



Drupal Node Overview

Program Development Report

Prepared for: EDT502, Fall 2007, Dr. Savenye

Prepared by: Jeff Beeman

December 3, 2007

EDT502 Final Project

Table of Contents

Program Overview	2
Evaluation Method	3
Results	4
Revisions	6
Appendix A: Test Details	8
Appendix B: Participant Survey	9
Appendix C: Instructor Survey	10

Program Overview

Overview

The *Drupal Node Overview* program is designed for any potential Drupal developer to quickly get familiar with Drupal's node system. An understanding of the basic features of Drupal's node system, how and when nodes are modified, and being able to identify where and when that modification happens are key objectives to becoming a better Drupal developer.

Goal of Instruction

The goal of this program is to provide potential and current Drupal developers, who have experience administering Drupal and some experience with PHP, the necessary foundation of knowledge about the Drupal node system that will allow them to identify cases where nodes are being modified and introduce them to the methods that will allow them to write modules that modify Drupal nodes.

Target Audience

The target population for this particular instance of the training was ASU staff and student Drupal site administrators and developers (either potential or current developers) that have the prerequisites defined in *Attendee Prerequisites*.

Attendee Prerequisites

- Familiarity with administering Drupal and managing content within it.
- Basic knowledge of the PHP programming language.

Instructional Objectives

This *Drupal Node Overview* program is designed such that potential Drupal developers will

1. identify key attributes of Drupal nodes;
2. name and describe how to use the Devel module to view node attributes; and
3. identify and describe the methods *hook_form_alter* and *hook_nodeapi*, and how they interact with nodes.

Instructional Materials

The *Drupal Node Overview* program contains the instructor manual, attendee guides, pretest and posttest, and copies of participant and instructor surveys. Instructors were expected to have a computer connected to a projector and access to the program website. If attendees had computer access, instructors also needed attendee log in information slips.

Evaluation Method

Participants

A total of 18 attendees participated in the field test of the *Drupal Node Overview* instructional materials. While a strong effort was made to ensure that all attendees had experience with Drupal and PHP, a few of the attendees (about 3) appeared to meet none of the program prerequisites.

Process

The instructor of the field test taught the program in a presentation room in the Computing Commons at ASU. The instructor administered the pretest and posttest and, due to time constraints, the designer scored and analyzed the performance results. The instructor also administered the Participant Survey and completed the Instructor Survey at the end of the program.

Data sources and method of collection

The *Drupal Node Overview* pretest and posttest were different in structure, but followed similar formats and had a similar expected time to complete. The pretest consisted of eight questions (five multiple choice and three short answer), three covering objective one, two covering objective two, and three covering objective three. The posttest consisted of five questions (all short answer), one covering objective one (but consisting of five relevant pieces of data), two covering objective two, and two covering objective three. The Participant Survey and Instructor Survey were created by the program designer to collect attitude data for identifying satisfaction with the program design and potential areas for improvement.

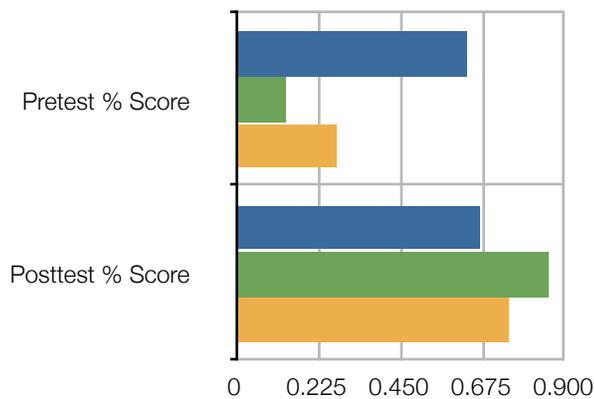
Results

Attendee achievement

The field test attendees' mean percentage scores on both the pretest and posttest can be seen in the table and chart below, and the more detailed pretest and posttest data can be found in *Appendix A*. The data demonstrate that the attendees' total mean scores were 37% on the pretest and 78% on the posttest. Attendees' pretest scores for objective one did not show a notable increase (63% to 67%), while scores for objective two increased from 14% to 86%, and scores for objective three increase from 28% to 75%.

