yes or a no response and require elaboration. Asking open-ended questions encourages responses and participation, group discussion, clarifying ideas, teamwork and group feedback.

Coaching
Coaching is where students are encouraged to practice the techniques that will aid them in the learning task. Coaching encourages good practice and eliminates bad technique. Where practice makes perfect, it's the coaching that perfects the technique.

Be Flexible - guide discussion while “going with the flow”
Flexibility in guiding the discussion allows 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.

Concrete Experience
The first part of Kolb’s learning cycle, concrete experience is where learners first experience the new theories in action. It is where learners are able to involve themselves fully and openly in their new experiences. These new experiences allow the student to subsequently reflect on them and ultimately form new theories.

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.

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.

Don't Dominate Discussions, Support student-to-student interactions
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 2: The Pattern Pack

Encourage students to critically analyze their own views and maybe rethink them

Encourage Peer Feedback

Ensure each question has a reply

Exploration

Formulate a process for deeper enquiry into subject

Give Positive Feedback

Make Discussion Objectives Clear

Outline Learner Activity Goals

Reflection/reflective observation

Scaffolding
Appendix 2: The Pattern Pack

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.

Encourage students to critically analyze their own views
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.

Exploration
One of the elements in the constructivist teaching cycle, exploration is when students examine the subject and begin to form new theories.

Ensure each question 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.

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.

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 purging 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.

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.

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.

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.

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.