

Teach One Another Activity Evaluation

Sponsors

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Brief Description

There is a need to better understand how to develop effective Teach One Another activities. This project is an initial exploration of the types and aspects of teach one another activities that instructors and students find effective and ineffective.

Objective

- Develop a report that identifies aspects of Teach One Another activities that students and instructors find most meaningful.
- Present findings to designers and have a discussion on what they mean.
- Provide access to report, infographics, and data to designers and other interested stakeholders.

Methodology

- **Participants**
 - Students and instructors from 32 different online courses
- **Data Collection**
 - Survey to students
 - Will be delivered after selected teach one another activities (coming from CurrDev's TOA taxonomy)
 - Will use Qualtrics, embedded into the LMS after the chosen TOA activity
 - Students may be asked to complete 1-2 surveys between now and end of semester
 - Survey items based on TOA outcomes (safe learning experience, deepen learning by teaching, have opportunity to serve and interact meaningfully with others).
 - Draft of survey:

Introduction: BYU-Idaho is trying to better understand how to foster effective experiences where students teach and learn from one another in online courses. Your feedback will help us understand what is working well and what could be improved in these type of activities, so please be candid in your responses. This survey should take no more than 3-5 minutes of your time.

One aspect of the BYU-Idaho learning model is that teachers and learners love, serve, and teach one another:

Teaching is an essential learning component. At BYU-Idaho, students teach to learn, and learn to teach. When students teach diligently, they receive deeper insight and are instructed more perfectly (see D&C 88:78). When learners and teachers view one another charitably, they create safe learning environments where all can stretch and stumble without fear. All learners (students and faculty) serve others through diligent preparation, cooperative effort, and teaching one another; thus charity replaces competition.

You should have recently completed (name of activity), which gave you and your class an opportunity to teach one another. Based on that activity and the statement above, please rate how well you agree with the following:

1. **(Learn)** The opportunity to learn from my classmates helped me receive “deeper insight” and be “more perfectly instructed.” (Strongly disagree to Strongly agree)
2. **(Teach)** My opportunity to teach helped me receive “deeper insight” and be “more perfectly instructed.” (Strongly disagree to Strongly agree)
3. **(Value)** I made a valuable contribution to my fellow-students’ learning. (Strongly disagree to Strongly agree)
4. **(Safe)** I felt I was in a safe learning environment. (Strongly disagree to Strongly agree)
5. **(Meaning)** This activity was a meaningful learning experience. (Strongly disagree to Strongly agree)
6. (From Question 5) You said that you (agreed/disagreed) that this activity was a meaningful learning experience. What did you (like/not like) about this activity?
7. **(Amount)** How much did you get to teach and interact deeply with others during this activity? (Not at all to A lot).

- Survey to instructors

- Will be delivered after selected TOA activities
- Will use Qualtrics, trackable links (so we can keep tabs on which activity the instructor data belongs to) - survey delivery will be scheduled so as to arrive after completion of the chosen activity
- Instructors will be asked to complete 1-2 surveys between now to the end of the semester (corresponding to the activities their students respond to)
- Survey draft:

Introduction: BYU-Idaho is trying to better understand how to foster effective experiences where students teach and learn from one another in online courses. Your feedback on this topic would be appreciated. This survey should take no more than 3-5 minutes of your time.

One aspect of the BYU-Idaho learning model is that teachers and learners love, serve, and teach one another:

Teaching is an essential learning component. At BYU-Idaho, students teach to learn, and learn to teach. When students teach diligently, they receive deeper insight and are instructed more perfectly (see D&C 88:78). When learners and teachers view one another charitably, they create safe learning environments where all can stretch and stumble without fear. All learners (students and faculty) serve others through diligent preparation, cooperative effort, and teaching one another; thus charity replaces competition.

You should have recently completed (name of activity) with your students. Based on that activity, please rate how well you agree with the following statements:

1. My students and I received “deeper insight” and were “more perfectly instructed” through our opportunity to teach one another. (Strongly disagree to Strongly agree)

2. My students and I fostered a safe learning environment during this activity. (Strongly disagree to Strongly agree)
3. This activity was a meaningful learning experience for me and my students. (Strongly disagree to Strongly agree)
4. (From Question 4) You indicated that you (agreed/disagreed) that this activity was a meaningful learning experience for you and your students. What about this activity was (effective, not effective) for you?
5. How much did your students get to teach and interact deeply with each other during this activity? (Not at all to A lot).

- **Data Analysis**

- Student responses will be compared to instructor responses
- Descriptive data and visuals will be analyzed for each scale survey item
- Themes from student and instructor comments will be surfaced
- Scale items will be averaged to create an overall score. Ranks will be made for types of activities and for specific course activities. Ranking of activities will be provided to Curriculum Development and potentially added to the TOA database.
- Survey averages will be regressed on other factors to identify the impact they have on student perceptions. This will be done at the general and activity-type level. These factors will include the following:
 - Whether the activity was synchronous or asynchronous
 - The instructional strategy used in the activity
 - Technology used
 - Group size used
 - Degree of critical thinking required
 - Nature of performance required based on Bloom's Taxonomy
 - Whether the activity was being used for spiritual learning
- The highest and lowest rated activities in each TOA activity type will be compared and contrasted (including analysis of student and instructor comments, assignment descriptions, and student interactions if available).

Results

This study builds off of the work done by Curriculum Development to categorize Teach One Another activities. The report can be accessed by following this link: [Report Link](#).

Descriptives

We surveyed 87 different Teach One Another activities and received over 20,000 responses from students. Most of the TOA categories had multiple surveyed activities, allowing for generalizations to be made from the data about the TOA category. Three had a low number of activities that received responses: Group Problem Solving, Group Accountability, and Study Group. There were very few examples of these categories from the beginning. It is not recommended to make generalizations from the few cases we have of these three TOA activity types. Table 1 below displays the number of activities surveyed and survey responses collected for each TOA activity type.

Table 1. *Number of activities surveyed and responses collected by TOA activity type.*

TOA Activity Type	Number of Activities Surveyed	Number of Responses
Case Study	5	1,357
Field Experience	14	2,748
Group Problem Solving	2	127
Group Project	7	1,204
Icebreaker	8	8,387
Insight Sharing	6	1,224
Peer Accountability	2	181
Peer Feedback	9	866
Presentation	4	497
Q&A / Support Forum	5	463
Role Play	5	544
Structured Debate	4	336
Study Group	1	12
Topic Discussion	15	2,967
Total	87	20,913

