An uncertain future: adapting academic practice for an evolving digital world.

Gabriella Cagliesi and Mahkameh Ghanei
Some preliminary Team Based Learning (TBL) results

Gabriella Cagliesi (cm55@gre.ac.uk) and Mahkameh Ghanei (gm05@gre.ac.uk)

Business Faculty - Department of International Business & Economics (IBE)
I hear and I forget.
I see and I remember.
I do and I understand.

(Confucius, 551 BC - 479 BC)
THEORETICAL BACKGROUND

Theoretical arguments: TBL follows the principles of constructivist learning theory.

- TBL role of the learner: active participant (active problem solving, through dialog and interaction with others, and active reflecting on the learning process).

- TBL role of the instructor: role is to facilitate and mediate between curriculum and student, creating the opportunity for engagement and learning. (Michaelsen et al. 2004)

TBL features aligned with key constructivist ideas: learning theory-based rationale for the expectations that TBL will transform the quality of student learning and transform the joy of teaching.
EMPIRICAL EVIDENCE

The empirical evidence on the effectiveness of TBL is still developing. There are studies that provide evidence on the effectiveness of TBL in improving students’ understanding and retention in medicine, IT, psychology, education courses… not so many in economic discipline.


Active Learning Strategies

VS

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Facilitating Team-Based Learning (TBL)

Getting Started
1st Class
1. Describe the TBL unit
2. Form the Teams
3. Set grading weights
4. Develop positive group norms

Phase 2
Readiness Assurance (In-class)
1. Distribute RATS and collect answers in Group folders
2. Ask for GRAT answers and provide feedback
A. IRAT
B. GRAT
C. Instructor Feedback

Phase 3
Application of Course Concepts
1. Distribute case
2. Time Teams
3. Facilitate team discussions
4. Collect answers
5. Call for answers
6. Provide feedback on team work

Small Group Assignments

Individual Work \( \times \) Small Group Discussion \( \times \) Total Class Discussion = Impact on Learning
TBL Process & Learning Outcome (LO)

Readiness Assurance
1-1.5 hours

- Readings
  - iRAT
  - tRAT
  - Appeals
  - The focus for the immediate feedback technique

Application Activities
2 – 5 class sessions

1. Significant problem
2. Same problem
3. Specific choice
4. Simultaneous reporting

Plenary – Mini lecture

PEER EVALUATION

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Advantages of TBL for students

**Motivated to Attend**
- Offered alternative to large lecture classes
- Becomes part of a team

**Applies Knowledge**
- Achieves higher-level cognitive skills
- Learns basic concepts and experiences their application in assignments

**Participates Actively in Education**
- Acquires life-long skills
- Engages students who prefer to work alone
- Assists “at risk” students

**Develops Interpersonal skills**
- Student learn about themselves in collaborating with others on tasks
- Students learn to work as a team to accomplish difficult intellectual tasks
Macroeconomics and Microeconomics in Context 2
Course Leaders:
Dr Gabriella Cagliesi & Mahkameh Ghanei

BLENDED APPROACH

➢ TERM 1 – Theoretical Background

➢ Assessment: Individual Simulation Exercise (60% of overall grade)
  (estimation and simulation of augmented growth model of a chosen country, data and training provided)

➢ TERM 2 – Extended applied learning
  Team-Based Learning (40% of overall grade) (based on I-rat (5%), T-rat (5%) & application exercises (30%))
In our application of TBL we attempted to “bridge the gap” between new ideas and our institutional constraints and limitations.

We use the full TBL but adapted it in 3 ways:

• DELIVERY: Blended approach (Term 1 standard/Term 2 TBL)

• CONTENT: term 1 (introduced theories), term 2 (promoted theoretical depth, practical applications and evaluation)

• ASSESSMENTS and feed-forward on 6 units (11 sub-units):
  11 units diagnostic/concept checking tests (i-rat, t-rat) with debriefs and feed-forward
  11 formative exercises (applications) with debriefs feed-forward
  1 summative assessment based on one of the 6 units covered in term 2 (last week of class)

NO FINAL EXAM
# Content

<table>
<thead>
<tr>
<th>TERM 1</th>
<th>TERM 2 (Team-Based Learning - TBL)</th>
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<tbody>
<tr>
<td><strong>Topics</strong></td>
<td><strong>Topics</strong></td>
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<tr>
<td><strong>Macro THEORY</strong></td>
<td><strong>Macro /APPLICATIONS</strong></td>
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<tr>
<td>2. Augmented Solow</td>
<td>2. Competitiveness (GCI/IDI)</td>
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<tr>
<td>3. Alternative Growth model (pluralism)</td>
<td>3. Globalisation (KOF index), well being and inequality</td>
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<table>
<thead>
<tr>
<th><strong>Micro / THEORY</strong> (Last 6 weeks)</th>
<th><strong>Micro / APPLICATIONS</strong> (Last 6 weeks)</th>
<th><strong>Techniques</strong></th>
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</thead>
<tbody>
<tr>
<td>1. Principal-Agent Theory</td>
<td>1. Intergenerational inequality</td>
<td>1. Panel data</td>
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TBL Content & Units

TBL - UNIT 1 - Productivity

TBL - Unit 2 - Competitiveness

TBL - Unit 3 - Globalisation

TBL - Unit 4 - Intergenerational

TBL - Unit 5 - Pay Gap

TBL - Unit 6 - Global Generation

TBL - Unit 7 - Assessment
ATTENDANCE:
- Fund Beacon Training
- Attended other workshops

TERM 1:
- Group Creation
- "ESCAPE ROOM"

TERM 1:
- Group reflection
- Induction of TBL (Panopto)
Time line

TERM 2
- 3 Units TBL (formative assessments)
- Teaching observation
- Peer evaluation

TERM 2
- 3 Units TBL (formative assessments)
- Teaching observation
- Peer evaluation

End of TERM 2
- Summative assessment

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Peer evaluation: “constructive” feedback on individual team members (anonymous)
PEER EVALUATION: anonymous feedback

STOP DOING/ START DOING:
Do the prior readings as it would greatly benefit the group to have all members on the same page in terms of content and would allow members to contribute more whilst having greater knowledge on the subject area.

