A background image of a network diagram with black nodes and lines on a light gray background. A red rectangular box is overlaid on the top left, and a dark blue rectangular box is overlaid on the bottom right.

# An Online Evidence-based Assessment System to Promote Collaborative Learning in Tertiary Education

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1

## Agenda

- Background
- The Project
  - Objectives
  - GMoodle
- Our Results
- Conclusion

2

# Background

- Current issues of group assessment
  - Group formation
  - Diffusion of responsibility in groups
  - Progress monitoring
  - Bias in peer review (Ashenafi, 2015; Dochy et al., 2006; Topping, 2005; Falchikov & Goldfinch, 2000)
  - Free riders

3

## The Project



Department of Mathematics and Information Technology, The Education University of Hong Kong

4

## The Project



**Teaching Development Grant 2018/19**

**Period:** July 2018 – June 2019 (12 months)

**Members:** 10 academic staff, 4 undergraduate students and 3 research assistants

**Participants:** 337 undergraduate students

5

## OBJECTIVES



### INTERACTION

Promote active and collaborative learning environment through peer online interaction



### PARTICIPATION

Increase the level of participation of group members in learning activities



### IMPLEMENTATION

Implement an online evidence-based assessment system for group projects and activities



### FAIR ASSESSMENT

Perform a fair and reliable peer assessment to reflect individual's contribution within a group



6

# PROJECT SCHEDULE



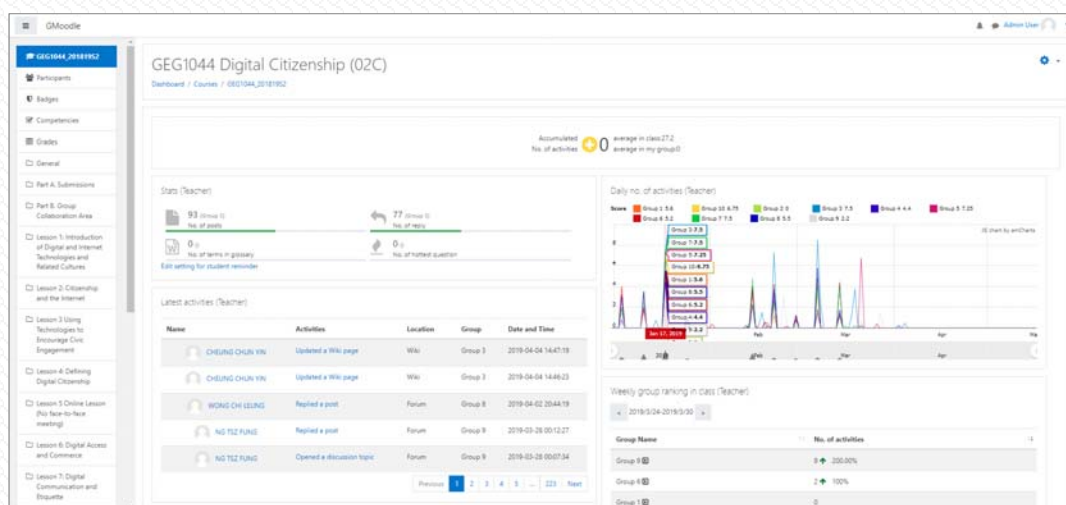
July 2018 – June 2019 (12 months)

Period (MM/YY)	Work plan / Activities
07/18 – 09/18	<ul style="list-style-type: none"> <li>- Design and Construct the Online Evidence-based Assessment System</li> <li>- Prepare survey questions for pre/post test</li> <li>- Provide training workshop for the involved teachers</li> </ul>
09/18 – 11/18	<b>Phase I Testing:</b> Use the Online Evidence-based Assessment System in <b>6 courses</b>
12/18	Collect feedback from Phase I - Fine tune the system
01/19 – 05/19	<b>Phase II Testing:</b> Use the revised system in <b>4 courses</b>
05/19 – 07/19	<ul style="list-style-type: none"> <li>- Perform data analysis with the activity log data</li> <li>- Focus group interviews with students for investigating the effectiveness of the system</li> <li>- Collect sample course plans from teachers for the sharing session</li> </ul>
05/19 – 08/19	Sharing sessions

7

## GMoodle

<https://gmoodle.eduhk.hk>



8

The screenshot shows the GMoodle dashboard with several callouts:

- Accumulated Collaborative Score:** A callout points to the score '5' and says, "This is my current collaborative score."
- Stats:** A callout points to the 'No. of activities that I have completed' section, which lists: No. of posts (1), No. of terms in glossary (2), Wiki contribution % (0.3333333333333333), No. of reply (5), and No. of hottest question (3).
- Daily collaborative score:** A callout points to the line graph comparing 'Average in class', 'Average in group', and 'My score' over time, saying, "Comparing my score with the average in class/group."
- Latest activities:** A callout points to the table of recent activities, saying, "The latest activities in my group."
- Weekly ranking in group:** A callout points to the ranking table, saying, "My rank this week."

