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# The Role of Faculty Learning Communities in Supporting Team-Based Learning

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# The Role of Faculty Learning Communities in Supporting Team-Based Learning

## **Abstract**

In this paper, the authors describe the faculty development initiatives and the role of faculty learning communities (FLCs) in supporting Team-Based Learning (TBL) at a large, research-intensive university. A systematic review of the initiatives found FLCs provided crucial support for both new and seasoned TBL practitioners and fostered connections between members, resulting in a need to give back to the community through mentorship. Results also showed members were eager to share their knowledge with the larger community and further research into TBL through scholarship, supporting the sustainability of the TBL community and further development of members' teaching and scholarly practice.

## **Disciplines**

Educational Assessment, Evaluation, and Research | Higher Education

## **Comments**

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# The Role of Faculty Learning Communities in Supporting Team-Based Learning

By Melissa L. Rands, Holly Bender, Meghan T. Gillette, & Lisa Orgler

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*In this paper, the authors describe the faculty development initiatives and the role of faculty learning communities (FLCs) in supporting Team-Based Learning (TBL) at a large, research-intensive university. A systematic review of the initiatives found FLCs provided crucial support for both new and seasoned TBL practitioners and fostered connections between members, resulting in a need to give back to the community through mentorship. Results also showed members were eager to share their knowledge with the larger community and further research into TBL through scholarship, supporting the sustainability of the TBL community and further development of members' teaching and scholarly practice.*

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A PARADIGM-SHIFT toward student-centered learning requires fundamental change, not only in our understanding of the cognitive and social processes of learning but change in the ways faculty approach their own teaching practices (Sawyer, 2014). At Iowa State University (ISU), consecutive years of enrollment increases have created challenges to accommodate larger class sizes while maintaining quality learning experiences in the classroom. The Center for Excellence in Learning and Teaching (CELT) at ISU has promoted Team-Based Learning (TBL) for over 10 years as both a solution to enrollment pressures and a pedagogical strategy that aligns with its mission to enhance teaching effectiveness and learner-centered education (Bender, Orgler, VanDerZanden, & Bestler, 2014). TBL is an instructional strategy that harnesses the power of team cohesiveness within small group learning to promote active and effective student-centered learning (Michaelsen, Knight, & Fink, 2004).

Substantial barriers to implementing pedagogical change include the lack of awareness and understanding of alternate methods, large class sizes, student resistance, and limited time and resources (Addis et al., 2013). One model that supports pedagogical change is faculty learning communities, or FLCs. FLCs are groups of faculty and staff who engage in an active, collaborative program about enhancing teaching and learning through frequent seminars and activities that provide learning, development, the scholarship of teaching, and community

building (Cox, 2004; Cox & Richlin, 2011). FLCs are based on a community of practice approach; a group of people who engage in a collective process of learning through shared experiences and practices grounded in an authentic context (Engin & Atkinson, 2015; Wenger, 1998). A community of faculty who share a common interest in innovative teaching strategies can create connections across departmental divides and take collective responsibility for managing and sharing the knowledge and resources they need to be successful. Those in FLCs participate because they draw energy and gain inspiration from the interaction with other faculty and exposure to their ideas, which allows them to grow their knowledge and application of teaching practices (Layne, Froyd, Morgan, & Kenimer, 2002).

At ISU, FLCs play a vital role for professional development in adopting new methods, sharing best practices, and engaging in scholarly work in teaching and learning. FLCs support and promote Iowa State's mission to enhance teaching effectiveness and student learning and to serve as a catalyst for learning-centered education. TBL at ISU is supported through three FLC initiatives: the introductory TBL Workshop, the TBL FLC, and the TBL Scholars group. After years of organic growth of these initiatives, we determined it was time to evaluate the effectiveness and impact of the FLCs in supporting TBL at ISU to inform continued growth. In this paper, we describe the development, growth, and evaluation of faculty development initiatives

in TBL at Iowa State, and provide thoughts on the role faculty learning communities play in faculty development and support for teaching practice.

## **Team-Based Learning at Iowa State University**

CELT began promoting TBL by hosting a university-wide workshop in 2005, 2006 and 2011 led by the creator of TBL, Larry Michaelsen. By 2008, CELT started to provide a short introductory TBL training seminar during its University Teaching Seminar (UTS), a new faculty orientation held in the beginning of the academic year. These early workshops eventually formed the basis for the TBL Workshop, a short course of five, 90-minute weekly sessions that introduce, model and help faculty engage with the principles of TBL. Starting in 2012, graduates of the TBL Workshop were invited to join the TBL Faculty Learning Community (TBL FLC), co-led by faculty and CELT personnel to support TBL practice and form a practitioner community. The following year, a group of experienced TBL practitioners formed a research team, and began applying for internal and external grants to conduct scholarship in TBL; this group eventually evolved into the TBL Scholars group which formalized in 2015 (Bender et al, 2014). CELT formally supports TBL on campus through these three learning communities, which will be further described.

