Patterns for Online Discussions

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Nowadays, online education is very popular. Almost every school has developed at least a few online courses in order to be competitive in the education market. The main interaction for online courses is based on online discussions.

Also, numerous schools are developing and conducting blended or hybrid courses focusing on a combination of online and traditional-classroom learning that emphasizes virtual constant correspondence. Other schools are using a Learning Management System with a component for online discussions, as part of the curriculum for a traditional classroom setting. This virtual academic presence mirrors businesses 24/7 accessibility.

Conducting and evaluating online discussions may be a difficult task for novice teachers who lack experience in their conduction and evaluation. Patterns for Online Discussions have emerged as a tool to conduct and evaluate online discussions and offers solutions to evaluate online discussions. This paper uses an adaptation of the Alexandrian pattern structure as the core for online discussions.

Categories and Subject Descriptors

D.3.3 [**Patterns**]: Language Constructs and Features.

General Terms

Languages.

Keywords

Pattern language, online discussion, instructional technology, technology transfer, object orientation, reuse, modeling, information technology, architecture, design, documentation, patterns, writers' workshops.

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1. INTRODUCTION

The patterns developed are using an adaptation of the Alexandrian pattern structure to enhance the classic context of most online discussions. Some of the most common problems that appear on online discussions are engagement, mastering the material taught, grading. The usage of the patterns resolves the forces that create the problem with proved solutions, creating a new context. Using these patterns, faculty members may develop and gain useful ways to engage students. At the same time, students are motivated to participate dynamically, while learning the theoretical and conceptual applications of the required material. The teaching-learning engagement experience between faculty members and students goes beyond what is expected. Faculty members may use the teaching-learning process as feedback to reflect on new ways of teaching. In other words, the teaching-learning process becomes a *symbiosis* among faculty members and students, generating an improved context. To use these patterns, the usage of a management system media providing asynchronous and/or synchronous ways of communication is required.

2. HISTORY AND CONCEPT OF PATTERNS

The original definition of patterns was introduced by Christopher Alexander: "*Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way you can use this solution a million times over, without ever doing it the same way twice. Each pattern is a three-part rule, which expresses a relation between a certain context, a problem, and a solution.*" Using generic terms, a pattern is an abstract solution to a specific problem in a determined context. Hence, a pattern is useful in various context of the same type. As per Christopher Alexander, a Pattern has three basic parts, the context, the problem and the solution. Today, patterns are widely used in multiple disciplines.

3. WHY USE PATTERNS FOR ONLINE DISCUSSIONS

The usage of patterns in different disciplines has engaged us in developing patterns for online discussions. This paper discusses four basic patterns that solve common problems arising in online discussions. One of the patterns addresses the problem of encouraging students to participate actively in online discussions (Commenting on comments). The next pattern fosters mastery of the subject matter (Working on the target). As with any other activity, the retrospective process is highly desired to improve online discussions and related situations. The third pattern allows teachers to receive feedback from students to improve ways of teaching (Fueling and fanning the flame). The final pattern allows teachers to provide students with a fair grading system. Rewards for participation have to be done in a fair context (Fair-and-square).

For most faculty members, teaching is much more than a career. Teaching is a passion. Teaching requires being involved and committed to their students and subject matter. *Patterns for Online Discussions* is a tool developed to improve teaching skills to support faculty members' passion for teaching.

Table 1. Patterns for Online Discussions

Objective	Pattern
You want to encourage students for active and dynamic participation	Commenting on Posting
You want to guide students for mastery of the subject matter	Working on the Target
You want to empower students' suggestions and improve your ways of teaching	Fueling and Fanning the Flame (feedback for teachers)
You want to use a fair grade system	Fair-and-Square (feedback for students)

4. PROPOSED PATTERNS FOR ONLINE DISCUSSIONS

4.1 Pattern Name: Commenting on postings

4.1.1 Context
Participation in online discussions is required. This participation is or probably shall be the main source of interaction among students and the faculty members. Participative student postings do not always show clear knowledge of the material taught.

4.1.2 Problem
Discussions may reflect no effort and no mastery of knowledge. In addition, every posting is isolated, and there is no interaction among other postings. Discussions seem to be lacking engagement. Postings are very *static*.

