Team-Based Learning™ (TBL™) for Training: An Introduction

A little history…

Business school instructor, Larry Michaelsen, developed TBL™ to engage students in applying knowledge in the classroom. This is in contrast to the traditional model of using class time to impart knowledge through lectures, then leaving students to struggle with information application outside the classroom. Part of the impetus for the development of TBL™ was increases in class size from ~30-50 students to over 1-200 students, so TBL™ also had to be functional for large numbers. Michaelsen intended TBL™ team functioning to parallel the real world of work by more actively engaging learners in solving real world problems. Originally used mostly in professional schools, TBL™ is now entering workforce development in employment-based training, as well as higher education and K-12 education.

What does it look like?

TBL™ is a 'flipped' classroom teaching and learning method, using carefully constructed materials and facilitation strategies to foster knowledge acquisition, competency in applying that knowledge, critical thinking, and team-building. TBL™ encourages mastery of content **before** the training (doing the advance reading!) and then facilitates active learning through the application of content in the training room. TBL™ training rooms are often noisy as participants grapple with the material.

Why does it make sense for workforce development and continuing professional education?

It is competency-based and many professional and occupational processes are also processes in TBL™. We want our training participants (the instructor's clients) to be more able to solve their problems than they were before we engaged with them.

Some of the processes:

- ✔ Collaborating in solving real world, messy problems
- ✔ Articulating rationales for work-related decisions
- ✔ Struggling with things that are hard to understand or accept
- ✔ Seeing how teams outperform individuals
- ✔ Supporting people as both learners and experts and encouraging their input
- ✔ Helping people to see that sometimes there is more than one right answer
- ✔ The peer evaluation process supports competence in giving strengths-based feedback
- ✔ Surfacing disagreements, which may otherwise remain hidden and unaddressed

What does it mean for instructors?

TBL™ allows instructors to see whether trainees are likely to be able to transfer training to practice. The instructor becomes more of a facilitator and 'Guide on the Side' and less of a 'Sage on the Stage'. The role of having the answers can be a challenging one to give up! On the other hand, it is also

intensely satisfying to see people struggle with material and then 'get it' and they are more likely to retain what they have learned when they have engaged more deeply with it in case-based problems.

Essential Elements of TBL™

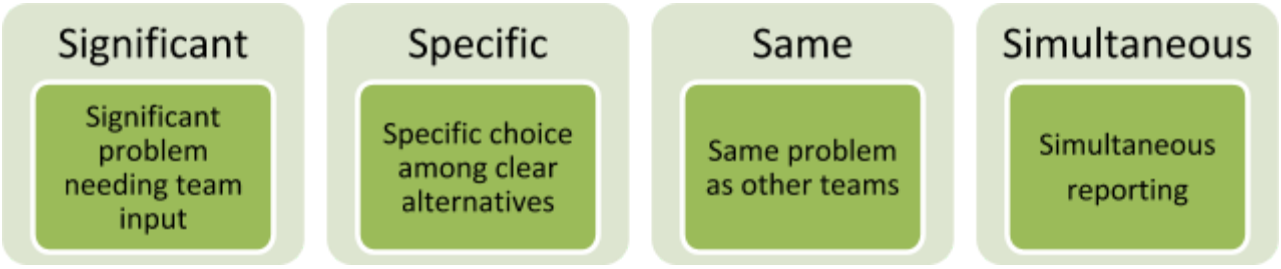
1) **Teams:** Properly formed and managed, using a selection process transparent to learners
   Features: Instructor selected, heterogeneous, fixed for the training, typically 4-7 members
2) **Accountability:** For individual and team work
   Features: Individual and team scores, peer evaluation
3) **Feedback:** Frequent and immediate
   Features: Debriefing of readiness and application questions, peer evaluation
4) **Application:** Assignments that promote competency and team development
   Features: Real world, 'messy', need input of team, raise and dispel practice 'folk lore'

Instructional Activity Sequence

Individual Preparation	Readiness Assurance Test ('RAT')	4-S Applications
Pre-training	Beginning of Training / Section of Training	Following RAT (Most of training time)
Individual completes pre-reading prior to training (can include online materials). Participants allocated into heterogeneous teams (before/at start of training day/training series). *(**CAUTION**: use care to avoid potentially stigmatizing selection criteria, such as ethnicity, gender, age, etc.)* Same team for whole training/training series.	Teams find their team-mates. Individual quiz/iRAT is completed. Teams complete the same quiz/tRAT. Teams receive immediate feedback about correct responses. Teams can appeal wrong answers by giving rationale and citing evidence. Instructor gives 'mini-lecture' to fill gaps observed in tRAT responses.	Scenario-based, 4-S, 'messy', team application assignments. Instructor facilitates and elicits intra-team discussion (supporting input from all members), without giving answers/hints. Instructor facilitates and elicits inter-team discussion illustrating practice points. It is important to surface points of agreement and disagreement. Instructor reviews and confirms best answer/s, giving clear rationale.

What are '4-S' Applications?

After the readiness assurance tests (RATs) are complete, teams proceed to application activities, which should take up **most** of the training time.