## **The CELT TBL Learning Communities**

### *TBL Workshop*

The Introductory TBL Workshop is a short course of five 90-minute weekly sessions that introduces faculty to the principles of TBL. It is intended for faculty, staff, postdocs and graduate students at ISU who have little to no knowledge of TBL, although some participants have been known to repeat the Workshop. The TBL Workshop is administered by the Associate Director of CELT, a long-time TBL practitioner/scholar.

The first session introduces participants to the learning theory behind TBL, why small group learning is effective, and how to properly create and manage teams. Subsequent sessions introduce participants to the elements of TBL, including team

formation and the Readiness Assurance Process, grading and peer assessment, course design, and application exercises. Participants learn about TBL by experiencing TBL themselves; seminar participants form teams, are required to read preparatory materials prior to the subsequent session and are then tested on the materials through individual and team Readiness Assurance Tests, and participate in application exercises during the sessions. Later sessions evolve to course design and ultimately, each participant creates an application exercise for an upcoming course and members optimize each other's exercises in teams. Each semester, between 15 and 40 faculty members sign up for the workshop from colleges and departments all across campus.

The TBL Workshop has been offered once a semester since 2011, and approximately 300 participants have completed the program as of spring 2017. CELT supports the TBL Workshop through ongoing financial and staff support for the program.

### *TBL FLC*

Participants who have completed the TBL Workshop are invited to participate in the TBL Faculty Learning Community (TBL FLC), and as of Spring 2017, 229 ISU faculty, staff, and graduate teaching assistants are members. The TBL FLC provides resources and support for TBL practitioners at Iowa State through biweekly meetings hosted by CELT. Approximately 15-20 members attend each session depending on availability and their interest in session topics. The FLC meets formally twice a month over the academic year. At the first session of each semester, members participate in a card sorting activity where each writes ideas for sessions on a series of individual sticky notes. The members then arrange related notes into themes on a large white board. These themes become the subjects of the subsequent sessions. Session meetings are presented by a mix of TBL FLC members and invited speakers where appropriate. Topics vary by semester but often include application exercise "first aid", peer assessment logistics, writing effective test questions, and administering TBL in large enrollment classes (Bender et al, 2014). Since 2012, the TBL FLC has been facilitated by a faculty TBL practitioner who receives a small stipend from CELT in partnership with the CELT associate director.

## *TBL Scholars*

The TBL Scholars group formed organically from TBL FLC members who were interested in elevating their TBL practice to scholarship; the TBL Scholars group has 42 members. TBL Scholars members collaborate on internal and external grants and engage in TBL-related research through instrument development and validation, classroom-based research, software development, and publications. TBL Scholars also promote the ISU TBL community through presentations at national conferences (Bender et al., 2014). The TBL Scholars group meets about once a month to pitch research ideas, form research teams, lend multidisciplinary expertise, rehearse presentations, and connect with campus resources to support their scholarship. Five major projects have already emerged from this scholarship focus with 13 posters, five presentations at professional meetings, a manuscript and a conference proceeding in peer reviewed journals and three more in various stages of submission, four funded grant proposals, and 12 conference workshops during 2014-17, with many more projects currently in the incubation phase. As an example, ten instructors from eight different departments led the initial project to develop a survey instrument to assess and identify how TBL affects specific observable learning outcomes. Two additional projects included collaborating with developers to create two open source software programs; the first program, ThinkSpace (<http://www.thinkspace.org>), contains a flexible interface so faculty can create a wide variety of complex problem experiences for application exercises, and the other, OpenTBL (<http://www.opentbl.com>), allows online students to participate in asynchronous or synchronous individual or team readiness assessment tests (RATs). Members are also collaborating to share products of their scholarship on the institution's digital archives ([http://lib.dr.iastate.edu/tbl\\_scholars/](http://lib.dr.iastate.edu/tbl_scholars/)). The TBL Scholars group meetings are facilitated by a faculty member and TBL scholar who receives a small stipend from CELT in partnership with a CELT staff member.

## **An Evaluation of the TBL Learning Communities**

In 2015-16, CELT engaged in an evaluation to assess the effectiveness and impact of the three

TBL communities, with the goal of investigating who is engaging in TBL and participating in the various TBL programs and why, how satisfied participants are with the TBL offerings, and what impact participation in the initiatives has on teaching and research practice. The evaluation utilized a concurrent, mixed-methods procedure, which combined both qualitative and quantitative approaches to provide a comprehensive analysis of the effectiveness and impact of the TBL FLCs (Creswell, 2009). The evaluation utilized three main data sources: interviews with two key stakeholders and six early TBL adopters; a survey of ISU faculty who had participated in at least one TBL Workshop from September 2011-December 2015 ( $n = 174$ ); and a focus group with three TBL Scholars. Data from the interviews and focus groups were analyzed focusing on identifying patterns or themes in the data, using two investigators who coded the data simultaneously. The two researchers then compared themes and recoded the data based on the agreed upon themes (Saldaña, 2013). The information from the early adopters group also helped to refine the evaluation questions and informed the design of the survey instrument. Research findings related to the impact of the initiatives on faculty development and were deemed especially salient to guide future learning community activities. Likewise, the identification of organizational and contextual factors on goal achievement provided additional information about context and helped explain the learning communities' impact.

