17 Team Based Learning: An Introduction
David O'Hanlon & Team *Stephanie Duffy, Dr Natasha McCormack and Dr Mairead Seery (TUS Midlands)*

Team Based Learning (TBL) is an educational design pattern that was originally developed by Larry Michaelsen of the University of Oklahoma in the late 1970s.

TBL has a compelling evidence base which indicates that is can be a suitable approach for helping students to achieve learning outcomes, develop critical thinking skills, and develop teamworking skills (see Liu and Beaujean., 2017; Swanson et al., 2017 for meta-analyses on TBL and learning).

Characteristics of TBL

The TBL approach has a number of hallmarks:

Permanent Diverse Teams: TBL involves diverse, lecturer-selected permanent teams of students who work together throughout a whole module.

Module organised into TBL units: A module is organised into a number of "units" (usually 4 to 8) within which a TBL "cycle" is facilitated over the course of 1 to 3 weeks.

Within each TBL cycle, there are four phases:

Phase 1 – "Readiness Assurance Process" Phase:

Students commence the TBL cycle by independently engaging in pre-class preparation, be it reading, video, recorded lecture, H5P or other activity. Pre-class material introduces students to the key concepts associated with the TBL unit.

Once students arrive at class, they complete an individual Multiple-Choice Quiz (MCQ) on the content. This is followed by a Team MCQ: the exact same quiz, but this time in their teams. Naturally, the team quiz promotes peer learning as students clarify concepts with one another as they complete the quiz. By monitoring the scores in the Team Quiz, the lecturer can then provide targeted clarification on the areas that may be causing confusion for students. See submission no 18 (Natasha McCormack) for more on this phase

Figure 1: Students completing a Team MCQ using IF-AT Scratchcards

Phase 2: Application Phase:

The next stage is "application" where the teams work together to identify solutions to problems (known as "application exercises"). There are usually three or four application exercises per TBL cycle, and this is where the bulk of time is spent within a cycle (about 70% of time). The problems (case studies, scenarios) are designed to require higher order thinking within teams.

Students work together to identify solutions to relevant problems, and then report their findings simultaneously to the class.

The TBL approach emphasises the adoption of a '4S' model to the design of application exercises. This helps to ensure that the teamwork, and the facilitation that follows, is fruitful and engaging:
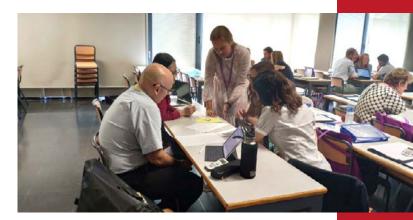

Figure 2: Students in discussion during an Application Exercise

When one designs application exercises that follows the 4S model, problems will be:

- significant (relevant, meaningful, real-life type problems).

- same (each group works on the same problem, resulting in other group's outputs generating interest, as teams wonder how they compared and contrasted).

- reported upon simultaneously (to guard against students not expressing their views in light of other teams' choices)

- specific (students choose responses from a limited set provided or make very specific decisions).

See submission 19 (Stephanie Duffy) and submission 20 (Dave O' Hanlon)

TBL Unit: Phase 3: Whole Class Discussion:

After each application exercise, whole class discussion occurs, whereby a lecturer can facilitate inter-team discussion of outputs/decisions. The focus is on unearthing the rationales and reasoning behind solutions, facilitating discussion and debate between teams.

TBL Unit: Phase 4: Peer Evaluation:

Peer evaluation is another hallmark of team-based learning, with peer assessment and feedback seen as a requisite step to build in individual accountability to the team. This occurs mid-way through a module, as well as at the end.

The whole is greater than the sum of the parts.

The phases of TBL work together to encourage students to be motivated to engage in active learning and be ready to tackle problems that require higher-order thinking. Pre-class preparation is more likely to be carried out due to low stakes quizzes. The desire to work for the team also produces motivation to engage (and this is further reinforced by peer evaluation). The 4S design aims to ensure that students will be intrinsically motivated to engaged with application tasks. The quizzes also help students and staff to identify gaps in understanding and respond accordingly. Students don't move on to the application phase until the readiness phase is completed, thus helping high quality, well-informed debates to occur within and between teams.

The entries that follow provide examples of how these phases can be carried out in practice. The section culminates with a reflection from the authors on how learning about and adopting TBL has influenced their practice. (see submission No 35)

Useful Resources

An overview video of the steps of Team Based Learning by LAMS - Introduction to Team Based Learning - YouTube

See Videos of Team Based Learning in action at:

- University of Texas - Team based Learning at UT - YouTube
- LKC School of Medicine, Singapore Team-Based Learning at LKCMedicine (Instructional Video) - YouTube
- Duke University Sample of Team-Based Learning - YouTube
- University of Sydney Team-based learning: The Sydney Method - YouTube

Step by step guides for doing TBL are available at Learn TBL | Jim Sibley helping you learn more about TBL

Article on How TBL compares to PBL:

Dolmans, D., Michaelsen, L., Van Merrienboer, J. and van der Vleuten, C. (2015). *Should we choose between problem-based learning and team-based learning? No, combine the best of both worlds!* Medical Teacher, 37(4), pp.354-359.

Recent Meta Analyses on TBL and its impact on learning:

Liu, S.N.C. and Beaujean, A.A. (2017). *The effectiveness of team-based learning on academic outcomes: A meta-analysis. Scholarship of Teaching and Learning in Psychology, 3*(1), pp.1-14.

Swanson, E., McCulley, L.V., Osman, D.J., Scammacca Lewis, N. and Solis, M. (2019). *The effect of team-based learning on content knowledge: A meta-analysis.* Active Learning in Higher Education, *20*(1), pp.39-50.