Turn up to the session that take place before the workshops, so that you can take part in the tRAT quiz with the team.

Let the team know if you cannot attend/ Be more responsive in replying to the group.

Be a bit more proactive in the tutorial with the rest of the team.
PEER EVALUATION: anonymous feedback

DO MORE:
Try to help organise the group in order to complete tasks quicker, do not be afraid to take lead and designate tasks

Be more confident in your answers and justifications as they're usually correct; this would benefit the team as there might be room for more discussions.

D... you are a quiet member of the team but when you present your ideas they are usually very good and accepted by the rest of the group, I'd suggest to be more vocal about your ideas.
PEER EVALUATION: anonymous feedback

KEEP DOING:
You are an amazing group member and I advise you to keep up with your amazing work.

You are very proactive and I do believe you are doing your best in every task.

Keep up with the amazing work as you are already a very active member in our group.

You provide intelligent and well thought out input to the group discussions.

You are always ready to listen, help and collaborate with the team members.

You always try to help other team players and always make sure that everyone agrees with answers or decisions.
Students’ performance and results

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<th>Overall</th>
<th>Portfolio Simulation Exercise</th>
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<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>69.1%</td>
<td>69.12%</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>70%</td>
<td>71%</td>
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<tr>
<td><strong>Standard Deviation</strong></td>
<td>10.13</td>
<td>6.72</td>
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The Team Building Experience: The Escape Room has been a great experience, worth it. It has been fun, it has involved our skills, and it has brought us together.

1. The advantages were to be on a game that was challenging our mind, and outside the university area or time. It has definitely forced people to engage with no pressure with other university “colleagues” and create nice memories of this time. The disadvantages were, for our group, of being only four of us, unfortunately not everybody engaged. Probably we could have made it (escaped) if the whole team was there, so much was going on during the hour in the room.

2. As the game was getting harder and harder clearly everyone picked a dilemma that was closer to his/her understanding, therefore playing our strengths. Nobody took over the whole situation, nobody bossed around or made anybody else uncomfortable.

3. The mathematical skills of some us clearly helped us through, as much as the curiousness of asking lots of questions pushes us to think about what was around us and why.

4. The challenges I may think this group will face are a lack of leadership, lack of interest of producing something for the benefits of everybody as some of the members did not show up, and the lack of confidence of some us of daring.
B) The Team building experience.

1. I enjoyed this experiences very much. I think it a lot depends on the group and I was very lucky to happen to be in a group with great people. The exercise allowed us to get to know each other better, have fun during the team-building experience and learn from it.

2. During the experience we definitely worked as a team. We solved the tasks together and helped each other. It was a real team effort. Our exercise did not go well in the end and some members started losing patience (we got stuck) but then there would be somebody who would lift the mood up and so we could continue. Overall, we had great balance of characters in the team.

3. We definitely had a couple of members that maintain positivity in the team and encourage others to continue. We had another few members that were particularly good at solving the puzzles and a member that had a good grasp of the overall task and what needed to be done next. So, overall, we had a very good balance.

When one of the members made a mistake others did not show negative emotions or said any comments, rather we looked for solution how to overcome the issue.

4. Potentially, depending on the group members, the exercise can be very challenging emotionally and if the negativity overtakes positivity in the room, the member can easily lose the temper and motivation to strive to do their best. Also, during the game there are possibilities to make mistakes and not be able to complete the exercise. Therefore, it is another pitfall for negativity. The exerсise overall is difficult and on the day none of the groups won the game, which made our team feel upset to some extent. However, right after the game and later on in
Students’ Evaluation (EVASYS) – TERM2

**TBL: Evasys results**

*Overall, satisfaction with teaching: 4.5*
*Feedback timely and useful 4.7*
*Learning environment 4.6*

**Students’ Comments**

“Learning under the TBL pedagogy really helped improve my team working skills and communications and whilst elements of the course were very challenging, with collaborative efforts we succeeded. “
“The Team Based Learning programme has been a wonderful experience to learn, work in a team, interact with the class and teachers, present your work etc.”

“This is the most progressive class. It was made very interesting, interactive, useful and relative. The change in the delivery of the subject has made a big difference. An opportunity to work in a group long term has changes my perspective on group work. The class is so interesting that the time flies.”
Planning for next year:

• Escape room to be repeated

• TBL Summative Assessments weighed using the percentage of attendance (group grade is proportional to attendance into group)

• Peer evaluation (to be carried out in class)
Evaluation:

• Positive experience: for students and for tutors (interactions, synergies, bonding, use of technology (SKYPE) etc...)

• Negative: time consuming, training, planning, institutional constraints, logistic
THANK YOU

Q&A
References


The Business School
University of Greenwich
Greenwich Campus
Old Royal Naval College
Park Row
London SE10 9LS

Enquiry Unit
Telephone: 020 8331 9000
E-mail: courseinfo@gre.ac.uk