## *Findings*

Our first evaluation question sought to find out more about the use and motivations for adopting TBL as a teaching method at Iowa State. Approximately 65% of survey respondents stated they were teaching a course using TBL as the primary teaching method in Fall 2015, and 49% stated they had taught a TBL course in previous semesters. Just under half of those teaching a TBL course in Fall 2015 semester started working at ISU within the last five years. TBL practitioners were predominantly female (61.0%), and were equally divided among graduate students, non-tenure eligible (NTE) faculty, assistant professors, and associate professors.

The early adopters noted that encouraging students' active participation in class was a primary

motivator for their adoption of the TBL method. Survey participants were asked to indicate their motivations for adopting TBL from a pre-determined list and/or list other motivations; participants also ranked their motivations in terms of importance. The survey data confirmed the importance of encouraging students' active participation as the primary motivator for TBL adoption, with 78% stating that encouraging students' participation was a reason for adopting TBL. Early adopters equated active participation with heightened student engagement (e.g., actively working with data, peer teaching) and learning outcomes (e.g. metacognitive and critical thinking skills, enhanced professional or disciplinary identity) through authentic learning activities. Findings from the survey also showed that increasing students' accountability in coursework was a motivator for TBL adoption, with 59% citing accountability as a primary motivator (ranked second). Additionally, utilizing authentic learning situations/scenarios in TBL instruction was also a motivator, and ranked third (55.9%). Building students' teamwork skills was also a common motivator for adopting TBL (57.6% cited as a motivator), but ranked fifth in importance behind increasing students' confidence in learning the subject matter (48.5%).

Our second evaluation question explored the perceived effectiveness and impact of the various TBL learning communities at ISU. We found that the TBL Workshop provides a solid introduction to the method, however faculty are less certain about implementing aspects of the method in their own classrooms. For those in the TBL FLC, they report feeling a sense of community with other TBL practitioners as a result of attending the TBL FLC, and agreed the TBL FLC provides support for their TBL practice. Findings also showed that for TBL Scholars, outreach and advocacy of TBL is important and feel the need to promote the "presence" of TBL at Iowa State and give back to the TBL ISU community.

### *TBL Workshop*

Approximately 93% of survey respondents agreed or strongly agreed the TBL Workshop provided an effective overview of the TBL method. The early adopters felt the TBL Workshop's effectiveness is based in part on its delivery as a TBL

"course" and provides a structure for learning the method. An early adopter of TBL described how experiencing TBL as a "student" in the Workshop helped motivate them to adopt TBL as a teaching method to increase student accountability:

To me, it was a good experience to be put in the shoes of a student going through this, so I was processing it, how to apply it to my discipline, how will I carry it out, "Oh, wow, I can really feel what it's like to be a student and to be accountable right now, because I can't decide if it should be A or B", and that was a very helpful motivator.

However, findings of the survey showed that only 66% agreed or strongly agreed the TBL Workshop enabled them to effectively design or implement a TBL course, and 61% agreed or strongly agreed they could implement TBL in their own classroom as a result of attending the TBL Workshop. Thematic analysis of the open-ended responses to the survey question, "What, if anything, should be added to the TBL Workshop to allow you to effectively design and implement TBL in your courses?" found that many would like more time in the Workshop to work on application exercises; some suggested a second TBL Workshop (a "Part 2") focused on the design and delivery of application exercises would continue to support beginning TBL practitioners. "I would've happily attended for another two - three sessions to increase the time we had to create and workshop application exercises," one respondent stated. Participants also wished for examples on how to design application exercises in social science and humanities disciplines, or implement TBL in different educational contexts such as online courses, large enrollment, or graduate courses.

### *TBL FLC*

TBL Workshop participants who complete the initial TBL training are invited to join the TBL FLC. Over half of the survey respondents (51.7%) said they attend the TBL FLC meetings, with 23% stating they attend the meetings at least once a semester. Those who attend TBL FLC meetings were asked to identify their reasons for attending the TBL FLC from a pre-determined list and rank them in terms of importance, or offer additional reasons. Over 82% stated that learning more about how to design application exercises was a reason they joined the TBL

FLC, and ranked as the most important reason. The second most important reason was “to feel a sense of community with other TBL practitioners” (73.5% selected this as a reason for joining the TBL FLC), and the third most important reason was “hearing about the challenges others face implementing TBL in their courses” (76.5%). Survey respondents were also asked to describe other reasons for attending the TBL FLC, and these included “to get feedback from other TBL practitioners”, “to support those new to TBL”, and “support from others for taking risks or trying new things in class”. For those who do not attend the TBL FLC meetings, not having the time was most frequent reason (70.0%).

