Leveraging Synchronous Engagement and Asynchronous Flexibility within an Integrated Online Model for Team-Based Learning

Integrated Online Team-Based Learning Model as a Novel Solution
Designed to combine the flexibility of asynchronous engagement with the connectedness offered through synchronous class meetings, the IO-TBL model utilizes both asynchronous and synchronous modes of engagement within each module of instruction. The Readiness Assurance Process (RAP) and one or more 4S application activities are completed in synchronous sessions. During synchronous sessions, interactions among the students and instructor vary between whole class interactions and team interactions. Additional 4S application activities and peer evaluation are completed through asynchronous engagement. This section provides an overview the course orientation, RAP, application activities, and peer evaluation within the IO-TBL model. An overview of the components of an IO-TBL instructional module is presented in Figure 1.

Figure 1. Overview of the Integrated Online Model for Team-Based Learning
Orientation

When implementing the IO-TBL model, detailed information and opportunities for practice should be provided within the course orientation. Specific to orienting students to the IO model, we recommend contacting students in advance of the start of the course to provide them with instructions for accessing the course site, an overview of TBL, and a schedule of synchronous meetings. Also, collect student information needed to assign teams through a short, electronic team-development survey prior to the first-class meeting. Since students may need to meet as a team outside of scheduled class times, inquiring about schedule constraints on the team-development survey is also advisable. We also suggest creating and discussing Frequently Asked Questions (FAQs) specific to synchronous and asynchronous components of the course. Sample FAQs may include, “What do I do if I cannot login or face technology issues?” and “Do I have to keep my webcam on during the live session?”

The first synchronous session of the course is an orientation session which provides opportunities for teams to begin establishing cohesion while familiarizing students with the required technology, expectations, and flow of the course. Synchronous orientation tasks include selecting a team-leader and team name, practicing an iRAT and tRAT using an online TBL management system, and discussing grade weights and peer-evaluation criteria. Many of these tasks allow students opportunities to practice entering and exiting their team’s breakout rooms, a key task for students in the IO model.

Orienting students to expectations and available technology for completing the asynchronous course components is reserved for the first module in an effort to not overwhelm students during the initial session. As such, methods around completing application activities and peer evaluation through asynchronous engagement will be discussed in subsequent sections.

Readiness Assurance Process

The Readiness Assurance Process (RAP) within IO-TBL has been adapted such that various phases (iRAT, tRAT, clarifying lecture, and appeal) of each module occur just before, during, and after the synchronous class session. The iRAT within the IO-TBL model may occur asynchronously or synchronously and depends on how the course instructor wishes to use time within the synchronous meeting. If students are to complete the iRAT asynchronously, the instructor would identify a time for students to complete the assessment just prior to the synchronous session beginning. For example, if class begins at 9:00 am, the instructor may open the iRAT from 8:40 am to 8:55 am. We suggest providing a small break between the conclusion of the scheduled iRAT and the synchronous session to ensure students have adequate time to join the synchronous session and organize their materials for class. A benefit of having students complete the iRAT asynchronously is to provide more time within the scheduled synchronous session. This time advantage might be particularly helpful given course activities within a synchronous setting often take longer to complete when compared to a face-to-face setting.

If students are to complete the iRAT synchronously, students would begin the assessment shortly after the synchronous session begins. Students would ensure their microphones are muted as to not disturb other students completing the assessment. Benefits of having students complete the iRAT synchronously is to offer a time for questions about the preparation materials prior to the RAP beginning. A second benefit includes an increased ability to monitor students during the iRAT as a means to reduce cheating.

The tRAT within the IO-TBL model always occurs during a synchronous session, and teams work together on the tRAT within team breakout rooms (a feature of web conferencing
software that is essential). If students completed the iRAT asynchronously, once students join the synchronous session, students within each team are assigned a breakout room and the tRAT begins. If students completed the iRAT synchronously, once the iRAT ends, students within each team are likewise assigned a breakout room and the tRAT begins. In all cases, the team leaders are responsible for sharing their screens and indicating the team’s responses within a TBL management system. This TBL management system provides teams with immediate feedback on their tRAT performance.

Once all teams finish the tRAT and return to the main session, a clarifying lecture takes place, much like in a face-to-face setting. The technology used to implement the RATs provides instructors real-time access to those questions both individuals and teams struggled to initially answer correctly. Lastly, asynchronous opportunities for teams to submit appeals following the class session are provided through an online survey. The link to the appeal is posted within the Learning Management System (LMS); likewise, instructions for completing the appeal are included within the survey. We recommend appeals being submitted within five to six days from the completed RAT.