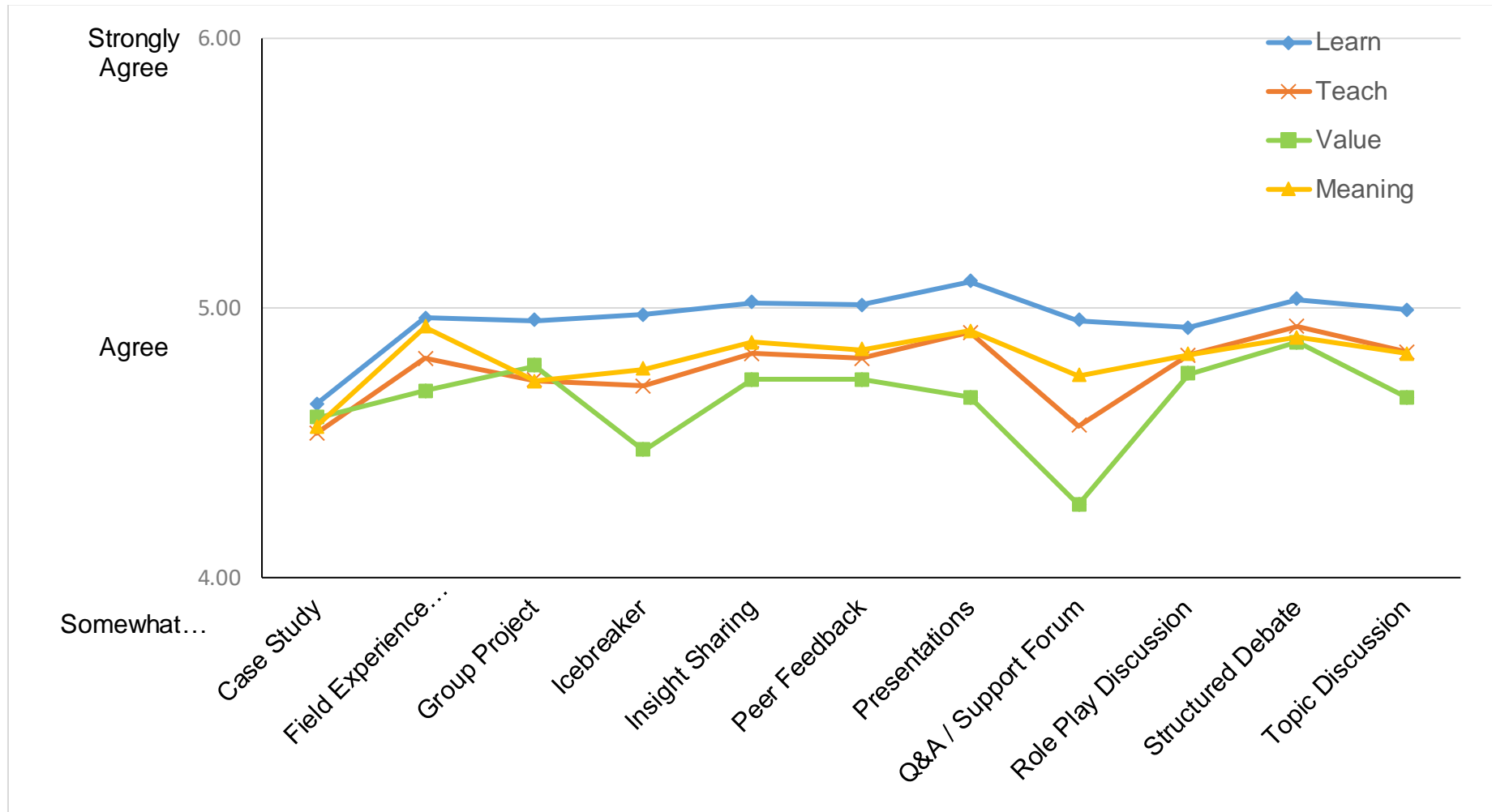
Quantitative Survey Item Averages and Distributions

Overall, survey scores for online Teach One Another activities were high. On average, student responses were between somewhat agree to strongly agree on survey items (see Figures 1 & 2), indicating that, in general, students feel that activities are adequately meeting the outcomes of Teach One Another (deepen learning by teaching and interacting, interact in a safe environment, serving and meaningfully interacting with others). There is variance in item averages by TOA activity type, indicating that some activity types are better at meeting TOA outcomes than others, or that specific activity types may need further attention to help improve the ability to achieve TOA outcomes. Specifically, Case Study activities and Q&A/Support Forum activities did not do as well as other TOA activity types in achieving TOA outcomes according to student perspectives.

The lowest average score was with Q&A/Support Forum activities on the item “I made a valuable contribution to someone else’s learning.” We looked further into these types of activities. Generally, students were given a place to ask questions about the week’s readings, homework assignments, learning activities, etc. Some students would supply answers to fellow students’ questions. For the most part, students were looking for answers from their instructor. Many probably felt that they did not have the expertise to adequately answer another student’s question, thus the low results we see on the item “I made a valuable contribution to someone else’s learning.”

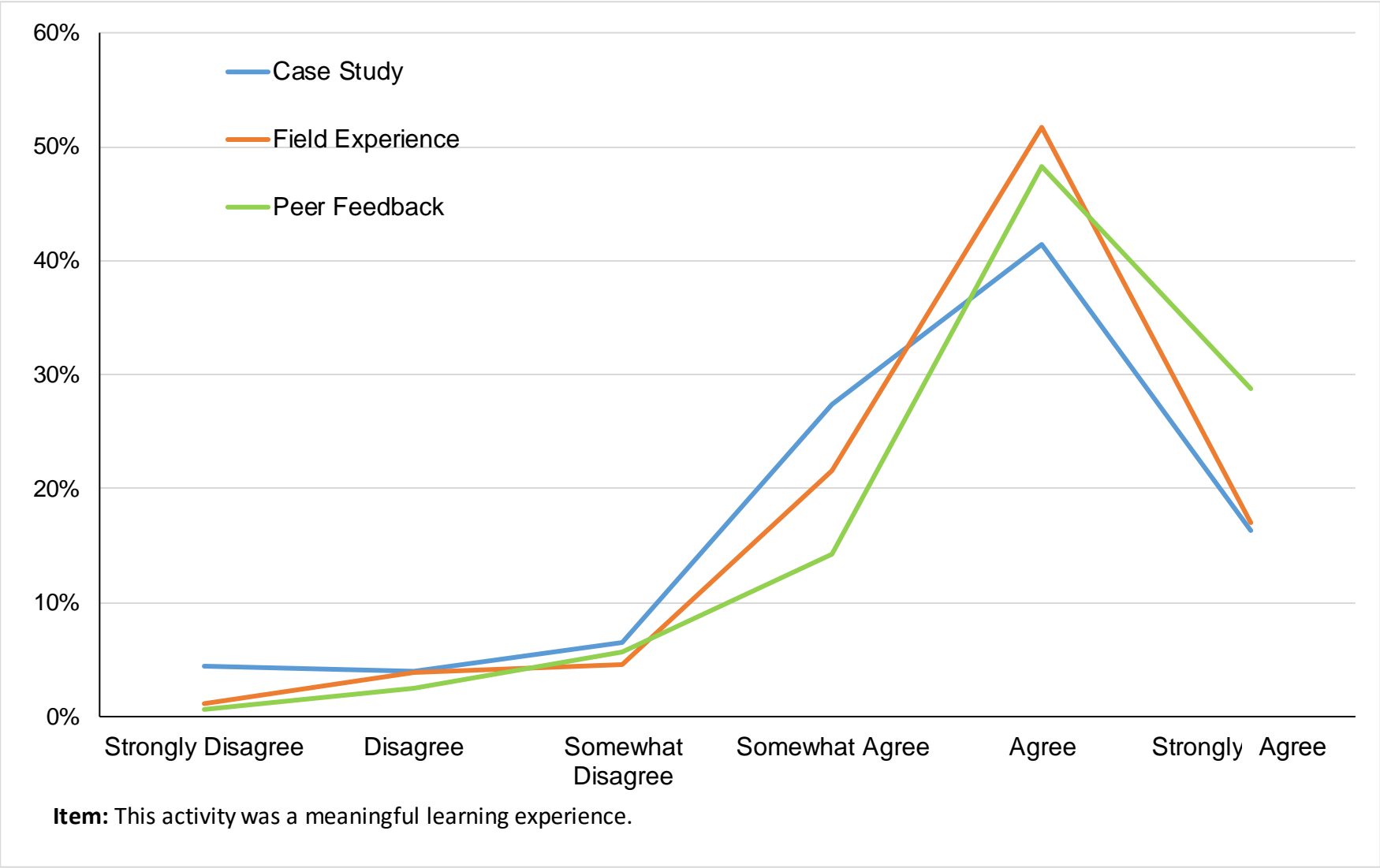
The second lowest average score was under the same item with Icebreaker activities. When reading student comments, it was apparent that many students felt the activity was valuable in connecting with other people, but that students didn’t really feel the activity helped other students learn more about the course. This is understandable as the purpose of the icebreaker activities was not to increase student learning. Similar lessons can be learned from comparing survey scores by TOA activity types.

Figure 1. Survey item averages by TOA activity type.



* **(Learn)** The opportunity to learn from my classmates helped me receive “deeper insight” and be “more perfectly instructed.” **(Teach)** My opportunity to teach helped me receive “deeper insight” and be “more perfectly instructed.” **(Value)** I made a valuable contribution to my fellow-students’ learning. **(Meaning)** This activity was a meaningful learning experience.

Figure 2. Student survey response distributions for three TOA activity types.



Looking at distributions of student responses on the survey show that there is a small, but significant proportion of students who do not feel that specific activities meet TOA outcomes (Figure 2). The distribution both shows that Online Learning is doing well at delivering effective TOA activities, but also has room to improve the experience for many students.