Over 85% of respondents agreed or strongly agreed that they feel a sense of community with other TBL practitioners as a result of joining TBL FLC, and 81% agreed or strongly agreed the TBL FLC provides support for their TBL practice. Approximately 65% agreed or strongly agreed the TBL FLC helps them design and manage aspects of the TBL process, such as peer assessment, student teams, and application exercises. When survey respondents were asked what should be added to the TBL FLC to allow them to effectively design and implement TBL in their courses, the majority stated that one-on-one or small group mentoring, particularly for those just starting to implement TBL, would provide the assistance they need. One respondent asked for “an assigned mentor to each new practitioner that will answer questions quickly and assist in the early stages of adoption where dropping out is most likely to occur.” Others stated they would like working groups or sessions devoted to TBL in large-enrollment classes or sessions devoted to combating student or departmental resistance to TBL:

I would like more focused attention, maybe a working group or similar, on high-enrollment required undergraduate courses... There are fundamental issues with lack of motivation among lower-performing students, and that has a major impact on whether the rest of the class will ‘buy in’ to TBL and trust the instructor.

Finally, survey respondents were also asked to provide the most important insight they gained from their involvement with the TBL FLC and how their involvement has influenced their teaching practice. Findings showed that participants found the support

they feel from the TBL practitioner community and the opportunity to practice and workshop their course design as the most important insight they have gained. “Hearing that others struggle with developing robust and challenging application exercises [is the most important insight from the TBL FLC]!” one respondent stated. Others felt that their participation in the TBL FLC has influenced their teaching practice by providing critical support, resources, and encouragement to continue with TBL in the face of challenges. One survey respondent said, “[The TBL FLC] keeps me going if/when things don’t go well in my class. I know I am not alone and I have a resource to consult.” The TBL FLC gives participants a space to try out new ideas, observe others’ practice, and gain feedback on their designs.

### ***TBL Scholars***

The TBL Scholars group was designed to provide support through its programming to those engaged in TBL scholarship and aims to create a sense of community for TBL scholar/practitioners at Iowa State. The survey findings and focus group data supported that both of these goals were being met by the Scholars’ learning community activities. Survey respondents who said they attend the TBL Scholars meetings were asked to select their motivations from a pre-determined list, or cite another motivation not found in the list. Participants were then asked to rank these motivations in terms of importance. The most cited reasons for attending the TBL Scholars group was to collaborate on grants with other TBL scholar/practitioners (68.8%), followed by “to learn more about what the scholarship of teaching and learning (SoTL) generally” and “to feel a sense of community with other seasoned TBL practitioners” (tie, 62.5%). When ranked in terms of importance, learning more about SoTL was the most important, followed by collaboration on grants; collaboration on publications ranked third in importance. Other reasons included “to learn what scholarship in this area looks like.”

The participants in the TBL Scholars focus group stated that they utilize the community to boost their own scholarly productivity, as a space for pitching scholarship ideas, forming research teams, and leveraging campus support and resources for their scholarship; as a result, the TBL Scholars focus

group participants felt the TBL Scholars initiative provides the resources they need to be productive. However, the participants in the TBL Scholars focus group also cited challenges. Now that the group has reached a “critical mass” of members, participants worried the TBL Scholars initiative was starting to lose focus and purpose. Group members cited challenges to providing support to each other, particularly providing “just in time” resources and support to scholars that are at different stages of their research careers and/or development of their research teams. One member suggested a “developmental approach”, focusing on “universal needs” for the scholarship of teaching and learning generally should be a focus of the initiative. Another suggested modeling the TBL Scholars initiative after the other, more structured scholars’ programs would help formalize the initiative. TBL Scholars focus group participants were in agreement that a more formal identification of the mission and goals of the initiative would help bring structure and support for the group as it continues to grow.

## **Implications for the Future of TBL FLCs at Iowa State University**

The use of TBL at ISU continues to grow as more faculty, staff, graduate students, and post-doctoral fellows are introduced to the method; consequently, involvement in the TBL learning communities is both consistent and growing. This is a promising sign that instructors at Iowa State are attracted to student-centered, transformative teaching and learning methods. While the TBL learning communities provide crucial support for new and seasoned TBL practitioners, the evaluation revealed opportunities and recommendations for change and growth.

The TBL Workshop provides a solid introduction to the method, however faculty appeared less certain about implementing aspects of the method in their own classrooms. This finding was not surprising as TBL is a complex pedagogy that requires time to learn even its basic foundations. Additionally, few faculty have had personal experience with TBL either as students or instructors. Given that a primary motivator for establishing the TBL Workshop was to teach faculty how to design and implement TBL in their courses, a program called TBL Teaching Teams (T<sup>3</sup>) composed of 2-4 seasoned

and novice TBL FLC members was implemented. CELT supports the T<sup>3</sup> through matching members, sponsoring lunch for the teams to meet at multiple times throughout the semester, and encouraging the teams to visit each other’s classrooms and plan follow up feedback sessions. CELT has also established a presence for the TBL FLC on the university’s digital repository and is posting videos featuring FLC members’ successful application exercises and other resources in support of TBL ([http://lib.dr.iastate.edu/tbl\\_facultyhighlights](http://lib.dr.iastate.edu/tbl_facultyhighlights)). In addition, CELT has purchased memberships in the TBL Collaborative (<http://www.teambasedlearning.org>), an international organization of TBL educators so that FLC members can have access to peer reviewed application exercises, research and other material in support of well-designed TBL implementation. In addition to hosting ThinkSpace and OpenTBL platforms to facilitate TBL for FLC members, CELT also provides dedicated instructional design for TBL in face-to-face, blended and online settings and an overlapping FLC dedicated to those programs. Future evaluation efforts should investigate participants’ confidence in implementing aspects of TBL as a result of these interventions.