Application Exercises

The 4S Application Activities within the IO-TBL model are completed either synchronously or asynchronously. For example, if a module includes four application activities, it might be possible to complete the first two application activities synchronously, while the latter two are planned and organized to be completed asynchronously. For synchronous application activities, all teams are introduced to the same significant problem. The instructor provides real-time instructions on how to submit their specific choice answer and then invites students to join their team breakout rooms. The breakout rooms provide teams a private opportunity to engage in intra-team discussion and to submit their agreed upon choice within a specified technology platform (e.g., electronic survey, quiz, or through TBL management software). To maintain the integrity of the simultaneous report, it is important the specific choice be submitted versus being entered within a platform or webpage easily accessible by other teams. Once teams return to the whole-class session, the instructor may share his or her screen to simultaneously report the teams’ selections and to prompt inter-team discussion. A key we have found to promoting student-to-student discourse within the main session is to implement ‘Wait Time 2’—a 3 to 5 second pause following—not preceding—student contributions (Walsh & Sattes, 2005). Wait Time 2 becomes important as it accommodates potential lags in the video-conferencing software and it provides opportunities for students who may be hesitant to initiate discussion to ensure that a peer is not also about to speak.

Time should be reserved within the synchronous session to introduce and review the application activities to be completed by teams asynchronously. To ensure the application activities include opportunities for intra-team discussion, simultaneous report, and inter-team discussion occur, we recommend using the same three deadlines within each module. For example, if a module spans two weeks and the synchronous class session meets on a Monday, the three deadlines within each module could be Saturday-Wednesday-Saturday. To align with this three-deadline approach, application activities were consistently designed in two ways. One design requires students to individually complete the application activity by the first deadline, then share their individual decisions with their team, reach consensus on a specific choice, and then to report their team decision prior to the second deadline. Then the instructor simultaneously reports teams’ selections and requires students to engage in inter-team discussion individually, but from the perspective of their team. For example, students may be asked to
individually identify the depth of knowledge (DOK) level for a set of questions. Teams would then discuss their individual selections and come to agreement on a DOK level for each of the questions. Finally, team responses would be revealed and inter-team discussion around assigned DOK levels would be prompted.

The second design requires teams to create a product prior to the first deadline, engage in a gallery-walk examining teams’ created products and to report a related team decision prior to the second deadline. Lastly, teams’ selections are simultaneously reported and inter-team discussions are prompted. To demonstrate, teams may be asked to first create and share a plan to establish group norms. Teams would then engage in a gallery walk, possibly identifying the plan with the greatest room for improvement and the plan most likely to succeed. Lastly, teams’ selections of those plans needing the most improvement and most likely to succeed would be revealed and inter-team discussion would be prompted around those selections.

The design of the IO-TBL model allows teams to simultaneously engage in multiple application activities during the asynchronous portion of the module, all with the same three deadlines (see Figure 2). Clear instructions explicating who, what, and where each phase of the activity are planned by the instructor and provided to the students. We recommend providing a module assignment sheet organized by either due date or application activity to ensure students and teams are consistently provided clear instructions for asynchronous engagement. The outline of a sample module assignment sheet is provided in Figure 3.

<table>
<thead>
<tr>
<th>Activities Open</th>
<th>Simultaneous Report</th>
<th>Activities Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Activity 1</td>
<td>Individual work</td>
<td>Intra-team Discussion and Submit Specific Choice</td>
</tr>
<tr>
<td>Application Activity 2</td>
<td>Intra-Team Discussion and Product Creation</td>
<td>Intra-Team Discussion, Gallery Walk, Submit Specific Choice</td>
</tr>
</tbody>
</table>

**Figure 2.** Model of applications to be completed asynchronously.
To complete the application activities beyond the scheduled synchronous class sessions, teams within the IO-TBL model should be provided multiple options for team engagement to complete asynchronous application activities—ideally, with both asynchronous and synchronous options. Asynchronous options include forums within an LMS and synchronous options include video conferencing software, such as Skype™, Zoom™, or BigBlueButton™. To allow for instructor oversight and quality control within the course, we do recommend that provided options allow teams to easily record and/or document their out-of-class engagement—thus permitting the instructor to determine who participated and what was discussed, if needed (Clark et al., 2018). Providing both asynchronous and synchronous options ensures that regardless of team members’ availability, a method of completing the application activities is provided.

**Peer Evaluation**

Peer evaluation within the IO-TBL model is completed asynchronously at mid-semester and end-of-semester. Instructions on how and where to complete the evaluation are easily added to the module assignment sheet. In reference to the module deadlines, we recommend the evaluation open after the second deadline and close at the third deadline. Delaying the evaluation to not open until after the second deadline ensures the peer evaluation includes the team engagement within that current module. Options to complete the evaluation may include an online survey, online form, or a TBL management system.