4.1.3 Forces
You may be involved in imparting knowledge based on theory and concepts of the material to be covered. You may be expecting a high level of participation by students. Students are posting their comments and have the impression of isolation with no perceived stimulus to engage in participation. Administration and faculty expect that an online

discussion will naturally be well-structured in order to make an assessment of whether the learning objectives have been achieved.

4.1.4 Solution

Design the learning modules and discussions based on the material being taught. Provide stimulating incentives in practical applications that reflect material comprehension. In interaction with students, use constructive comments in timely responses to students, prompting their interest and creating a desire to continue with their participation.

Use reinforcements while responding to comments on postings. As examples of positive reinforcement, faculty members may tell their students "good job," after they link a theoretical concept to a real life application. Also, you may reinforce students' future participation by reducing the current workload based on positive previous activity. For example: eliminating the requirement for certain case studies. This makes students more enthused to participate because they are receiving a benefit of less workload in certain module.The comments shall clarify or reinforce concepts and theories. Comments have the ability to control the movement and flow of the discussion, making it very encouraging to be a part of a dynamic intellectual interaction.

Also, it is a good practice to indicate, combine and compile several postings that reinforce the material taught. As an example of this activity you may post a comment stating that the third posting, the fifth posting and the seventh posting from May 20th are confirming the posting of May 22.

Keep in mind, you are the main animator and responsible for creating an enticing environment for participation of students learning during online discussions. Remember, the student faculty interaction is critical for students' wellbeing and has proven influential in their overall educational experience.

4.1.5 Resulting Context

Comments on postings will build enthusiasm, courage, and help students to develop a desire for challenges. Faculty members will satisfactorily encourage student to participate and provide motivation to students to discuss different options in accomplishing tasks and reaching objectives. Online discussion posting shall become dynamic and frequent. If students are encouraged to think their way through the theories and concepts in the discussions, there will be a closer correlation between the postings and the theoretical subject matter of the course,. It will allow to better measure learning comprehension for the teaching-learning process.

4.1.6 Possible disadvantages include:

Implementing this pattern may take a lot of time because you have to get familiar with the pattern and its usage. Do not create high expectations on students to demonstrate deeper knowledge. When the objective expected does not occur, there is tendency to feel frustration. You have to be encouraging and enthusiastic even when at certain point students are not responding favorably. Students may be sensitive to unfavorable comments and if it happens, those unfavorable comments could instill a bad impression of online learning in the course. In addition, students may not be willing to participate or may disrupt the discussion. Be cautious to not get ahead of the material covered and/or not limit students to just repeating or rewriting concepts.

4.1.7 Known uses

At every orientation session for Student Teaching, the School of Education of SUNY college at Old Westbury, it was noticed that every Director of Field Placement and Clinical Services remind students on Critical Constructivism to encourage the teaching learning process and to improve relationship with Cooperating Teachers, parents and students.

4.2 Pattern Name: Working on the target

4.2.1 Context

Every learning module has specific discussion content required, based on the covered material and conditions or situations of where to apply acquired knowledge. Posted mini lectures, assignments and homework required provide a synergistic opportunity for related information in the module. Suggested readings might contain material not covered but closely related to the learning material in the module.

4.2.2 Problem

Students learn at different paces. Some of them might capture and master the concept, easier and quicker than their peers. This situation may create divergent postings, sometimes ahead, or sometimes away, from the central topic or objective.

4.2.3 Forces

The online courses include posted mini lectures which illustrate the main concepts, as well as case studies that might be applicable on the topic. The system for discussion allows students to create unlimited new threads. Therefore,

some students with clear understanding and mastery of the material have the tendency to introduce uncovered material through other entities, such as websites, company data, and/or industry trends relevant to the discussion. Some other students, slow learners, are posting comments according to their comprehension, showing no understanding of the theoretical concepts.

4.2.4 Solution
Monitor the discussion to reduce divergent postings. If this happens, encourage students to focus on the main idea without discouraging participation. Limit the number of new threads created to 3 or 4. Provide distinct opportunities for students to demonstrate comprehension through additional avenues. Encourage mutual help or mentoring among students, using emails and/or social networks. Students mastering the material shall guide and support classmates to reach objectives and prove their successful applications of the material. Encourage real life example that correlate with the lessons subject. The correlation between theoretical concepts and real life application invigorates the discussion when students bring in their own experiences to solidify understanding of material.

