Implementing Team Based Learning in an Information Literacy course

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Motivating students to improve their IL skills can be a challenge:

- Not all students prepare sufficiently
- Not all students are engaged during lessons
- Not all students practice

As a result:

- No satisfactory level of IL skills can be reached
Introduction

Team Based Learning

- Based on Flipped Classroom
- More and immediate feedback
- Learning from peers
- Immediate implementation of skills
- Works well in large groups (Michaelsen, Sweet, & Parmalee, 2009)
- Learning covers all Bloom’s levels (Sibley & Spiridonoff, 2010)

From: www.teambasedlearning.org
Introduction

What do we expect from TBL in our IL course?

- TBL in IL courses have been studied on practical level (Jacobson 2011, Hosier, 2013 & Benjes-Small, LILAC 2016), however, we do expect:
  - Higher scores on examinations after TBL than after lectures and self-tuition (as proved in biology, medical sciences and business courses; Carmichael, 2009; Sisk, 2011; Travis, 2016).
  - More engaged students due to group work, discussions and constant feedback (as proved by: Jacobsen, 2011; Sisk, 2011).
Method: TBL process

Phase 1
Readiness Assurance

Phase 2
In-class activities
Method: Implementation TBL

TBL in 1st year bachelor course Nutrition and Health
140 students

Try out session and Library assignment: 2 x 45 min.

Study e-module 1 + 3
TBL 1: 3 x 45 min.
Readiness Assurance 1
In-class activities:
   Case 1: Source evaluating and Referencing

Study e-module 2 + PubMed
TBL 2: 3 x 45 min.
Readiness Assurance 2
In-class activities:
   Case 2: Searching in Scopus & PubMed (MeSH)

Exam
Phase 1 – Readiness Assurance

- Study our e-learning modules
- Individual MCQs on material in e-learning module
- Marks count for grade
- No feedback, no mark until later
Phase 1 – Readiness Assurance

- Team answers same MCQs as iRAT – one entry per team
- Immediate feedback on answer
- Ability to answer again if incorrect
- Marks count for grade

### Immediate Feedback Assessment Technique (IF AT®)

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Phase 1 – Readiness Assurance

- Appeal to a MCQ when: poorly written, the answer was mistakenly coded, or their answer choice is better.
- Lecturer reviews questions which caused problems for teams
Students making tRAT
Phase 2 – In-class activities

- Teams receive a case via which they can practice their IL skills.
- Teams have to choose the “best” solution out of options provided.
- Teams then display their answer choice.
- Educator starts a classroom discussion between teams to explore the topic and the possible answers to the problem.
Case 2a: Searching in Scopus

Time: 30 minutes

In this case you are going to set up a search query with your team for the bibliographic databases Scopus, in order to find scientific information about the relation between the feeding pattern of adolescents and their performance at school.

You have to use the following search terms in your query:

- Adolescents, diet, school performance, youth, teenager, feeding behaviour, feeding pattern

Combine these terms to a useful search query using Boolean operators and parentheses. Use quotes and wildcards where needed and do not forget to check the Search Tips in Scopus.

When your search query is finished, please fill in the query in Scopus in the fields Title, Abstract & Keywords. Write down the search query and the number of results found. When there is time and your not satisfied, improve your search query.

Copy your final search query and the number of results to a Word file and upload it in TurnItIn in BlackBoard. The title of your document should include group number, case number and number of search results(teamxx_case2a_xx). Also, write down the number of results on the coloured paper you received. Make sure the number is visible to the others in the classroom, you have to show it when time is over.
At work during cases
Methods: Evaluation

- Grades
  - Exam (40%; same as class 2014)

- Students’ Feedback
  - 34 question survey via Feedback Fruits Live

- Statistical analysis
  - Exam grade class 2014 VS. class 2015
  - SPSS: Mann-Whitney U test (P=0.05)
Results: Grades exam 2014 versus 2015

Percentages

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<th>Q5</th>
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Results: Student survey questions 1 and 3

- Q1 I spend more time studying before class in order to be more prepared (N=66)

- Q3 I read most of the assigned material before class (N=70)
Results: Student survey questions 4 and 20

Q4: I generally felt prepared for the iRAT (N=70)

Q20: The iRAT was a useful learning activity (N=42)
Results: Student survey question 18

Q18: I remember information longer when I go over it with team members during tRATs (N=43)
Results: Student survey question 21 and 22

Q21: The use of scratch cards during the tRATs was useful (N=44)

Q22: I found the tRAT discussions useful (N=43)
Discussion

- Similar to earlier studies:
  - Results improved
  - Students:
    - Were eager to prepare
    - Found scratch card very motivating
    - Found RATs useful learning activities
  - Students practiced their skills enthusiastically during class.
Discussion

To take into account:

- We did not use peer-feedback
- Not every student could fill in student survey
- Improved PubMed e-learning module
- More effort of teachers during TBL
Conclusions TBL in IL course

TBL seems to be a good didactical method to motivate students and enhance their IL skills.
Future

- Continue? Yes
- Phase 1 (RAT) and Scopus case already used in other courses
- Finetuning other cases
- Include peer-reviewing for teamwork
- Check long term recall of IL skills via test
Discussion

Questions:
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references


