



# Activity-Level Feedback

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According to Kirkpatrick & Kirkpatrick, there are several levels of evaluating the quality of instruction: reaction, learning, behavior, and results. Reaction-level feedback is gathered when we ask the students how they feel. Here at BYU-Idaho, we traditionally gather reaction-level feedback at the end of the semester with course evaluations. These are very effective in gauging the overall health of a course and the effectiveness of an instructor, but they do little to tell us what needs to be done to improve a course. Many online courses add a second assessment point, gathering weekly feedback from the students. The chief benefit of this approach is that problems can be uncovered as the course is being taught, allowing corrective action to be taken before the semester is over.

Both the course evaluation feedback and the weekly feedback have their purpose, but they do not help the instructor find out how to improve an individual learning activity. This paper will describe how to collect such feedback, show an example of some feedback that was gathered in the Spring 2017 semester, and describe how you can gather similar feedback in your own course.

## Implementation

We used a Qualtrics survey placed directly in the HTML of an I-Learn quiz and an assignment's instructions to gather activity-level feedback. In both cases, the survey consists of a single HTML tag. As the web browser evaluates the HTML tag, it queries Qualtrics for the survey questions and sends the results of the survey directly back to Qualtrics.

For example, say you wished to place a survey in CS 124. The first step is to create a Qualtrics survey and generate a URL (web address) to the survey. You can create the URL in Qualtrics by opening the survey, clicking "Distributions" in the top left, and clicking "Anonymous Link."

The second step is to embed this survey in an assignment. In the simplest format, the following HTML embed code is used:

```
<iframe src="https://byui.az1.qualtrics.com/jfe/form/SV_1RY6MGUnhQM3AjP"></iframe>
```

Note the survey ID SV\_1RY6MGUnhQM3AjP generated by Qualtrics refers to your specific survey. You will also want to specify the size of the rectangle that will be filled with the survey:

```
<iframe src="https://byui.az1.qualtrics.com/jfe/form/SV_1RY6MGUnhQM3AjP" height="500px" width="100%"></iframe>
```

In this case, the height is 500 pixels and the width is 100% of the window width. It is also possible to use one survey in more than one class. For example, you can specify the learning activity and the course name. When the survey data is collected, you can then sub-divide the data according to class and learning activity. You can pass through this metadata by adding tags to the URL. First begin with a "?" after the survey ID followed by "&", the name of the variable you would like to pass through URL, and the value to be associated with the response:

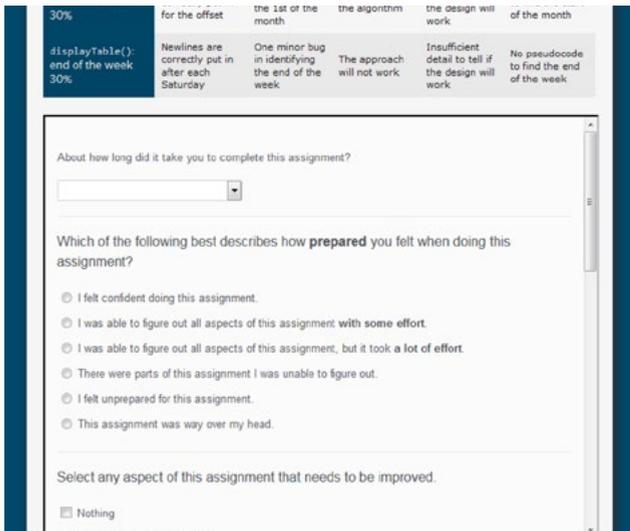
```
<iframe src="https://byui.az1.qualtrics.com/jfe/form/SV_1RY6MGUnhQM3AjP?&Course=CS124-S2017&Activity=Ponder06" height="500px" width="100%"></iframe>
```

The third step is to set up Qualtrics to attach any metadata you have included in the URL to an individual

survey response. To do this, open the survey in Qualtrics, click “Survey Flow” in the upper left, click within the survey flow to “Add a New Element,” click “Embedded Data” in the box that appears, and in the text field that appears (“Enter Embedded Data Field Name Here...”), type the names of your variables (i.e. Course).



Now that the embed code is created, it can be placed directly in the HTML component of the assignment definition, be placed directly in an individual quiz item, or be placed on any other web page the students are required to read. In each case, I-Learn does not interact directly with Qualtrics, but the Qualtrics survey is presented to the user. The following example is a survey embedded at the bottom of an HTML document. Notice how the survey scrolls independently of the rest of the page:



Once this survey is attached to the learning activities and students enter their data, we can generate reports.

Because each learning activity is different, we expected to get very different data for each item. Therefore activity-level feedback was a perfect fit.

### Activity-Level Dashboard



In this example, you can see that the generated report (which we made in Excel) had data for more than six classes and several learning activities. Through the dropdown, we have currently selected CS 124 and the Pondero6 learning activity.