Quizzes and tests will assist faculty members in assessing comprehension. Projects will enhance the exhibition of student understanding.

4.2.5 Resulting Context
Focusing on the most important part of the material covered shall reinforce the knowledge acquired by students. At the same time, students will improve the learning techniques.

Based on instructors effort in assisting students to gear their posts directly to the main theme of discussion, students will develop a better way to learn. Students' better comprehension of the need to closely relate their responding post to the material will allow them to accomplish what is sequentially required, according to the objectives in the syllabus.

Students working together and hearing from other students, as they relate closely to the subject discussion, will reinforce the learning of the concepts. Bringing in their life experiences that reflects correlation to the material affirms learning.

Sharing and discussing ideas and examples with their peers solidifies the understanding. Students' continued attempts to post on the comments will strengthen their need to be direct and concise about the material. These systematic postings will encourage students to continue having meaningful discussions, allowing some peers to see where their posts are adding to the overall understanding and improving participation and interest.

If your efforts are not aligned with "Working on the Target", students will be all over the place with their postings and limited knowledge of the material will be acquired, resulting in negative comments and negative image about the course, the instructor and/or school.

4.2.6 Possible disadvantages include
Students who mastered the material might get discouraged or disappointed, if they have limitations on postings. Also, some students may not be willing to mentor their peers. Students who do not see peers participation and instructor participation may get discouraged. Students who consider the instructor as not having control or the ability to entice participation might lose interest in fully participating in the course. You may get exhausted because of the amount of time invested to fully implement this pattern.

4.2.7 Known uses
In any meeting, the activity of the coordinator is very important to cover the agenda and its purposes, in orderly and timely fashion. At some point, it may be necessary to remind the purpose of the meeting and/or the agenda's topic.

Also, in any debate, the function of the monitor is crucial for the success of the debate. In the same way, once on a while, it may be necessary to remind the purpose of the debate.

4.3 Pattern Name: Fueling and fanning the flame
4.3.1 Context
Every learning module has discussions that require student input and participation. Faculty expects students' posting to show clear understanding of the material taught. Students' postings may reveal that they do not understand the material or they need some inspiring guidance for better comprehension.

4.3.2 Problem
There is a need for tailored teaching practices.

4.3.3 Forces
You are committed to covering and imparting all the required material. Most of the times there is a tendency to successful cover this material. Students who did not master the beginning chapters (learning modules), may not master the next chapters, which may deter mastering of all material taught.

4.3.4 Solution
Administer anonymous surveys, one in the middle of the course and one at the end of the semester. Use questions targeted to identify how the student could learn more. The survey might include questions on mini lectures, activities, examples used to impart the material, styles of teaching, ways of correcting ideas and other considerations within the teaching-learning process. Some examples of questions for the survey could be used; Did the video on topic "A" strengthen your understanding of the concepts?, what other activity could be used if the video was not available?, Did the recent natural disaster that occurred in "Place B" illustrate the principles learned?

Send students a brief summary of findings from the surveys, shortly after their completion and request timely feedback.

4.3.5 Resulting Context
The survey will provide feedback to be used for the retrospective process for the course development. This will motivate you towards a state of continuous teaching improvement. If a survey is conducted during the middle of the semester, the students may see the value of their feedback exhibited during the rest of the semester which will motivate their involvement and participation for the remaining class discussions. When students notice that their suggestions are considered, they will tend to participate much more. When students participate more actively due to modification or implementation of activities based on their input they are empowered. Then, it is possible to observe what activities engage students. Engagement will lead to more efficient ways of teaching and faculty members will have the satisfactions of the results obtained.

4.3.6 Possible disadvantages include
Students may not consider surveys as a tool to assess the teaching experience. If there is only one survey and if it is done at the end of the semester, students may not consider participating on the survey, at all. The faculty members, as human beings, may be discouraged if the survey indicates a lot to improve.