Regression Results

We regressed different attribute variables about a Teach One Another activity with scores on the scaled survey items. The following TOA attributes were analyzed:

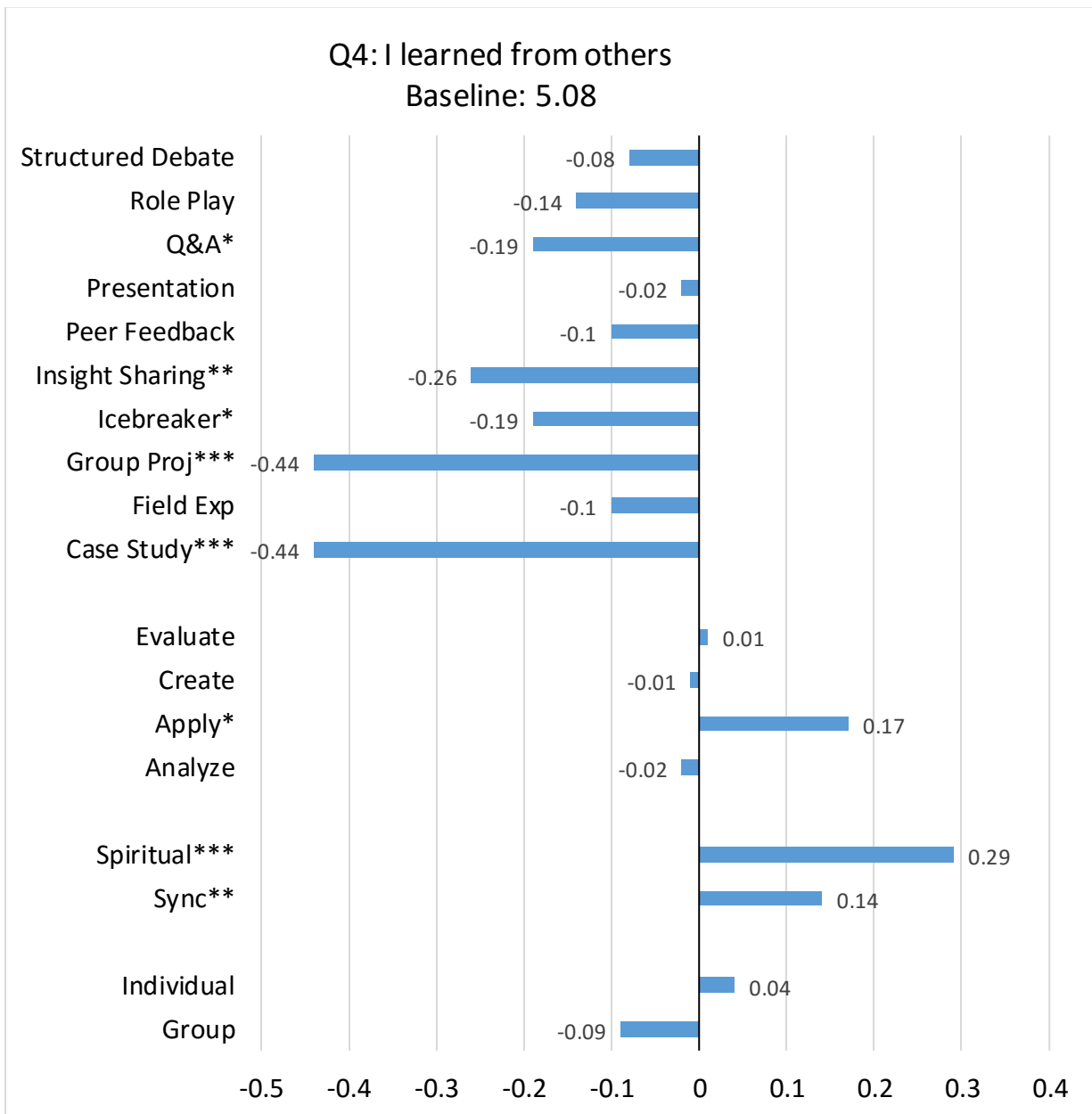
- How students interacted with others
 - Class: Altogether as a class
 - Group: Within assigned groups
 - Individual: With people outside of the class
- Knowledge Outcome Level (based on Bloom's Taxonomy)
 - Understand
 - Analyze
 - Apply
 - Evaluate
 - Create
- TOA activity type
 - Case Study
 - Field Experience Sharing
 - Group Project
 - Icebreaker
 - Insight Sharing
 - Peer Feedback
 - Presentation
 - Q&A/Support Forum
 - Role Play
 - Structured Debate
 - Note: Group Problem Solving, Peer Accountability, and Study Group were not included in the analysis because of insufficient sample size
- Other
 - Spiritual: The activity had a spiritual topic
 - Synchronous: The activity had a synchronous component

The purpose of this analysis was to show which attributes had an impact on survey scores and how those factors impacted the scores. Below are charts showing the size and direction of the impact. With this type of regression analysis, the analyst chooses a baseline upon which all the other factors are compared. That baseline has a predicted score for the survey item of interest. The scores of other factors are shown how much above or below the baseline the predicted survey score would be depending on whether that attribute was present or not. For the analyses below, the baseline was a Topic Discussion activity, whose knowledge outcomes were at the Understand level of Bloom's

taxonomy, where the assignment was done altogether as a class (rather than in groups or with people outside of the class).

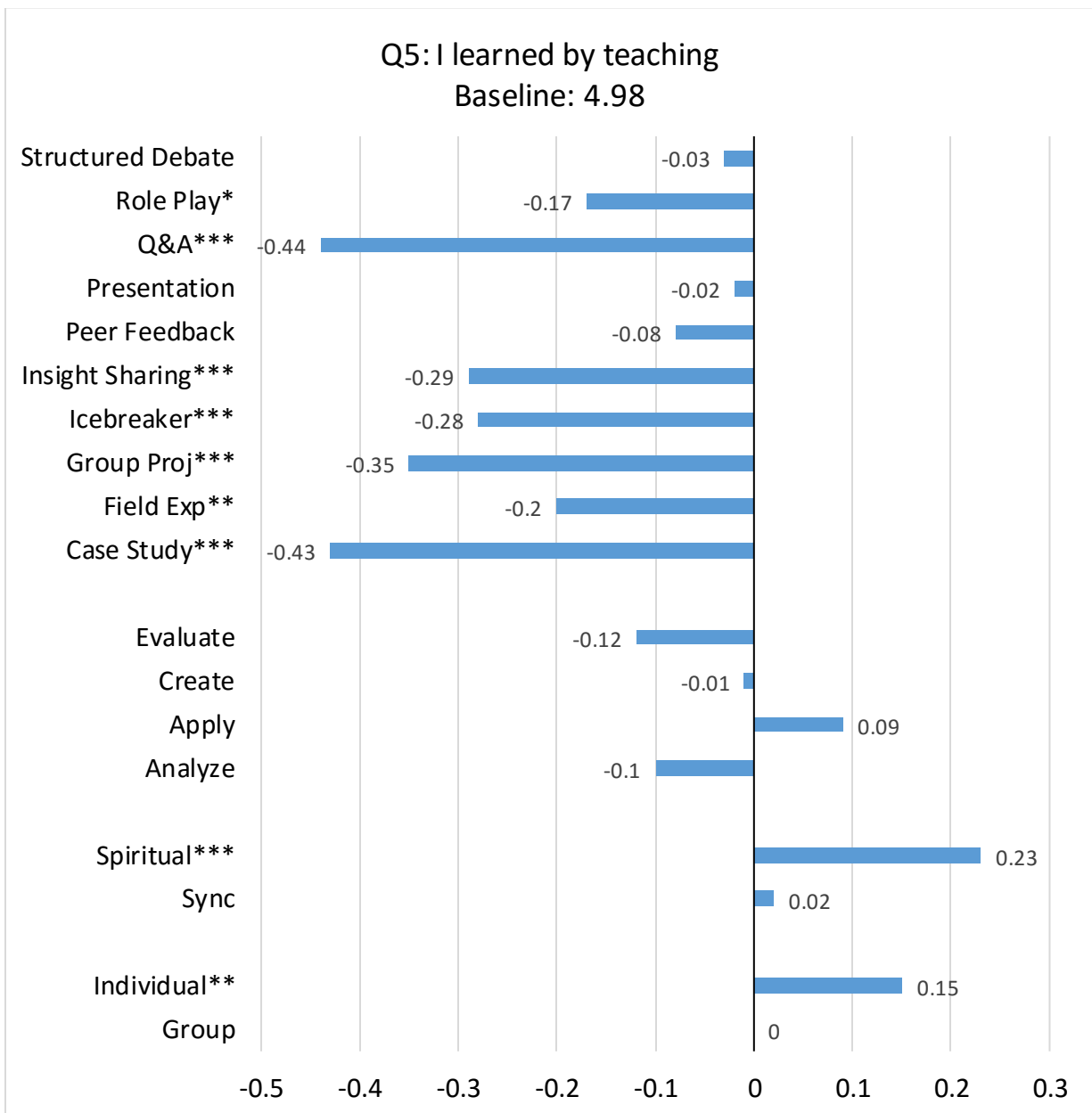
For an example of interpreting the results, on question 4 of the survey, the baseline score was a 5.08 (5=Agree). If the assignment was a Case Study rather than a Topic Discussion, the score would be adjusted by -0.44, or 4.64 (5.08 - 0.44 = 4.64; between somewhat agree and agree). In other words, students in a case study assignment had a lower level of agreement that they learned from others during the activity than students participating in a topic discussion TOA activity. Conversely, if the topic discussion was of a spiritual nature, the predicted survey score would be 0.29 points higher (5.37).