In many ways, the existence of the TBL Scholars group is an unanticipated outcome of CELT’s support of the other TBL initiatives. CELT has provided the training and resources through the TBL Workshop and TBL FLC to the point where seasoned TBL practitioners are elevating their teaching practice to scholarship. Since the TBL Scholars group was formed organically, the stated mission and goals were less clearly articulated than the other ISU TBL initiatives at the time of the evaluation. Since then, the Scholars group has developed mission and vision statements and a presence for sharing their scholarship and expertise on the university’s digital repository. Meetings are now focused on supporting the various project teams rather than presenting general resources. CELT has also integrated the TBL Scholars work into its existing, funded scholarship of teaching and learning (SoTL) training and provides guidance in how faculty can leverage their success in TBL scholarship into the university’s promotion and tenure system. Aligning the goals of student success in the classroom, success in research and scholarship, and faculty promotion and tenure is expected to

strongly affect the sustainability of TBL programs at Iowa State. While CELT's investigation into the TBL initiatives provided promising, preliminary findings of TBL use in classrooms at ISU, the evaluation relied primarily on faculty self-reported data. Thus, future investigations into TBL use at Iowa State should include classroom observations and document analysis in addition to self-reported data. Researchers could also investigate instructors' conversion of existing courses to TBL courses through document analysis and interviews to create a taxonomy of change to support new TBL practitioners. An investigation into participants' level of confidence in implementing the method would be beneficial, as it is an important indicator the effectiveness of both the TBL Workshop and FLC. CELT should also engage in ongoing evaluation of the TBL initiatives on effectiveness and impact. Since the TBL Scholars group is fairly new, it should be evaluated again in two to three years. TBL FLC and Scholars members' success in the tenure and promotion system should also be assessed as a factor in sustainability.

## Conclusion

At Iowa State, we've found that FLCs play an important role in supporting faculty in adopting new teaching methods such as TBL. As one survey participant noted, changing from existing instructional strategies to TBL requires not only an adoption of new methods but a pedagogical "change in your mindset." The goal of faculty learning communities is to empower those adopting new pedagogical practices through collaborating on projects, helping colleagues solve problems, and learning together (Engin & Atkinson, 2015). FLCs have been an effective model for supporting TBL at ISU by creating connections among members, supporting their transition to a new and complex teaching strategy, and ultimately resulting in a need to "give back" as mentors for novice FLC members. Additionally, our TBL faculty members have supported each other not only in pedagogy but also in expanding their skills by engaging in scholarly research on TBL and advancing the practice of TBL through sharing this knowledge with the larger community. In conclusion, the FLCs are a powerful and effective tool for connecting and supporting TBL faculty in both their teaching practice and research.

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**Holly Bender, PhD**, is the Associate Director of Iowa State University's teaching center, the Center for Excellence in Learning and Teaching (CELT) where her responsibilities are faculty, postdoctoral and graduate student development. She offers a 5-session workshop on Team Based Learning (TBL) each semester and partners with a faculty member (Lisa Orgler from 2012-15 and Meghan Gillette from 2015- present) to lead the 229 member ISU Team Based Learning Faculty Learning Community (over 10% of the faculty at the institution) and 42 member TBL Scholars subgroup. She is often

invited to give college and university-wide TBL workshops for faculty at universities throughout North America.

**Meghan T. Gillette, PhD**, is a faculty lecturer in the Department of Human Development and Family Studies at Iowa State University, and is also a graduate advisor for the Great Plains Interactive Distance Education Alliance's Youth Development program. Meghan is the faculty leader for the Team-Based Learning Faculty Learning Community and the Team-Based Learning Scholars faculty group.

**Lisa Orgler's** teaching responsibilities focus on the landscape design option within the Department of Horticulture and include courses in landscape graphics, garden composition and landscape construction. She is well versed in TBL, having taught in that particular format for 9 semesters. Lisa led two workshops on using TBL in the classroom nationally, is a co-author on several TBL posters and publications and served as the faculty leader for the Team-Based Learning Faculty Learning Community and Team-Based Learning Scholars from 2012-2015.

## Appendix A

### *Key Stakeholder Interview Protocol*

1. What is your general perception of the TBL initiatives?
2. What do you perceive as the purposes (goals, objectives) or guiding philosophy of the TBL initiatives?
3. What concerns do you have about the initiatives/activities (in terms of outcomes, operations, etc.)?
4. What do you hope to learn from the evaluation? Why are these understandings important to you?
5. How do you plan to use the information?
6. What assumptions might you have about the outcome of the evaluation?

