

**Team Competition in
group projects: Gamifying
learning to enhance
student engagement**

Dr Meiko Murayama
University of Reading

Gamification in Education

- Student engagement has been one of the most actively discussed topics in education (Trowler, 2010).
- ‘Game features’ in educational environments aim to enhancing student engagement, motivation, learning process and outcomes (Faiella and Ricciardi, 2015; Kapp, 2012; McClarty et al, 2012).
- The idea of ‘play’ as part of learning has a longer history in education,- ‘Gamification’ is a new term (Deterding, et al, 2011; Huotari and Hamari, 2012; Turan, et al 2016).

Gamification in Education

- Defining Gamification:

“use of design, elements & characteristics for games in non-gaming contexts” (Deterding, et al, 2011)

“the phenomenon of creating gameful experiences”
(Koivisto & Hamari, 2014)

- Defining Gamification in Education:

- Kapp (2012) states gamification should enhance and deepen the learning experiences offered. Often this perspective will result in a multi-dimensional set of game features being included in the learning process.

Purpose and Study Methods

- In order to enhance students engagement (and various skills) and add fun elements in learning, features of gamification were employed mixed with other enhanced learning tools – such as peer assessment (see Orsmond, 2004; Topping, 2009) and blended learning (see Murayama, 2015).
- Summative assessment of a group project - which consists of 3-4 students, conduct market research and write a group report.
- Features of the game:
 - Rules, Points, Leaderboard (group ranking), Feedback (Socrative), Reward (trophy points)
- Data: observation of the students, feedback from the students via questionnaires (2015/6 and 2016/7: September and January entry cohorts: 4 sets with students numbers = x12 - x52)

Gamifying a Marketing Project

The 'competition points' (as below) idea was introduced at the beginning of the project (rules).

1. Completion of homework;
2. Contribution to classroom discussion;
3. Presentation (content) (peer assessed);
4. Presentation (visual support & creativity) (peer assessed);
5. Presentation (communication) (peer assessed);
6. Video clip (creativity) (peer assessed);
7. Team work (cohesion and delegation) (peer assessed);
8. Group name (creativity) (peer assessed);
9. Attendance (as part of weekly rankings).

9 categories to compete and also total points will be calculated. The above competition points 3 to 9 were employed for weekly Leaderboard (ranking) as the university policies do not allow these to be purely added to their summative marks.

Gamifying a Marketing Project

The project consisted of **five** learning stages:

Stage Activities and points

Stage 1 Independent study (involving home study to prepare for the classroom sessions)

Group name (The tutor put them into a group of 3-4 members and as ice breaker they need to come up with group name. The creativity of group name is assessed at stage 4 by the rest of the students)
Completion of Home study (if students finish the homework they achieve 1 point)

Stage 2 Classroom sessions of studying marketing theories (group members sitting together)

Attendance – each instance of attendance to teaching session (1 point awarded to weekly ranking)
Contribution in the class discussion – each contribution in the discussion or answering questions verbally (award of 1 point)
Socrative – online learning system (results on the screen: race, instant answer feedback)

Gamifying a Marketing Project

Stage	Activities and points
Stage 3	Collection of primary and secondary data Each group makes a video clip (this will be assessed by the rest of the students at Stage 4)
Stage 4	Presentation of data and video clip Presentation of a group video clip AND major findings using visual aids - Peer assessment (students assess other groups' presentations).
Stage 5	Writing-up the group marketing report Total group points are weighted and calculated and groups are ranked and based on ranking group will get 5 to 1 points. These points were then added to the group report as their 'trophy points'.

Findings 1: Student Observation

Students responded positively to the points system.

Weekly group points were revealed at the beginning of each session (Leaderboard) and there was a tangible sense of excitement in the classroom each week.

They enjoyed the 'game' and its competitive features.

Some students' completion of homework improved.

Contribution during the session - this approach encouraged more students to participate in group discussions than in other instances.

- Some normally quieter students were surprisingly proactive and participated to challenge for trophy / reward points.

It was not easy to measure if attendance rates improved as there were always missing group members and refer to the next slide statement 5 which scored relatively low 3.45.

Playful comment of "contribution point!" was often uttered by students outside the 'gamified' situation when they did something good.... Indicates how the gamification was incentivising them.

Findings 2: Feedback from Students

Statements	1 strongly disagree / 5 strongly agree
1: Because of competition points, my group worked harder.	4.25
2: Competition points encouraged me to complete my home work.	4.00
3: I contributed more answers during the teaching sessions as I wanted to get more competition points.	3.95
4: Competition points were not good idea for marketing project.	3.54
5: Due to competition points for attendance I attended more teaching sessions.	3.45
6: I <u>did not</u> like competition points.	3.22

Findings 3: Feedback from students

Some quotes from students:

- ◆ Homework/independent study: *'finish homework on time', 'encouraged me to read more about the topic', 'study really hard at home'*
- ◆ Motivation: *'made us more motivated as we want to get higher points than other groups', 'Contribute more in class', 'made me more enthusiastic', 'people will try their best to answer questions',*
- ◆ Fun element: *'made it more fun', 'interesting', 'entertaining', 'enjoy learning', 'makes learning more enjoyable'*

Findings 4: Feedback from students

- ◆ Team work: 'learn to cooperate with my group members to get points', 'commitment', 'encourage everyone to complete homework'
- ◆ Game skills: 'quicker thinking', 'quick response skills', 'competitiveness skills', 'Competition against classmates', 'challenging', 'learn to transfer my competitive energy into learning'
- ◆ Socratic: 'the online test with the whole class was a brand new experience. Everyone gets to see other's answer without being awkward, and every answer helps', 'learnt from the mistakes I made'
- ◆ Positive: 'it made the team feel good as we were one of the top team', 'discouraged "shyness"'
- ◆ Negative: 'made it competitive- other groups don't help', 'made group members stress'

Conclusions

- More data is clearly needed and a more robust methodology for evaluation to measure student engagement....
- Clearly... students were more actively participating and this resulted in enhanced student engagement with the learning.
- Learning outcomes, such as; better motivation, fun and engagement were derived but also 'quick response skills', 'enhanced team work', 'commitment' to the work. Though one negative comments made by one student.
- Many students seemed to enjoy the game features of the competition.
- However ... Recording the data for ranking did become time-consuming - there is a time burden here for the tutor which should be acknowledged.
- Finally .. Using multiple methods for points awards is a facilitatory element for improving various skills and also added fun.
- Tutors can adopt their own unique gamification in their modules depending on tutors' interests, skills and strengths.

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