Figure 3. *Regression scores for Q4: Learn*



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

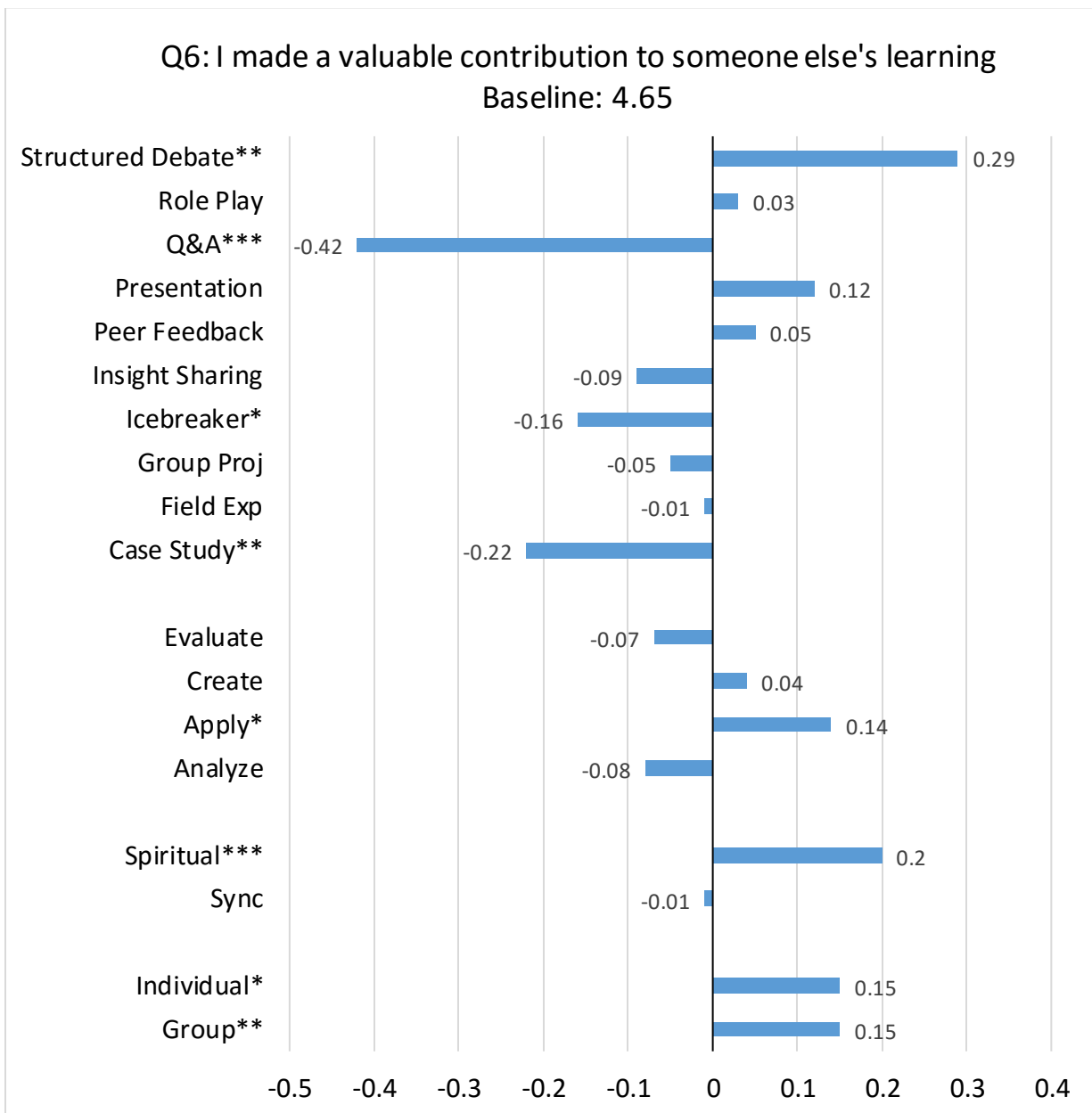
Figure 4. Regression results for Q5: Teach



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

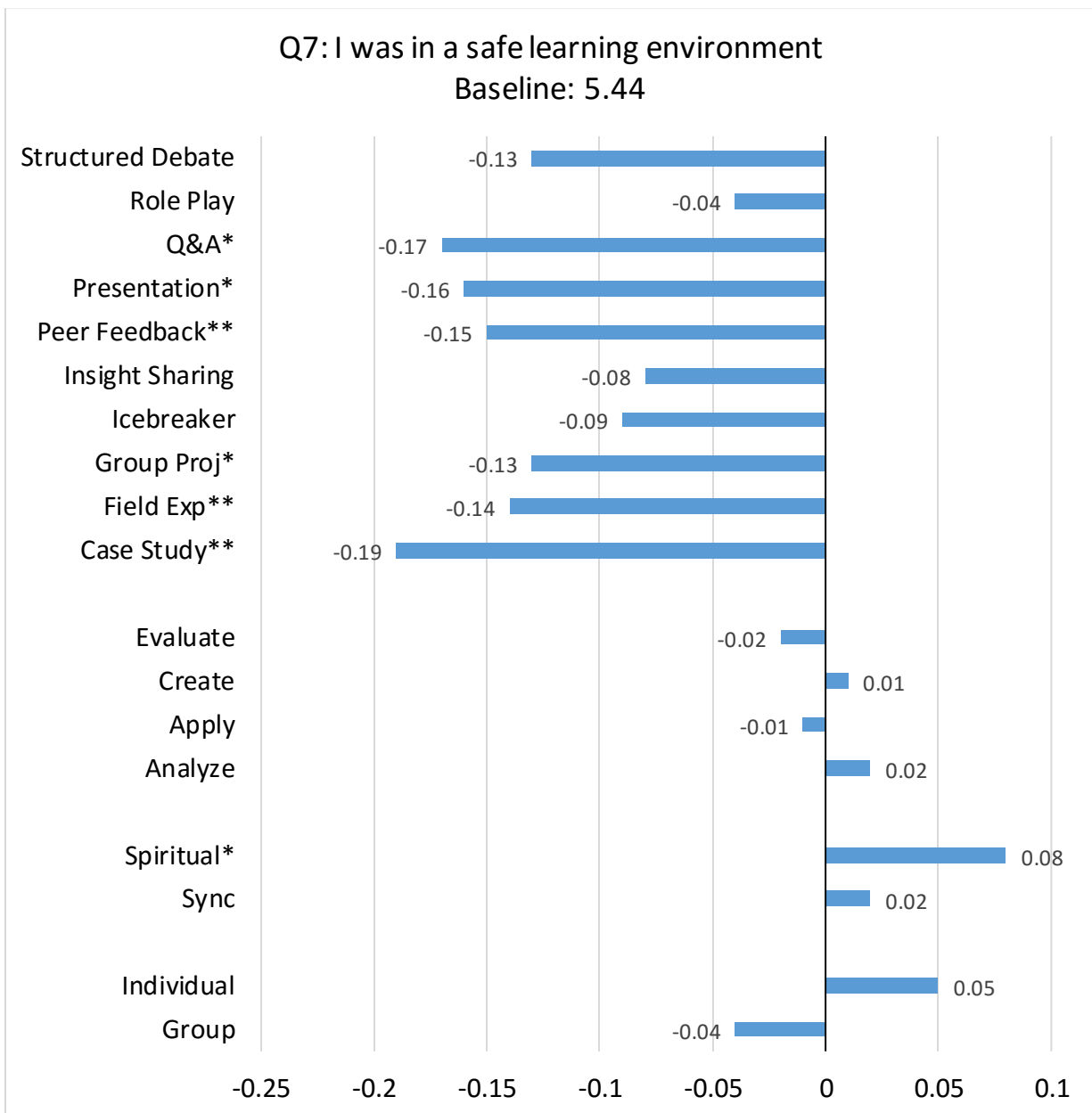
Figure 5: Regression results for Q6: Value