Objective	Pretest % Score	Posttest % Score	Improvement
1. Identify key attributes of node	62.96%	66.67%	105.88%
2. Identify and describe the process for using the devel module	13.89%	86.00%	619.20%
3. Identify <i>hook_form_alter</i> and <i>hook_nodeapi</i> as methods for altering the node structure	27.78%	74.67%	268.80%
Total	37.50%	77.60%	206.93%

Improvement by Objective



- 1. Identify key attributes of node
- 2. Identify and describe the process for using the devel module
- 3. Identify *hook_form_alter* and *hook_nodeapi* as methods for altering the node structure

Attendee attitudes

The full list of attendee comments and long-form responses is presented in *Appendix B*. The table below displays that, on average, most attendees felt the positive about the program material, organization and presentation. All attendees who responded felt the program was both the right length and contained material of an appropriate difficulty.

Question	Average Score
The program was well organized.	3.20
The program covered material I needed to learn.	3.07
The overall quality of the instruction was good.	3.00
There was enough opportunity to for participation.	3.00
The instructor was knowledgeable.	3.20
I received adequate introductory information to participate in the program.	3.13
This was a worthwhile program for me.	3.00
I learned a lot.	2.93
I feel more confident about working with Drupal in the future.	3.13
I feel like I'm ready to learn more about writing Drupal modules or themes.	3.20

4 = Strongly Agree 3 = Agree 2 = Disagree 1 = Strongly Disagree

Instructor attitudes

The full list of instructor long-form responses can be found in *Appendix C*. The table below shows that the instructor found the program to be worthwhile but, like the attendees, too difficult. The instructor indicates that there is room for improvement of the instructor guide, as noted in *Revisions* below.

Question	Average Score
The material in this program was worthwhile for the attendees.	4
The program objectives were clearly stated.	4
The practice exercises helped the attendees learn the material.	3
The teacher guide was easy to use.	3
I received adequate instructions for instructing the program.	3
The difficulty level was appropriate for the attendees.	2
The program was well organized.	4
The materials were appealing and interesting.	3
I liked the program.	3
I would teach this program again.	4

4 = Strongly Agree 3 = Agree 2 = Disagree 1 = Strongly Disagree

Observations

The program designer was present for the field test of the program, and noted many potential improvements to the materials based on observation of the instruction. These suggestions can be found in the *Revisions* section.

Revisions

A number of potential revisions have been identified as a result of analyzing testing and survey data, and through observation of the instruction as it was delivered in the field test. These high-level suggestions each contain details of specific issues potential areas of improvement for the current program.

Stronger emphasis on prerequisites and suggested materials

Despite clearly stating the prerequisites in the invitation to the trial, there were too many attendees who were not prepared for the training. Not only did these attendees perform poorly and express dissatisfaction with the program, but they caused unnecessary breaks in instruction and distracted other attendees with side conversations as they attempted to catch up with material. Upon reviewing performance data for the pretest and posttest, there is a clear correlation between attendees who had no experience with Drupal and the amount of improvement seen during the session. Therefore, a stronger emphasis and enforcement needs to be placed on attendee prerequisites.

Emphasis should be made on attendees bringing a laptop if they have one. While the instruction is designed to accommodate this, it is an unfortunate reality that many times the instruction may be delivered in a room without individual workstations, and this could help alleviate situations where only a few attendees have computer access for practice time.

Make the session longer or part of a series

Considering observation and attendee comments, it is strongly recommended to make the program longer and incorporate it into a series of programs. The problem most identified by attendees and the instructor was that the material too quickly transitioned from a fairly high-level overview of Drupal nodes to a relatively complex programmatic look at how nodes can be modified. By lengthening the program, attendees would have more time to get hands on with the material and become more familiar with the idea of nodes as objects. Attendees could then spend an appropriate amount of time covering more complex topics, like node alteration. By incorporating the current program material into a series of units, attendees would be better prepared for the material presented in this unit.