Significant problems:

Applications should be sufficiently complex and realistic ('messy') as to need input from the entire team and not be something that can either be quickly looked up, or solved by an individual. The purpose of an application activity is to engage all team members in applying concepts and information from readings (or materials given in the training) to a problem, which is both relevant and significant to the practice topic. Problems lacking significance for participants are unlikely to stimulate enthusiasm! In training, cases which incorporate real world dilemmas are ideal to promote engagement with the material and to foster critical thinking and competence.

Specific choices:

Multiple choice answers provide the specific choices. It is also an ideal opportunity to draft possible answers (distractors) which represent frequent practice errors and myths, or 'our office/agency/company doesn't do it that way' responses. Disagreements are more likely to surface within and across teams and can be fully aired. Specific choices also 'track' the discussion and help avoid rambling conversations.

Same problem:

Teams work on the same problems and come to conclusions independently and then after reporting out, can defend them and consider alternate responses. Working on the same problem maintains the interest of all teams in the inter-team discussion phase and ensures everyone covers the same points.

Simultaneous report:

Helps to prevent social desirability bias, reconsidering, or second-guessing their decisions, which is more likely to occur if teams report decisions sequentially. Report is followed by eliciting teams' rationales for their selection; teams are asked to articulate (and defend) the rationale for their choice to each other – not the instructor!

Facilitation – being the 'Guide on the Side':

Essentially this involves asking participants to behave as working colleagues in the training room, rather than as passive learners. Ideally, it looks a lot more like good supervision than lecture and makes extensive use of active listening skills such as empathy and non-judgmental responses. TBL™ facilitation uses much the same skills that instructors use in more traditional formats, however, the balance of those skills is somewhat different. The instructor spends much more time eliciting discussion within and across groups and much less time providing information. The instructor is still the authority in the room, providing direction for discussions and correcting misconceptions (if team members and other teams don't do so). The instructor frequently turns questions back to the teams to encourage engagement with the material and to empower participants. Perhaps the most important skill for the instructor to practice is keeping quiet while trusting in the teams' ability to figure it out. One writer suggests counting to ten before responding to any question (Lane, 2008)! The instructor, as the expert in the room, is responsible for giving the 'bottom line' by summarizing discussion and connecting it back to the learning objectives. The structured nature of TBL™ allows the instructor to keep the process on track.

Strategies:

During intra-team activities, instructors move among the teams to facilitate and model good team interactions.

- ✔ 'Has everyone expressed their thoughts on this yet?'
- ✔ 'It looks as though you may have a different view; I am wondering what you are thinking?'
- ✔ If a more dominant person tries to take a poll rather than have a discussion, this is an opportunity to ask what their rationale is for the answer they have chosen. 'Why is it answer B and not answer D, for example?'

During whole group, inter-team discussions, the instructor encourages active discussion across teams to air rationales for different answers and different rationales for the same answers. This frequently surfaces the right answer for the wrong reasons ('It felt right') and sometimes even the wrong answer for the right reasons! The goal here is have the groups talk to each other, rather than justify their answers to the instructor. Remember to leave enough time for people who take more time to formulate responses to process their answers.

- ✔ Ask open-ended questions which promote thinking about relevant concepts
- ✔ Count to ten before saying anything else or reformulating the question
- ✔ 'Please tell us a little more about your thinking'
- ✔ 'What would make this answer correct?'
- ✔ 'What else do you need to know about this situation to answer this question?'
- ✔ 'How would you make an argument AGAINST the answer your team has chosen?'
- ✔ 'What would make this application better reflect the clients you work with?'

Curriculum Design: Backwards Design

The guiding question is: **What do we want an able colleague to be able to DO in a certain situation**? Working back from this, the curriculum writer then develops learning objectives, designs application activities that demonstrate the desired competencies, and then designs the RATs. The final step is designing and selecting the materials that will prepare participants adequately. Curriculum writers often find that they can reduce the volume of content to target desired competencies more accurately. Curriculum design is an iterative process and writing good application activities is probably the most challenging part. Including the 'messiness' of real world situations is critical in making applications significant. Equally important is including information that is not relevant to the question, since sifting out compelling but irrelevant facts is an essential skill in many occupations. Expect to refine applications depending on how they perform during training; applications that are insufficiently complex will not drive higher learning.

Stages of Backward Design	Detail	Task
The 'Big idea'	Abstract concepts	Select concept/s, such as 'Engage in evidence-based practice'
Specific desired understanding or competency	What you want learners to understand or be able to do	Apply the 'big ideas' to your area of study to develop specific understandings or competencies
Evidence	What constitutes appropriate evidence of the understanding or competency	Using Bloom's Revised taxonomy, design learning objectives
Tasks	The performance tasks which provide evidence of the understanding or competency	Develop a relevant case or problem, challenging enough to foster engagement. Select content and decide on the activity process
Competency criteria	The method by which levels of competence can be judged	A rubric or 4-S activity, for example, with learner selection of correct answer, and demonstrated ability to give rationale/s for and against selection
Content – what learners need to know	The readings, videos, podcasts, and other sources that will provide content to enable development of understandings or competencies	Select sources that will provide appropriate preparation

References and Resources

The Team-Based Learning™ Collaborative (has an active and supportive list serve): http://www.teambasedlearning.org/

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