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

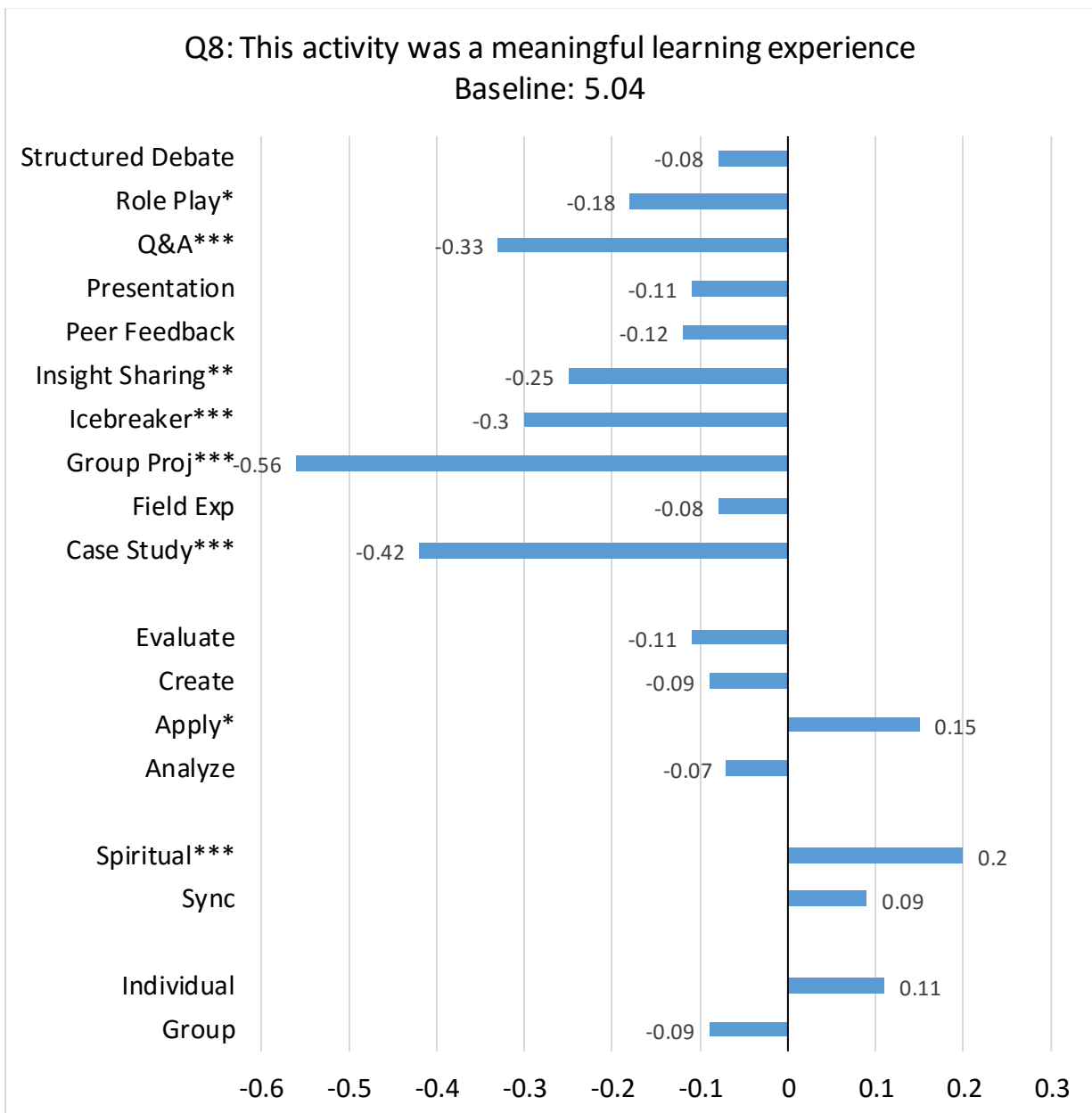
Figure 6. Regression results for Q7: Safe



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

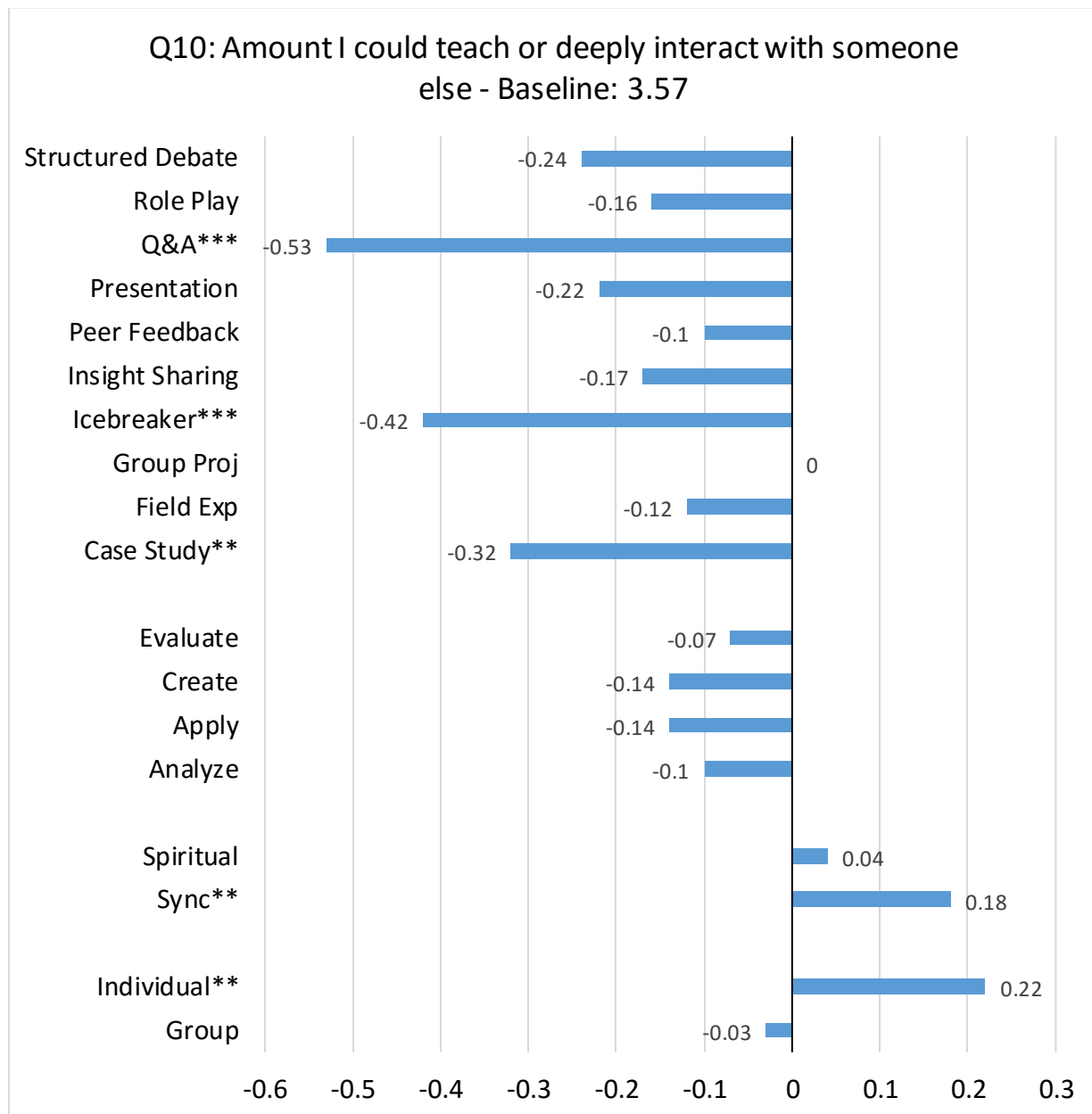
Figure 7. Regression results for Q8: Meaningful



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

Figure 8. Regression results for Q10: Amount



Note: * = significant at the .05 level, ** = significant at the .01 level, *** = significant at the > .001 level.