Name	Collaborative score
Louis Lai	13 ↑ 100%
yung edward	10 ↑ 100%
Student Name	5 ↑ 100%

## GMoodle vs. Moodle

	<a href="#">GMoodle</a>	<a href="#">Moodle @ EdUHK</a>
Common activities: <ul style="list-style-type: none"> <li>Assignment, Chat, Choice, Database, Feedback, Forum, Glossary, Group choice, Lesson, Quiz, SCORM package, Survey, Wiki, Workshop</li> </ul>	✓	✓
Wiki with individual contribution %	✓	✗
Progress report (individual and group)	✓	✗ (not easy to read)
Turnitin assignment	✗ (pilot)	✓
Single Sign-On login	✗ (pilot)	✓

## PRE-TEST & POST-TEST SURVEY

Communication / Problem-solving / Collaborative / Self-management skills



### a) Communication skills

1. I can communicate effectively with my groupmates
3. I am good at understanding of others' points of views

### b) Problem solving skills

2. I am competent in solving the problems in my group, and can take initiative to resolve issues
5. I think online learning tools (such as Moodle, Google Docs) can help to finish group project effectively
12. I have a strong sense of accomplishment relative to our group work

### c) Collaborative skills

1. I can communicate effectively with my groupmates
3. I am good at understanding of others' points of views
7. I am clear about the contribution of everyone in the group, and avoid duplication of effort
8. I can establish trusting and supportive relationships with my groupmates
9. I usually seek and give my groupmates constructive feedback
10. I can collaborate effectively with my groupmates
11. I can identify free rider in my group before completing the project

### d) Self-management skills

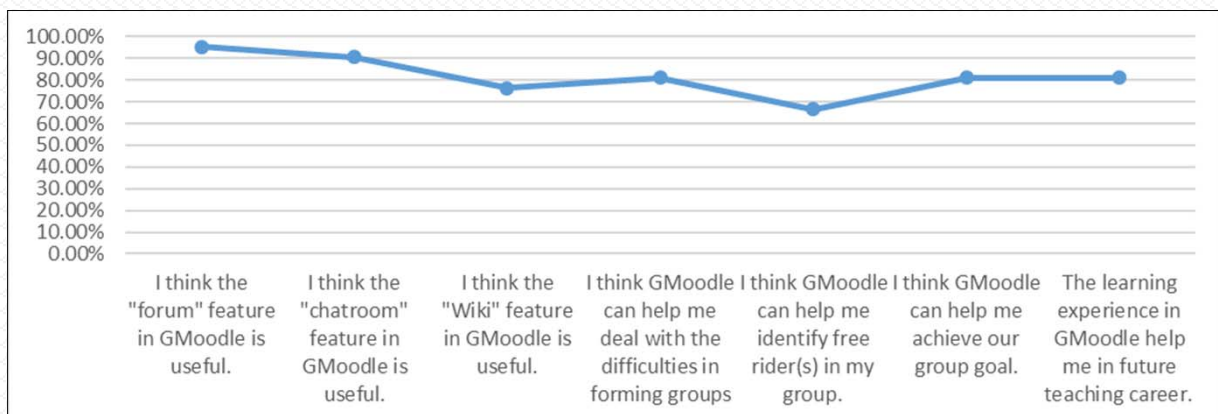
4. I take responsibility for my own learning in the group