4.3 7 Known uses
Project managers at the end of every project write a Lessons Learned section to improve performance on the next project. Software development teams use project retrospectives to recognize members, encourage team work and to not repeat mistakes. Self reflective faculty members may adjust their teaching methodology to improve the teaching-learning process. Instructors may entice involvement of outside curriculum activities that will bring the parties together for mutual subject matter involvement. These types of faculty and student contact will enhance the course and give the students a feeling of alignment with campus life and a solid engagement with the teaching-learning process.

4.4 Pattern Name: Fair-and-square
4.4.1 Context
Posts need to be graded, based on reflections of student understanding and mastery of the course material. Mastery may include the ability to apply the material developed, as well as critical thinking. As a generic rule, students with deeper understanding of the material shall earn better grades.

4.4.2 Problem
It is very common for students to compare grades and scores. Some students consider the received grades unfair especially if they compared their grades to other students' grades, even when their responses do not qualify as equal to what they are comparing to. Students' reactions to scores may show disappointment, frustration and unhappiness.

4.4.3 Forces
Postings have to be graded in a timely fashion. You may be using personal criteria to score and grade all postings. Students whose comments were using the same principle but different examples are expecting similar grades and/or scores. The administration would like to have a common *rule* to measure postings.

4.4.4 Solution
Use the related rubric. Keep in mind that a rubric is a scoring tool for subjective assessments. It is a set of criteria and standards linked to learning objectives used to assess a student's performance. An example of a rubric for spelling could be: unacceptable (1 point), if there are eight or more errors; acceptable (2 points), if there are 3 to 7 errors. Target (3 points), if there are there are 0 to 2 errors. If there is no implemented rubric, build one. Detail what is

going to be accomplished based on standards. Standards are the skills and knowledge base expected of students for a particular subject area at a particular grade level. Determine and delimit properly each dimension, for each criteria weight. Clearly post the rubric so it is accessible to students.

4.4.5 Resulting Context
Faculty members, using rubrics or setting parameters, shall make clear what aspects of the students' discussions and submissions are being evaluated, how they are evaluated, what is expected, and the time frames for submission. The usage of rubrics, or parameters, will help students to improve the quality of postings. Students will consider faculty members as fair graders. Students understand the course expectations better. Students who have access to graded module assignments, shortly after the module is complete, have a better idea of how they are doing in the class and can address any inconsistencies to the instructor immediately. Claims about unfair grades will be reduced drastically. If rubrics are not used students may be troubled by the inability to understand how they have been graded and they would not know the criteria or base for the grade, considering this unfair and not satisfied with the instructor, course or institution.

4.4.6 Possible disadvantages include
Faculty may grade mechanically. Learning is a process and the need for improvement should be taken in consideration. Students may be focusing on rote learning just to accomplish the parameters of the rubric.

4.4.7 Known uses
To obtain professional accreditations educational institutions have to fulfill multiple requirements. Among those requirements to fulfill there are standards to meet. In order to attain these requirements, educational institutions create rubrics properly aligned to standards. Using a systematic approach, based on rubrics, educational institutions obtain the data that proves the various standards are met.

5. CONCLUSIONS

Patterns are solutions to problems developed in a specific context, generating a new context. As per Alexander, "*You can use this solution a million times over, without ever doing it the same way twice.*"

The usage of these **Patterns for Online Discussions** have enabled faculty to develop alternative methods to deliver newly improved context where students are encouraged to participate in discussions. At the same time, the new context may improve or develop other methods to accomplish tasks and reach objectives.

Another attribute for these patterns is noticed when students are aware about their suggestions being considered and counted as feedback, they participate much more. At that time, students are empowered and fueled to go the extra "mile." Finally, the implementation of rubrics, or parameters, while using patterns, helps students to improve the quality of postings.

Using patterns, faculty members have experienced high participation in online discussions resulting in increased quality of postings. Verifying recent knowledge acquired and the satisfaction produced by students' accomplishments, through online discussions, allowed faculty members to adjust or modify teaching techniques. The sense of the work well done is a moral reward and encouragement for faculty members.

At this time, the patterns have not been developed as a **Pattern Language for Online Discussions**, but they are being introduced.

6. ACKNOWLEDGEMENTS

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