1 = Not at all, 2 = Very Little, 3 = Somewhat, 4 = Quite a bit, 5 = A lot.

Overall, the impacts can be perceived as having small differences. The largest impact was a 0.56-point difference in survey scores. While the impact sizes are small, they do help us see which TOA activity types are having more problems than others, a fact that is triangulated with other data sources from this study, as will be shown further on.

One of the most striking findings of the regression analysis is the trend for different TOA activity types to have a lower predicted score on the survey questions than a topic discussion activity. Many of these differences were not statistically significant, nor were the impacts large in general, but it was interesting to see the negative trend. Topic discussions are the most common TOA activity type used at BYU-Idaho (see [report](#) done by Curriculum Development in 2015). With it being so common, students may have a better grasp of how to successfully complete the activity and therefore feel more comfortable participating in the activity than other types of TOA activity types. At the same time, many of the differences in scores by TOA activity type, while lower than topic discussion activity scores, were not statistically significant. The general takeaway may be that as other TOA activity types become more common, and students become familiar with those activities, they may better achieve outcomes of Teach One Another.

Another common finding across the survey questions was the positive impact of TOA activities with a spiritual topic. One interpretation of this finding is that BYU-Idaho students are driven to increase spirituality. Students may more readily see the relevance of TOA activities that have a spiritual topic, and therefore rate these activities higher. This doesn't mean that every TOA activity should be a spiritual one, as BYU-Idaho has other intended outcomes for students. What may be the lesson here is to make a better effort to help students see the relevance of activities. This was a theme found in student comments, as described later on.

What also stands out is large and negative difference in survey scores for Case Study and Group Project activities, and, at times, Q&A/Support Forum activities. It is difficult to make out reasons for the differences based on the quantitative data alone. But the regression analysis scores to point out that specific attention should be made to these three TOA activity types. Also notable is the strong positive difference in survey scores for Structured Debate activities on the question "I made a valuable contribution to someone else's learning." This activity type scored particularly high on this survey question, but not on the others. For some reason, students felt they were especially able to make a valuable contribution to someone else's learning compared to other TOA activities. This will be important to look further into with the qualitative data.

Positive Comment Themes

If students agreed that an activity was meaningful (somewhat agree to strongly agree) on the survey, they were presented with an open-ended survey question asking them to describe what they liked about the activity. We received 10,060 such comments and did a comments analysis on a random sample of 100 comments. Below are the themes developed from that analysis:

- 33% of students said they appreciated the additional insights they gained from others' perspectives
- 31% said they liked connecting with other students in the class
- 18% said the topic of the activity was valuable to learn more about
- 9% said that sharing and participating helped deepen their learning
- 7% said they appreciated the opportunity to help some else

These themes confirm that many students feel that TOA activities are successful at deepening their learning, giving them an opportunity to serve others, and reducing isolation that can be felt in an online course.

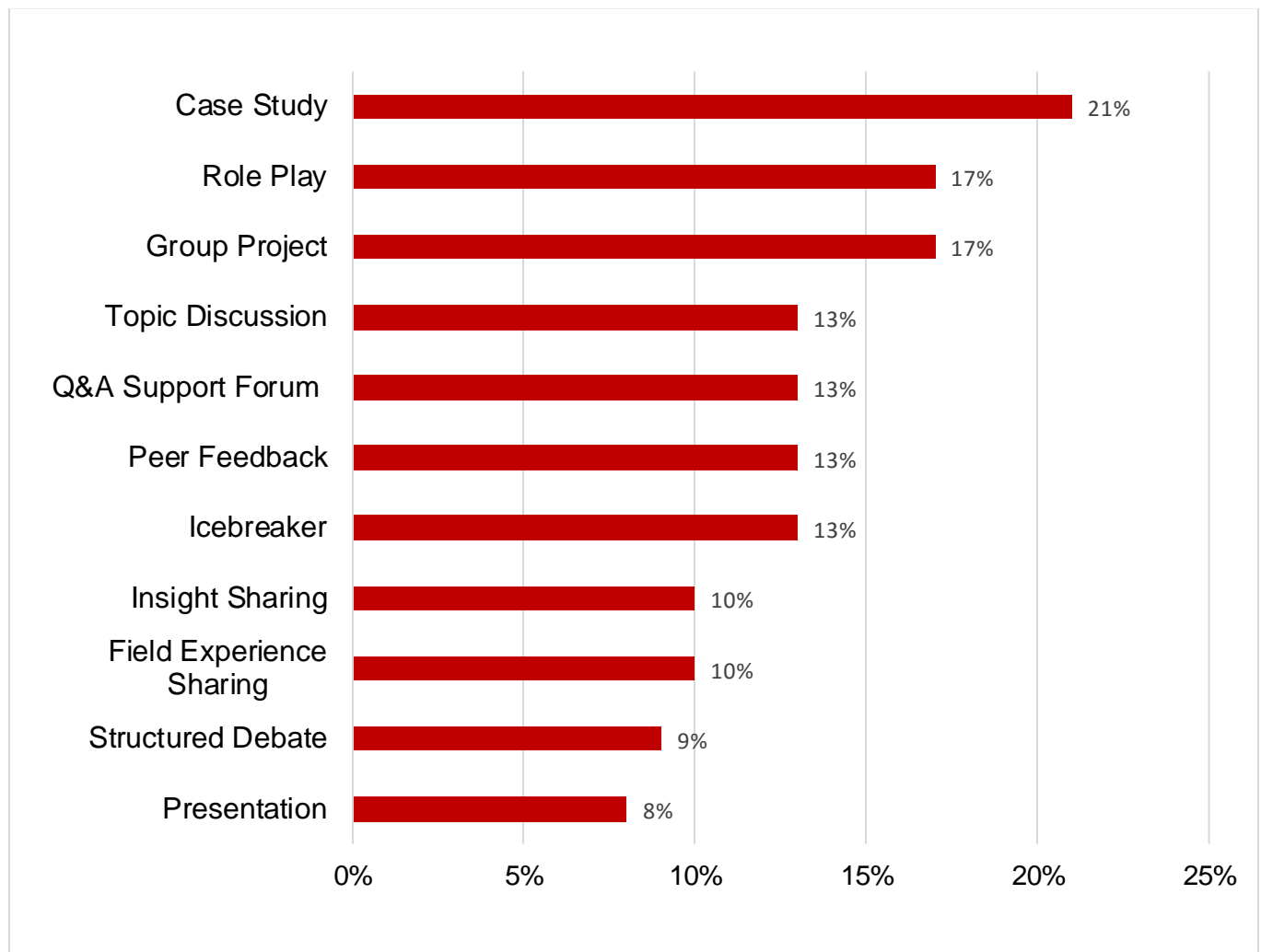
Negative Comment Themes

If students did not agree that the activity was meaningful (somewhat disagree to strongly disagree) on the survey, they were presented with an open-ended survey question asking them to describe what they did not like about the activity. We received 1,650 such comments and did a comments analysis on a random sample of 100 comments. Below are the themes developed from that analysis:

- 76% of students said the activity was not meaningful
 - Activity was pointless, busy work, or didn't help students learn
 - Activity felt forced, or students didn't like required participation
 - Student contributions were not insightful, informed, or correct
 - There was not a need to collaborate
- 36% of students said the activities had design issues that inhibited the success of the assignment
 - There was an excessive workload to deal with for the assignment or in addition to other things occurring during the assignment
 - Assignment instructions were not clear
 - Students didn't like being required to share personal information
 - Activities were excessively redundant
 - Activities were not relevant to older students
 - Activity was too complicated
- 9% had group work issues
 - Group members were not participating
 - There was difficulty communicating with all group members
- 4% said the activity was not leading to a meaningful connection with others
- 3% said they would rather learn from a textbook or instructor than other students
- 2% said they wanted more reminders about discussion board involvement

We looked at the proportion of negative comments received by TOA activity type to see which activity types had more students who felt a need to offer a complaint (see Figure 9). Case study activities had the largest proportion of negative comments received (21%), followed by Role Play (17%) and Group Project (17%). Presentations and Structured Debates received the smallest proportion of negative comments (8% and 9% respectively). This data, along with other quantitative data discussed above, shows that some activity types are doing better than others, providing a valuable opportunity to compare and contrast and learn principles that can help make effective Teach One Another activities. This data also points out areas that are most deserving of additional improvements.