# Appendix B

## *Early Adopters Interview/Focus Group Protocol*

The purpose of the interview and/or focus group with early TBL adopters aims to gather information on the goals, motivations, and perceived outcomes of TBL and TBL initiatives (e.g. the Teaching and Learning Circle, the Faculty Learning Community, and the TBL Scholars group).

Your involvement will help by providing perspectives on what will be considered a credible, high quality and useful evaluation, contributing to the program logic and framing of key evaluation questions, and increasing the utilization of the evaluation's findings by building knowledge about and support for the evaluation.

First, I'd like to go around the room and have you tell me:

- 1) your name, your faculty rank, and department;
- 2) how long you've been utilizing TBL in your classroom; and
- 3) why you originally adopted a TBL methodology to your courses.

Now I would like to ask you about your opinions on TBL as a teaching method, and the various TBL initiatives:

4) What do you see and the major changes that occur in students as a result of participating in a TBL course? How do you think the TBL course leads to these outcomes? Which activities do you see as most important in leading to these outcomes?

5) What do you see as the major changes that occur in faculty, grad students, etc. as a result of participating in the TBL TLC? In the TBL Faculty LC? in TBL Scholars? How do you think the TBL initiatives/activities lead to these outcomes? Which activities do you see as most important in leading to these outcomes?

6) What parts of the TBL initiatives, in your opinion, don't work as well as they should?

Finally, I'd like to ask you about your opinions on the evaluation of the TBL initiatives.

7) What do you hope to learn from the evaluation?

8) What information would be the most helpful to better manage or deliver TBL training, programming, or creating a sense of community among TBL practitioners and scholars?

# Appendix C

## *TBL Survey Instrument*

1. (0.a.) Which best describes your current affiliation with Iowa State University?

Graduate student  
Post-doctorate Fellow  
Lecturer or Non-Tenure Eligible (NTE)  
Assistant Professor  
Associate Professor  
Professor  
University Professor  
Emeritus  
Staff  
I am not currently affiliated with Iowa State University

1. (0.b.) Which College are you affiliated with at Iowa State? If you are affiliated with more than one, choose your primary affiliation.

Agriculture and Life Sciences  
Business  
Design  
Engineering  
Graduate College  
Human Sciences  
Liberal Arts and Sciences  
Veterinary Medicine  
I am not affiliated with a College

2. (0.c.) Which school or academic department are you currently affiliated with at Iowa State? If you are affiliated with more than one, choose your primary affiliation.

[List]  
I am not affiliated with a school or academic department

-  
Next, we would like to ask you about your implementation of Team-Based Learning (TBL) in your current and past courses.

3. (1.a.) Are you currently teaching at least one course that utilizes Team-based Learning (TBL) as the main pedagogical strategy?

Yes  
No  
Unsure/don't know

The next questions ask you about your use of TBL in your current courses. If you are teaching more than one TBL course this semester, please choose ONE course to think about when answering these questions.

4. (1.b.) Please mark all elements of TBL you are implementing in your current course (click all that apply):

Teams of 5-7 members  
Heterogeneous teams  
Backwards design (e.g. designing your course with the end in mind)  
Preparatory readings before class  
Individual readiness assurance tests (iRAT)  
Team readiness assurance tests (tRAT)  
Appeals process  
Mini-lectures for clarification  
Application exercises  
The 4 S framework (significant problem, same problem, specific choice, simultaneous report)  
Peer evaluation  
Other: please describe  
Unsure/don't know

5. (1.c.) Have you taught a TBL course in the past (previous to the current semester)?

Yes  
No  
Unsure/don't know

6. (1.d.) Please mark all elements of TBL you have implemented in **past** courses (click all that apply):

Teams of 5-7 members  
Heterogeneous teams  
Backwards design (e.g. designing your course with the end in mind)  
Preparatory pre-reading materials  
Individual readiness assurance tests (iRAT)  
Team readiness assurance tests (tRAT)  
Appeals process  
Mini-lectures for clarification  
Application exercises  
The 4 S framework (significant problem, same problem, specific choice, simultaneous report)  
Peer evaluation  
Other: please describe  
Unsure/don't know

7. (1.e.) Please rank the elements of TBL below by dragging and dropping in order of MOST to LEAST important.

Teams of 6  
Heterogeneous teams  
Backwards design  
Preparatory pre-reading materials  
Individual readiness assurance tests (iRAT)  
Team readiness assurance tests (tRAT)  
Appeals process

Mini-lectures for clarification

Application exercises

The 4 S framework (significant problem, same problem, specific choice, simultaneous report)

Peer evaluation

Other (please describe)

Unsure/Don't know

8. (1.f.) What was your motivation for adopting the TBL method (click all that apply)?

To encourage students' active participation in class

To utilize authentic learning situations/scenarios in class

To build students' teamwork skills

To increase students' confidence in learning the content

To increase students' accountability for their learning

To increase students' awareness of issues of diversity

To increase my own motivation for and satisfaction with teaching

To move away from lecturing

Larger enrollments in my classes/sections

Elimination of lab/practical component of courses

Other (please describe)

Unsure/Don't know

9. (1.g.) Please rank the motivations for adopting TBL below by dragging and dropping in order of MOST to LEAST important.