### e) Others

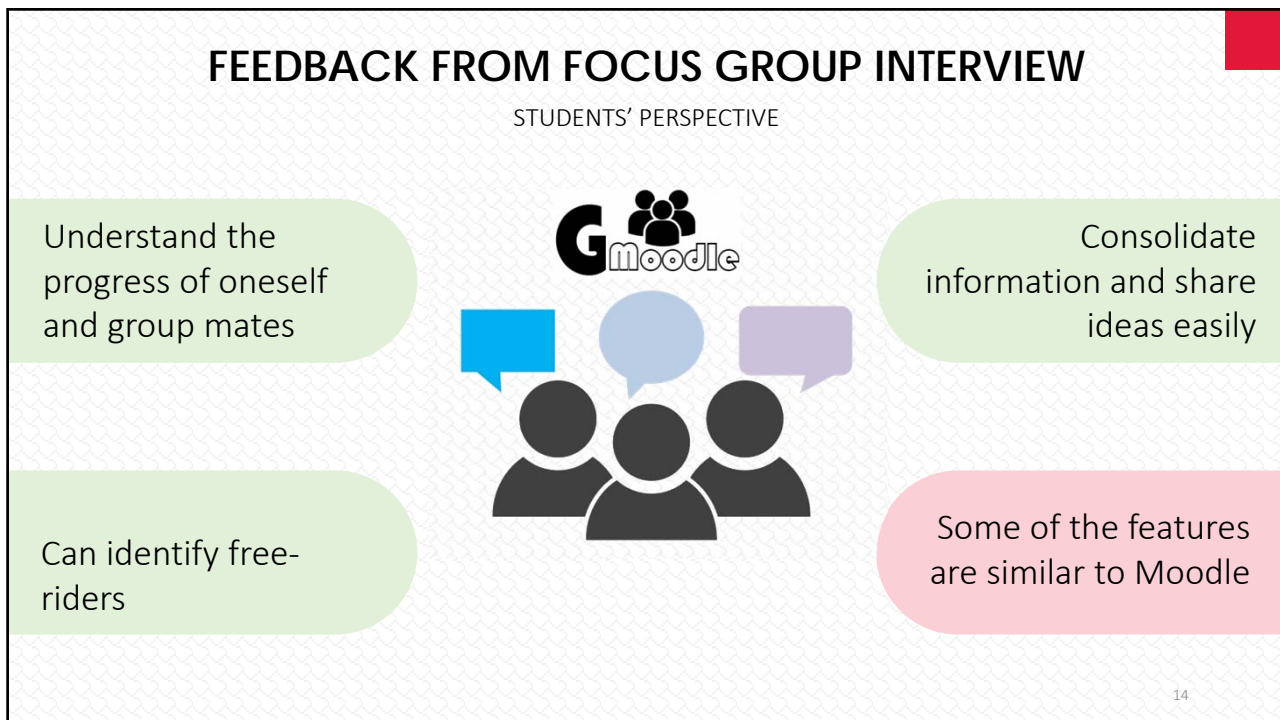
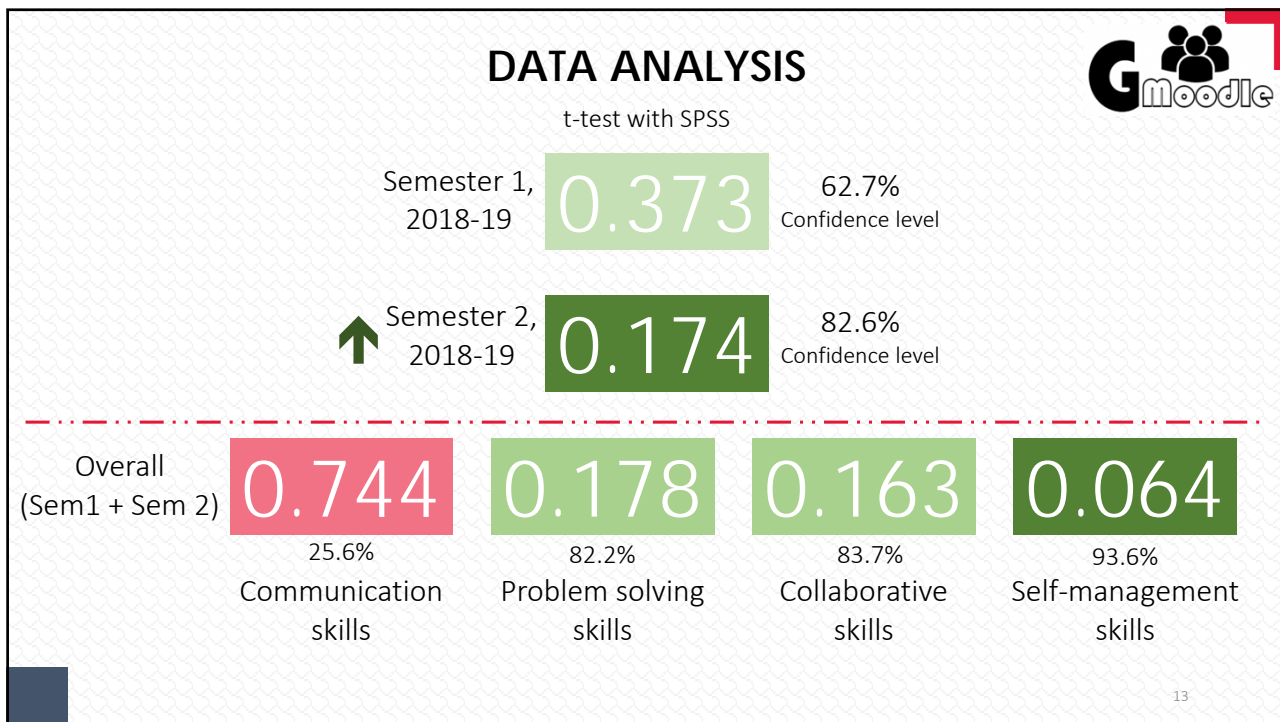
6. I prefer online discussions more than face-to-face meetings

11

## Evaluation of GMoodle's features



12



## CONCLUSION



This study showed that GMoodle can

- help students improve their problem solving, collaborative and self-management skills;
- encourage collaboration in group learning activities;
- review learning goals and progress;
- motivated students with participation score;
- identify free-rider;
- inspire them using online collaborative learning in the future teaching career.

15



# THANK YOU

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16