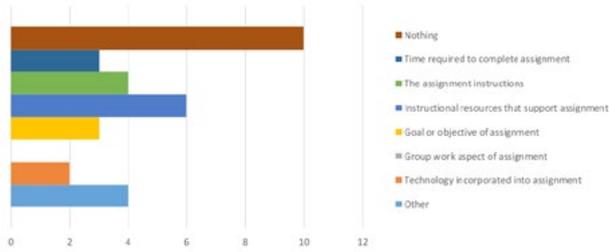
### Case Study: Computer Science

To pilot this new technique, a survey was placed in a dozen online CS courses. There are four things we wanted to know:

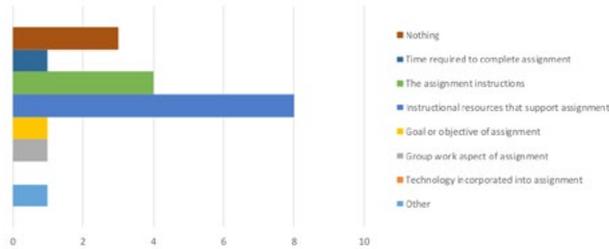
- What needs improvement for key learning activities?
- Do the students see the point in the key learning activities?
- How long does it take for the students to complete the key learning activities?
- What is the difficulty level for the key learning activities?

Because each learning activity is different, we expected to get very different data for each item. Therefore activity-level feedback was a perfect fit.

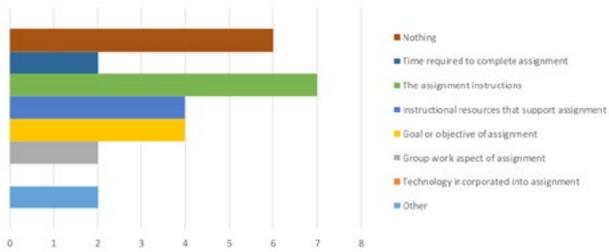
The first question we asked was: “Select any aspect of this assignment that needs to be improved.” We then gave the students a range of options from “Nothing” to “Technology incorporated into the assignment.” For one class (CS 213 – Web Engineering I), we found that the students were somewhat happy about Ponder 04...



...but felt that the instructional resources were missing for Ponder o6...

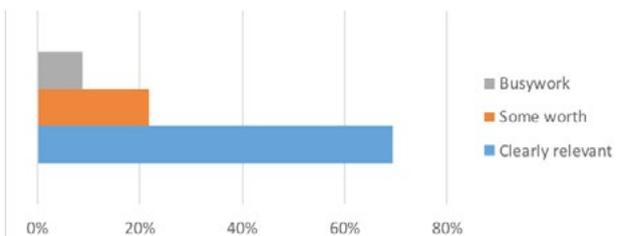


...and the instructions were the worst problem for Ponder o8:



This data allowed us to direct our course improvement efforts in the most effective way to increase the overall quality of the course.

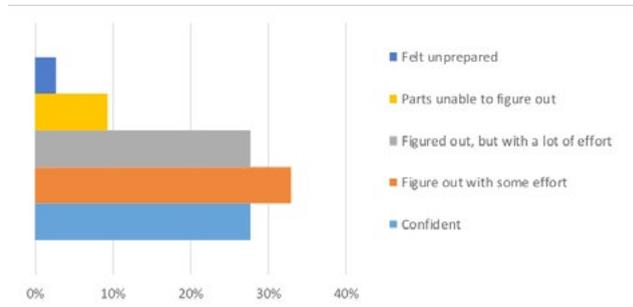
The second question was “Did you see the point of this assignment?” To our great relief, almost every student in every class for every assignment said “Clearly relevant” or “Somewhat.” However, one class (CS 432 Software Engineering III) had one assignment (Ponder o6) where a third of the students thought it was busywork:



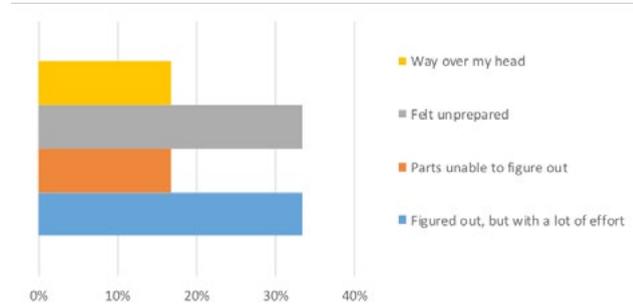
From here, we need to determine whether the assignment itself is flawed or if we did a poor job explaining the point of the assignment to the students.

The third question was “How long did it take you to complete this assignment (in minutes)?” We found this data to be much more accurate than the end-of-semester feedback or even the weekly feedback we get for online classes. When we cross-reference this with the estimates in the course map, it tells us how accurate our estimates are and whether we are on budget for the course.

The final question was “Which of the following best describes how prepared you felt when doing this assignment?” For “Prepare” learning activities, the hope is most will report “Confident” or “Figure out with some effort.” However, for “Ponder” learning activities, we expect it to be more difficult (but not too difficult). According to Vygotsky’s theory of “Zone of Proximal Development,” learning activities should be a stretch but achievable. We therefore hope to have most students report “Figure out with some effort” or “Figure out with a lot of effort.” The following is for Ponder o4 for CS 124:



The following is an assignment that is too hard (CS 432 Ponder o6) which may indicate that it is a less-effective learning activity:





## Suggestions

Students appreciate the opportunity to share their opinion and experience, but get fatigued when asked repeatedly. In our experience, weekly surveys held a good response rate over time, but expecting students to give feedback on every activity would be unrealistic. It is best to use the activity-level survey selectively and strategically, such as on key assignments in the course, assignments that may be problematic, or assignments with a high fail-rate.

In creating survey response options, we went with the most descriptive as possible to more clearly understand the students' perspective. Examples of questions and response options we used can be noted in the Computer Science Case Study charts.

You can motivate your students to complete the activity-level surveys by helping them understand the survey purpose and by sharing what you are learning from their responses and how you plan to make improvements. ♦

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