Figure 9. *Percent of negative comments by TOA activity type.*



We did a comments analysis of the negative comments received by TOA activity type. If the sample was sufficiently large, we took a random sample of 50 comments to analyze. Otherwise, we analyzed all available negative comments associated with a TOA activity type. Table 1 explains the top three themes for each TOA activity type. Comparing themes across activity types reveals an interesting finding, particularly with the three TOA activity types that had the largest proportion of negative comments. Many of the comments for these three activity types were centered on group work issues. This is significant in that it reveals that students do not necessarily have a problem with the nature of a case study or role play experience; rather, these activities are lacking in quality because of group work issues. This is certainly a logistics issue that can be remedied.

Table 1. *Negative comment themes by TOA activity type*

Case Study (162 of 789 - 21%)*		Field Experience Sharing (149 of 1498 - 10%)*	
Groups disorganized/not working/bad group experiences	22%	Activity wasn't meaningful/busy work/didn't learn from it	46%
Not enough time/too much work	20%	Conversations forced/Didn't like requirement to post	18%
Scheduling issues (time zone, full-time work)	16%	Student did not see relevance of activity	14%
Group Project (118 of 698 - 17%)*		Icebreaker (595 of 4739 - 13%)*	
Groups disorganized/not working/bad group experiences	32%	Superficial to get to know others online/Feels forced	40%
Activity wasn't meaningful/busy work/didn't learn from it	20%	Activity wasn't meaningful/busy work/didn't learn from it	20%
Scheduling issues (time zone, full-time work)	14%	Didn't like that the activity was required for a grade/mandated to respond to a certain number of people or word count	20%
Insight Sharing (64 of 670 - 10%)*		Peer Feedback (64 of 495 - 13%)*	
Activity wasn't meaningful/busy work/didn't learn from it	52%	Student contributions were not insightful, informed or correct	34%
Conversations forced/Didn't like requirement to post	31%	Activity wasn't meaningful/busy work/didn't learn from it	25%
Student contributions were not insightful, informed or correct	19%	Not enough time/too much work	20%
Presentations (23 of 271 - 8%)*		Q&A / Support Forum (31 of 247 - 13%)*	
Activity wasn't meaningful/busy work/didn't learn from it	35%	Student contributions were not insightful, informed, or correct	35%
Student contributions were not insightful, informed or correct	22%	Activity wasn't meaningful/busy work/didn't learn from it	26%
Assignment not relevant to older age group	13%	Didn't like that participation was required	19%
Role Play (53 of 313 - 17%)*		Topic Discussion (206 of 1630 - 13%)*	
Activity wasn't meaningful/busy work/didn't learn from it	23%	Activity wasn't meaningful/busy work/didn't learn from it	42%
Students not participating	19%	Student contributions were not insightful, informed, or correct	22%
Scheduling issues (time zone, full-time work)	15%	Redundant with other activities	14%

* Numbers above report the ratio of negative comments to positive comments

Qualitative Comparisons within TOA Activity Type

We took the various survey scores and compared high-rated activities and low-rated activities within a specific TOA activity type. We compared assignment descriptions, student interactions (if available), and student comments to better learn what may have led to the observed survey scores. The following lessons were learned from this analysis:

1. Have an authentic need for collaboration

In several low-rated TOA activities, many students commented that it wasn't worthwhile to collaborate with someone else, that they could have more effectively completed the activity alone, or that they didn't learn from someone else. These comments were often accompanied with a discussion board activity where the discussions prompted for more factual and simple answers. Looking at the interactions in these types of discussions, it was found that most student posts were just repeated each other. The exchange of information between the students was not leading to new learning. In cases like this, it may have been best to have students write and submit a summary shared only with the instructor rather than with other students.

Discussions that were more effective dealt with complex, open-ended topics. These types of topics led to a diversity of student responses, which led to a more meaningful exchange of information. Students were more likely to value other students' contributions because these contributions expanded understanding.

Below are two discussion prompts that demonstrate a range of complexity. The first prompt calls for a more factual response, where answers among students will likely not differ. The last part of the prompt may lead to more diverse discussion prompts, but the other aspects of the prompt take up precious space in a students' post, and likely not contributing to the whole class' learning experience. The second prompt is much more open-ended and complex. Students in the activity with this discussion prompt frequently discussed how much they learned from others in their group and were less likely to say that the activity was not meaningful or that they didn't learn from participating in it.

Prompt 1: Describe sonata form; include its three parts. How does it create the feeling of a journey?

Prompt 2: Read Alma 60 - 61. Together as a group, break down and analyze Pahoran's letter to Moroni. What specific steps did he take to curtail the potential conflict between them? What specific lessons can you take away from this example that you might be able to use in your own conflicts?

Another lesson we learned about helping facilitate an authentic need for collaboration was following the principle of jigsaw activities. In a jigsaw activity, two or more participants who were involved in a unique learning experience get together to share what they learned. Often, participants completed different reading assignments and shared what they learned from their reading. This can be a meaningful exchange of information when people have to rely on each other to attain to a more comprehensive understanding, the bigger picture, or the whole puzzle. Jigsaw can be applied to many types of knowledge exchange, including reading assignments, case studies, and discussion prompts.

2. Take advantage of “high-stakes” deliverables

Presentation and Structured Debate activities were generally higher rated activities when comparing TOA activity types. One commonality among these two TOA activity types is that there is some form of a deliverable that gets shared with other students in the class. It is possible that students felt compelled to “look competent” in front of their peers, which led them to deeply engage in the activity in order to be prepared. This deep engagement would help them better accomplish the learning objectives, and therefore be more likely to find the activity valuable. This notion is supported by student comments:

“I felt that since we were posting our position on something and then we had to defend it I wanted to be better informed and so I learned more.”

“When you are asked to debate on a subject, it really makes you learn specifically about it and its strong points.”

“It really forced me to look into a career and go into depth into the research. It was challenging but I learned a lot and feel more confident in presenting.”

Certainly an activity can be overused, but neither presentation or structured debate activities were prevalent among the activities we evaluated. Perhaps more of these types of activities can be used to deepen student learning. At the same time, it is interesting to note that students indicated during these activities that they felt they learned more deeply by teaching other students than when other students taught them. This implies a certain level of caution as to how much to require students to view other people’s presentations or arguments. An excessive amount could lead to students to see the activity as redundant, taxing, and not meaningful.

3. Facilitate successful group work

Getting groups to work together online is one of the most significant challenges faced in BYU-Idaho Teach One Another activities. On one side is the sluggishness of getting group work going asynchronously. It was not uncommon to hear that students had a partner or other group members who did not show up on the discussion board to begin planning the group assignment until the day the assignment was due. On the other side is the difficulty of finding a time for a group to meet synchronously when one student is in Idaho, the other is in Ghana, and another is a single mom with a full-time job. Group activities, whether asynchronous or synchronous, often had a lower rating on survey items than other types of Teach One Another activities. This was especially true of Group Projects and Case Studies (which were almost always done in groups).

This does not mean that a group activity was flawed from the start. We found many examples of group activities that did not run into the above-named issues. Several principles were learned from looking at these examples that could help facilitate effective group work in any online course.

The first principle is to make groups that are to meet synchronously based on compatible schedules as early as possible. One course had many synchronous TOA activities, including group discussion boards, presentations, and peer feedback activities. The groups were the same throughout the semester. On the first week of class, students signed up for a time that they could meet synchronously. Groups were then formed based on compatible schedules. There were no comments about students not finding a time they could meet when this principle was followed.

Another principle to facilitate successful group work is providing team-building experiences. Students often feel isolated in an online class, even when they have discussion boards. It may be easier to snub others in a group when there is both a lack of social connection and distance inherent in an online course. Some courses helped students in a group get to know one another more. One course used a few synchronous group discussion boards with personally relevant prompts where students could see each other in real time. Another course had students go back to the icebreaker activity at the beginning of the semester to get to know group members a little better before starting a group activity. Building a personal connection with other group members may help students feel more accountable to each other, reducing the tendency to not show up and help during group projects.

Asynchronous activities are more accommodating to student schedules, but usually take more time to complete the activity. Some courses helped students get to work earlier on a group project by requiring accountability reports or requiring submissions of a project in stages. Students were told they had to have completed some stage of the group assignment and report in a quiz on the group's progress, or submit a draft of the group's work. Doing this would help alleviate situations where the group doesn't get together to complete the assignment until the day the assignment is due. Issues in group work can also be brought up to the instructor in a timelier manner where group remediation can occur.