To encourage students' active participation in class

To utilize authentic learning situations/scenarios in class

To build students' teamwork skills

To increase students' confidence in learning the content

To increase students' accountability for their learning

To increase students' awareness of issues of diversity

To increase my own motivation for and satisfaction with teaching

To move away from lecturing

Larger enrollments in my classes/sections

Elimination of lab/practical component of courses

Other (please describe)

Unsure/Don't know

Next, we'd like to know about your participation in various TBL initiatives at Iowa State.

First, we'd like to ask you about your participation the TBL Workshop, a 4- to 5-week short course that helps participants engage with the principles of TBL and how they might use TBL in their classrooms.

10. (2.a.) Did you attend a Team-based Learning (TBL) Workshop at Iowa State?

Yes

No

I attended another TBL introductory course, please describe:

Unsure/don't know

11. (2.b.) If you can recall, in what academic year did you attend a TBL Workshop?

- Prior to 2011-12
- 2011-12
- 2012-13
- 2013-14
- 2014-15
- 2015-16
- I don't recall/Unsure

Please rate your level of agreement with the following statements about your participation in the TBL Workshop:

12. (2.c.) The TBL Workshop provided an effective overview of Team-based Learning.

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree or disagree
- 4 – Agree
- 5 – Strongly agree
- 99 – Don't know/Unsure

13. (2.d.) I was able to effectively design a TBL course as a result of attending the TBL Workshop.

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree or disagree
- 4 – Agree
- 5 – Strongly agree
- 99 – Don't know/Unsure

14. (2.e.) I was able to effectively implement TBL in my own classroom as a result of attending the TBL Workshop.

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree or disagree
- 4 – Agree
- 5 – Strongly agree
- 99 – Don't know/Unsure

15. (2.f.) What is the most important understanding or insight you gained as a result of attending the TBL Workshop.

16. (2.g.) What, if anything should be added to the TBL Workshop to allow you to effectively design and implement TBL in your own classroom?

Now, we will ask you some questions about your participation in the TBL Faculty Learning Community (TBL FLC). The TBL FLC is a faculty learning community open to participants who have completed the TBL TLC intended to support TBL practitioners in their implementation of the method.

17. (3.a.) Do you currently attend TBL Faculty Learning Community (FLC) meetings?

No

I have attended in the past, but I am not currently attending meetings

Yes, I attend one or two meetings a year

Yes, I attend one or two meetings a semester

Yes, I attend the TBL FLC meeting each month

Unsure/don't know

18. (3.b.) Please indicate the reasons you attend/have attended the TBL FLC meetings (click all that apply).

To learn more about how to design aspects of the Readiness Assurance Process (e.g. iRAT, tRAT, Appeals, Mini-lectures)

To learn more about how to design application exercises

To learn more about how to conduct peer assessment

To learn more about how to design and manage teams effectively

To learn more about how to increase student accountability in my course

To feel a sense of community with other TBL practitioners on campus

To hear about the challenges that others face in implementing TBL in their courses

To hear about the challenges that others face in implementing TBL in their department/discipline

Other (please describe)

Unsure/don't know

19. (3.c.) Please rank the reasons you attend the TBL FLC below by dragging and dropping in order of MOST to LEAST important.

To learn more about how to design aspects of the Readiness Assurance Process (e.g. iRAT, tRAT, Appeals, Mini-lectures)

To learn more about how to design application exercises

To learn more about how to conduct peer assessment

To learn more about how to design and manage teams effectively

To learn more about how to increase student accountability in my course

To feel a sense of community with other TBL practitioners on campus

To hear about the challenges that others face in implementing TBL in their courses

To hear about the challenges that others face in implementing TBL in their department/discipline

Other (please describe)

Unsure/don't know

Please rate your level of agreement with the following statements about your participation in the TBL FLC.

20. (3.d.) The TBL FLC helps me effectively design the Readiness Assurance Process for my TBL course(s).

1 – Strongly disagree

2 – Disagree

3 – Neither agree or disagree

4 – Agree

5 – Strongly agree

99 – Don't know/Unsure

21. (3.e.) The TBL FLC helps me effectively design application exercises for my TBL course(s).

1 – Strongly disagree

2 – Disagree

3 – Neither agree or disagree

4 – Agree

5 – Strongly agree

99 – Don't know/Unsure

22. (3.f.) The TBL FLC helps me to design and manage teams in my TBL course(s).

1 – Strongly disagree

2 – Disagree

3 – Neither agree or disagree

4 – Agree

5 – Strongly agree

99 – Don't know/Unsure

23. (3.g.) I feel a sense of community with other TBL practitioners on campus as a result of attending the TBL FLC.

1 – Strongly disagree

2 – Disagree

3 – Neither agree or disagree

4 – Agree

5 – Strongly agree

99 – Don't know/Unsure

24. (3.h.) The TBL FLC provides support for my TBL practice.