The field test demonstrated that some other prerequisites are necessary or would be incredibly helpful. By making this unit part of a series, it would be assured that attendees have all prerequisite knowledge. Suggested materials for prior sessions that would help make this session more successful include

- an in-depth review of many of the administrative functions available in Drupal;
- an overview of the Content Creation Kit and Views modules; and
- a full overview of the Drupal database architecture.

Improve instructor preparation

While the instructor did quite well and successfully handled many unexpected aspects of the program, the instructor materials need to better prepare the instructor with certain aspects of the program. The assumption was made that

instructors would be familiar with certain aspects of Drupal that they may not be, and some of the instructions need more detail. Some specific suggestions:

- Tell the instructor to make sure everyone has a pen before starting.
- Tell the instructor to hand out the pretest and posttest while introducing them to the class.
- Tell the instructor to ask attendees to put their name or some other sort of identifier on the test. (It was fortunately suggested that attendees could just make up some sort of code that they could use to represent themselves on the pretest and posttest, allowing the evaluators to still correlate individual performance across tests. This was quite successful.)
- Tell the instructor to allow a maximum of 10 minutes for each test.
- Tell the instructor to emphasize the presentation of the program objectives to attendees. It was not clear to attendees what the objectives were.
- Present a better overview of taxonomies and free-tagging in the instructor guide.
- Tell instructor to increase the text size in the web browser before presenting the materials. Many attendees appeared to have difficulty reading the text on screen.
- Tell the instructor to point out the second side of the Participant Survey. Many attendees did not see and complete the second page.

Add an overview of Drupal nodes from the database level

Several attendees wanted to see the database structure for Drupal nodes, and the instructor referenced, several times, that different attributes of Drupal nodes were represented as columns and rows in the Drupal database. This would be a fantastic addition to the program, and would help attendees grasp the idea of the Drupal node structure.

Appendix A: Test Details

Pretest Totals

Question	Objective	Points Possible	Students Average Score
1	1	5	3.89
2	1	5	3.61
3	3	5	2.50
4	3	5	1.39
5	2	5	1.11
6	1	5	1.94
7	2	5	0.28
8	3	5	0.28
Total		40	15.00

Posttest Totals

Question	Objective	Points Possible	Students Average Score
1	1	5	3.33
2	2	5	4.33
3	2	5	4.27
4	3	5	4.13
5	3	5	3.33
Total		25	19.40

Appendix B: Participant Survey

Survey comments and notes

- Switching to API module was not smooth.
- Tags - better way to say how used on websites, what the user sees and then how to do it
- Overall, transitions between topics needs to be smoother.
- This class was a little basic for me, so please take in mind. For some, it might have been at the right level. Good job, though.
- Tell people to bring laptops in advance.
- Be more clear about prerequisites.
- I was a little disappointed that there were people in the class that hadn't had an intro to Drupal before. I felt the workshop description adequately explained that some experience with Drupal was necessary.
- Class was a little too short. I hope there are more to come.
- Hands on classroom would have been better.
- Last part was a little confusing.
- Good training material handouts.
- Guide handed out was helpful.
- Length of time too short for a formal QA.
- This was a pivotal subject in the establishment of Drupal knowledge and it was key to understanding practical Drupal development.
- Would like a presentation that is more centered on user support; Tech support; How do I solve common problems that arise.

What things did you like best about this program?

- Seeing others that do Drupal.
- Overview.
- Information about the nodes.
- Taxonomy explanation.

What things did you like least about this program?

- Lost interest part way through and then regained.
- No database walkthrough.
- It left me wanting more...

Please suggest potential improvements for future programs like this one.

- Two levels of classes - 1 for non-programmers, 1 for programmers.
- Tell attendees to close handouts for tests.
- Have the same pre and post test.

Appendix C: Instructor Survey

What were the major strengths of the program?

- I think students started to see the connection between content and nodes.

What were the major weaknesses of the program?

- It would be more effective if we had taught it in a room of computers.

What kinds of changes would you make in the program to improve it?

- I would create terms for taxonomy vocab right after creating vocab - felt like I had to navigate to the dev load part of content for no reason.