What may also be necessary is a sufficient incentive to participate in a group activity. Often group members receive the same score on an assignment. Some activities warned students that if a group member did not participate in the project, they would receive no points on the assignment. This is one way to better incentivize participation. In some peer feedback assignments, the collaboration was only worth a small fraction of a student's grade. Some students may have felt that missing the activity would not be detrimental to the student's grade. If collaboration is important, it should carry a greater weight on a student's grade. Finally, when a group member does have to work alone and there is not sufficient time to remediate the problem, perhaps extra credit could be awarded to the student for having to go above-and-beyond what other students in the course had to do to complete the project. This could help soften the negative feelings the student may have towards the assignment or future group work in the course.

4. Consider not requiring participation

Another common complaint from students is that they don't like being forced by a grade to participate in a discussion. Accompanying this complaint is that face-to-face instructions are not this way. While some face-to-face teachers may make note of who says little during in-class discussions, it is generally impossible to track exactly how much each student participates in a face-to-face discussion. The strength of the discussion relies less on a participation grade and more on the quality of the discussion prompts given. In an online course, however, it is much easier to track the exact amount of participation. It is even possible to grade the quality of the responses (though this is not often done and is time-consuming to do). Poor discussion prompts can then get by, with the focus being on punishing students for not responding, or leaving them with low quality learning experience that students complied with to get the grade.

Some courses had synchronous discussion activities which made it much more likely to know the exact amount of student participation in the activity. Some of these activities instead had students write and submit a brief summary of what they learned from the synchronous discussion. This allowed for

accountability for discussion participation and shifted focus from participation to learning. This same thing was done for some asynchronous discussion boards. All students had to post at least once to a discussion prompt, they didn't have to reply to a set number of students. And not all students replied. But when replies were given, they were more substantial and meaningful. Students also did not complain about being "forced" to participate in a discussion.

Requiring participation is not always a bad thing. Sometimes a student admitted that they first grumbled about it when starting the activity, but then commented how much they learned because of the required participation. Not requiring it may be something to consider, along with a strong evaluation of the quality of the discussion prompt.

5. Don't let deliverables get in the way of learning

Students are frequently asked to produce something to demonstrate their learning. In some cases, the learning experience is on how to make the product. More often than not, the product is simply a means to the end. For example, students may be asked to share a research project using a PowerPoint presentation. The learning experience is not on how to use PowerPoint, but rather on the research that is to be shared in the presentation. There were times when the deliverable of the activity got in the way of the actual learning outcome. Students spent more time trying to figure out how to make the deliverable than on the presentation content they were supposed to focus on. One example of this is was a group presentation project. Students are asked to make a video and post it on YouTube. Directions were given on how to make the video. But the act of making the video was challenging for many students, despite the amount of support given. A common theme for this class is represented by this student comment:

"This is the first class I've taken that required a group video presentation and feel like it is a failure. There were resources given to us about how to record the presentation but I still felt like an inexperienced failure. The majority of time I spent on this project wasn't on the disease, it was on how to record my section of the project and I spent hours and hours on this."

The challenge of making the video was compounded by the fact that this was done as a group asynchronously. More thought should be given when incorporating deliverables into an activity, with the goal to produce an effective delivery that is more about the content and not on the deliverable.

6. Avoid unnecessary repetition of activities

Some poorly rated activities were accompanied by student comments about the redundancy of the activity. In one class, students had to produce a mind map every week. Students did not find the mind map activity to be very valuable in the first place, and the fact that it was repeated every week made it even worse. In another class, students had an icebreaker discussion board where students got to know one another better. The next activity as to create a simple doll that represented certain aspects of the student, with the intent of helping students get to know one another better. Many students said they didn't understand the need of having both activities, that they understood the importance of getting to know one another, but that two activities with the same result was overkill. Sufficient consideration should be given on course outcomes, how activities align with the outcomes, and whether there is an adequate number of learning activities provided to help students achieve the outcomes.

7. Capitalize on out-of-class teaching experiences

There were a few activities where students were instructed to teach or interact with someone outside of class, usually a friend, spouse, roommate, or other family member. These activities involved some type of discussion or presentation of what was being learned in class. Student comments from these activities included the following:

“I loved talking to my son about family relationships so I could get insight into what we need to do to strengthen our family.”

“By teaching to my husband, it allowed me to discuss principles associated with the gospel that we wouldn’t normally discuss (he is not a member of the church).”

This comment came from a class where students had the option of doing an assignment with their family instead of their group because of the Thanksgiving break:

“I was unable to meet with my group so I did this activity with my family. I love my group, but doing it with my family was very meaningful and we had a fantastic conversation on anger and being offended. I feel that it was a blessing for my family.”

These learning experiences can be especially powerful because students are having face-to-face learning experiences with people they care about.

8. Be careful of divide and conquer issues with case studies that lead to piece-meal learning experiences

Case studies were the one TOA activity type that was rated lower than any other. Part of the issue with case studies likely has to do with forming groups and getting groups to work together effectively. As we read student comments and reviewed assignment descriptions, it became apparent that students found case study activities not as meaningful because of the way they did case studies. Many students discussed dividing and conquering—dividing up the work among group members and then piecing together each group member’s contributions. While this approach may be effective for some activities, it likely is not useful for case studies. Consider the following case study questions:

1. What is the official name for the type of transmission to infected people seen in most cases of Legionellosis?
2. Would this disease be considered endemic, epidemic, or pandemic within human populations? Explain why.
3. Suppose you worked for the CDC and investigated the New York outbreak of Legionellosis that occurred this year. List at least three ways you could isolate and identify the microbe that causes this illness.
4. What methods would you use to prevent future outbreaks of this disease and control its spread to others?

Suppose each group member took one question to answer and then emailed the answer to the group leader. The learning experiences between the person answering question 1 and the person answering

question 3 would be remarkably different. The person answering question 1, simply supplying a name, will probably not learn much from this activity and find it a waste of time. Perhaps a better approach would be to have each member of the group look at a different case, but answer the same questions, then come together with the group to discuss answers and learn from differences.

9. Students do not see most Q&A/Support Forum's as an opportunity to teach one another

In Q&A/Support Forum activities, students generally found the activity meaningful, but didn't see it as an opportunity to teach each other. This type of TOA activity was usually a discussion board where students could ask questions about the assignments or learning content. They looked to the instructor to provide answers to the questions. Therefore, they didn't see the activity as one where they could meaningfully contribute and teach other students. There is a case in a one course where the activity mimics a developer's forum. In this activity, students are instructed to be answering other students' questions from week to week. Many students said it was great to be able to help other students with their questions, but others felt unable to really help someone else. This makes sense as some students had previous experience that would make them useful in an activity like this, whereas others are complete beginners and need all the help they can get.

In many cases, the Q&A/Support Forum activities are not really a TOA activity. However, as demonstrated in the developer's forum activity, it can be made to be a TOA activity. More effort is needed to develop a general framework for making Q&A/Support Forums into successful TOA activities. This effort would likely need to consider how to best make use of varying levels of student expertise.

10. Help students understand why teach one another and collaboration are important to learning

Most comments about TOA activities included some comments from students wondering why TOA is part of the learning model. These students said that they chose online learning so they could have the flexibility necessary to balance higher education with other needs. In some ways, these students expected to have online learning be similar to the Independent Study model at BYU in Provo, where students are not limited to a semester-structure with weekly participation. Much has gone in to educate students about the aims and philosophy of online learning at BYU-Idaho, but perhaps more is needed at the course level to help students understand the value and purpose of the learning model, particularly *Teach One Another*. The positive comments received about TOA activities confirm the goals of TOA: to help students connect, to learn as they teach, and to gain a greater understanding by hearing other perspectives. It may be useful to remind students in general of these aims. Perhaps comments received from this study could be used as reinforcement of why we do *Teach One Another*.

Conclusion

A lot of data was obtained through this study, and this report presents a good first step to analyze the data. More fruitful analysis could be done using the data. We also have the means of identifying specific TOA activities that could be improved. By looking at activity scores on the survey, we can identify which activities scored lower than others. Hopefully the lessons learned from this study can identify specific ways that a TOA activity could be improved.

In general, we have found that much improvement could be made by addressing problems with group assignments. By helping groups form and work together effectively, it will be more likely that the goals

of TOA will be achieved. Additionally, having authentic reasons to collaborate will likely lead to strong improvements of a TOA activity.