1 – Strongly disagree

2 – Disagree

3 – Neither agree or disagree

4 – Agree

5 – Strongly agree

99 – Don't know/Unsure

25. (3.d.) What is the most important understanding or insight you have gained as a result of attending the TBL FLC meetings?

26. (3.e.) What, if anything, should be added to the TBL FLC meetings to support TBL practice and create a sense of community among TBL practitioners at Iowa State?

27. (3.f.) If you are not currently attending the TBL FLC meetings, please indicate why (click all that apply).

I am not currently teaching a TBL course

I do not plan to teach a TBL course in the future  
I do not need assistance in implementing TBL in my course  
I do not have the time  
My department discourages TBL as a teaching strategy  
I find the returns of TBL are not worth the investment  
Other (please describe)  
Unsure/don't know  
Not applicable

28. (3.g.) Please rank the reasons you do not attend the TBL FLC below by dragging and dropping in order of MOST to LEAST important.

I am not currently teaching a TBL course  
I do not plan to teach a TBL course in the future  
I do not need assistance in implementing TBL in my course  
I do not have the time  
My department discourages TBL as a teaching strategy  
I find the returns of TBL are not worth the investment  
Other (please describe)  
Unsure/don't know

29. (3.h.) How do you feel your participation in the TBL FLC has impacted your teaching practice?

Now we would like to ask you about your participation in the TBL Scholars group. The TBL Scholars are a group of faculty members who extend TBL into their scholarship through collaborative research and grant activity.

30. (4.a.) Do you attend the TBL Scholars meetings?

No  
Yes  
Unsure/don't know

31. (4.b.) Please describe the reasons you attend the TBL Scholars meetings (click all that apply).

To learn more about how to conduct scholarship of teaching and learning  
To collaborate on grants with other TBL Scholar/practitioners  
To collaborate on publications with other TBL Scholar/practitioners  
To feel a sense of community with other seasoned TBL practitioners  
To gather support for my TBL practice from other seasoned TBL practitioners  
To connect with TBL practitioners from other disciplines that may help me to better design/implement/evaluate my study  
Unsure/don't know  
Other (please describe)

32. (4.c.) Have you presented at conferences (internally and externally) based in part on your participation in the TBL Scholars group?

Yes  
No  
Unsure/don't know

33. (4.d.) Please indicate the approximate number of conference presentations you've given based in part on your participation in the TBL Scholars group.

34. Have you authored/co-authored published works based in part on your participation in the TBL Scholars group?

Yes

No

Unsure/don't know

35. Do you do you have working papers in process based in part on your participation in the TBL Scholars group?

Yes

No

Unsure/don't know

36. (4.e.) Please indicate the approximate number of published or working papers you have authored/co-authored based in part on your participation in the TBL Scholars group.

37. (4.f.) Have you applied for grants (internal and external) as a Principal Investigator (PI) or Co-PI based in part on your participation in the TBL Scholars group?

Yes

No Unsure/don't know

38. (4.g.) Have you received grant funding (internal or external) as a Principal Investigator (PI) or Co-PI based in part on your participation in the TBL Scholars group?

Yes

No

Unsure/don't know

39. (4.h.) Please indicate the approximate number of grant applications (internal and external) you have been active in based in part on your participation in the TBL Scholars group.

40. How do you feel your participation in the TBL Scholars group has impacted your scholarship?

41. Please state any final thoughts you may have on the effectiveness or impact of CELT's TBL initiatives (TBL Workshop, FLC, and Scholars) at Iowa State.

We would like to ask you some final questions about your academic history.

42. Please list your PhD granting institution (if you do not have a PhD, please list the granting institution of the highest degree you've received).

43. Did you do a Post-Doctorate Fellowship?

Yes – If yes, please name the institution where you completed your Post-Doctorate Fellowship

No

44. In what year did you complete your PhD (if you do not have a PhD, please list the year you obtained your highest degree)?

45. What year did you start teaching/working at [university]?

## Appendix C

### *TBL Scholars Focus Group Protocol*

We're meeting with you today to gather information about the TBL Scholars group. I'm going to be asking you some questions today about your activities related to your TBL scholarship, your participation in the TBL Scholars group, your opinions on how the TBL Scholars group supports your work, and your thoughts on how to improve the TBL Scholars group to better support your teaching and research practice. All of your opinions, both negative and positive, are welcomed and encouraged.

To get our conversation started, please tell me your name, rank, and department and how long you've been involved in TBL scholarship.

1. Tell me what motivated you to become involved in the TBL Scholars group.
2. What would you tell others about how the TBL Scholars group supports your research/scholarship?
3. What could the TBL Scholars group do differently to better support your scholarship?
4. Tell me how your participation in the TBL Scholars group has positively affected your promotion and tenure. Has it negatively affected your P&T? In what way?
5. Tell me a little bit about how your home department supports your TBL scholarship. Does your department dissuade you from conducting TBL scholarship? In what ways?