Faculty of Liberal Arts and Social Sciences

A Study of Online Evidence-based Assessment System to Promote Collaborative and Cooperative Learning in Group Activities

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An Online Evidence-based Assessment System (GMoodle)

HEY STUDENTS!

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ABSTRACT

Many courses involve **group** project and activities, but it is not easy to motivate all students will **actively contribute** and **collaborate** with each other. Teachers usually collect the final outcome, so it is difficult to assess the group work fairly even though the workload is unevenly distributed. To solve these problems, an **online evidence-based assessment system** called "**GMoodle**" is used as a centralised platform for students to work on group activities such as discussion, sharing resources and providing **feedback** for each other. Detailed reports were generated for both students and teachers in real-time. Students can know their **daily progress** and the contribution of the other members. Whereas teachers can access the activity log of all students in the class, which could be used to assess the group work and identify free-riders. To study the effectiveness, GMoodle has been adopted by six courses in semester 1 and 2 in 2018-19.

#evidence-based   #assessment
#collaboration
#Group   #active   #feedback

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BACKGROUND
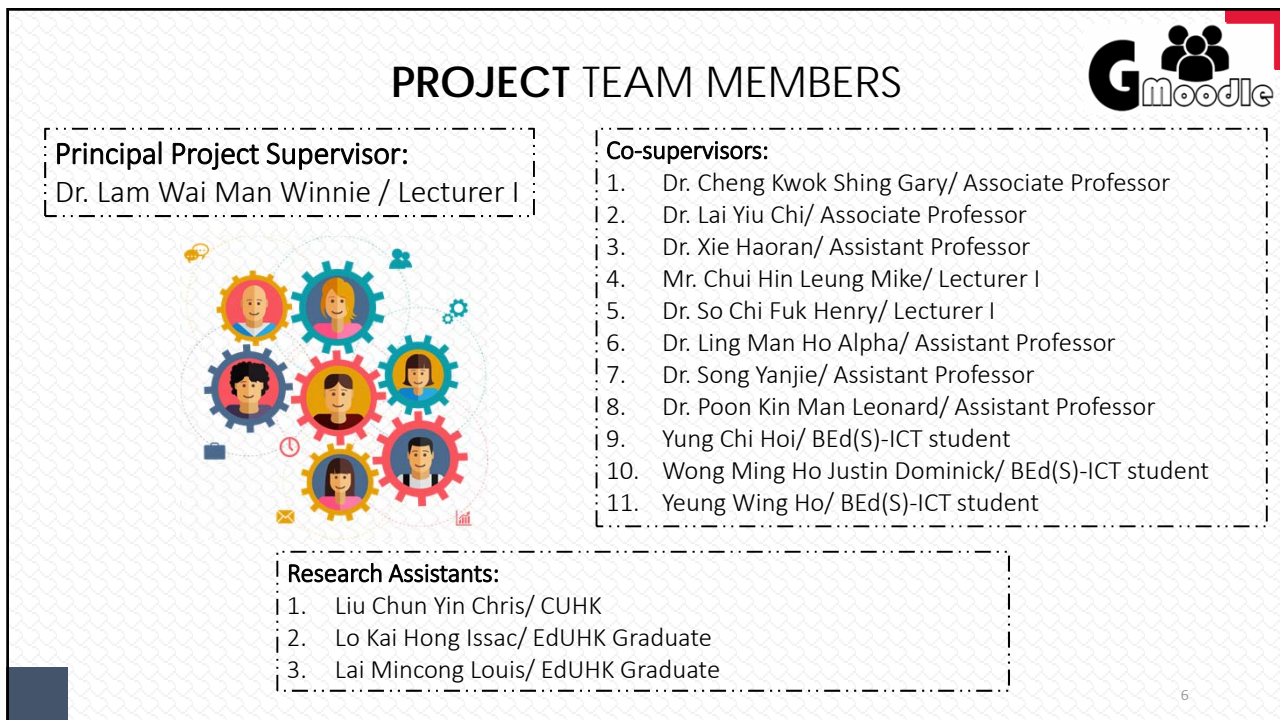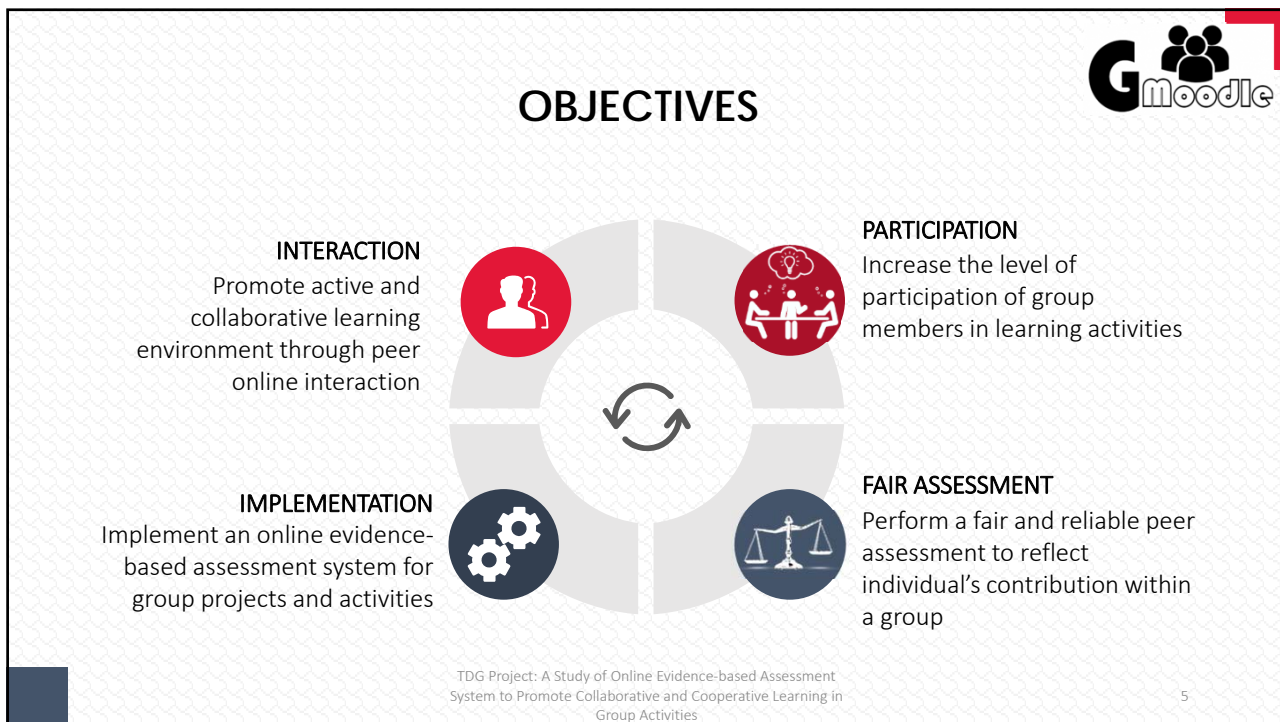
TDG 2018/19 Specific theme: Assessment

Period: July 2018 – June 2019 (12 months)

Issues of group assessment:

- Low level of individual responsibility in group (Summer, 2016)
- Diffusion of responsibility in groups
- Bias in peer review (Ashenafi, 2015; Dochy et al., 2006; Topping, 2005; Falchikov & Goldfinch, 2000)
- Teachers are difficult to know the progress of each group/ student

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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

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PROJECT TEAM MEMBERS

Principal Project Supervisor:
Dr. Lam Wai Man Winnie / Lecturer I

Co-supervisors:
1. Dr. Cheng Kwok Shing Gary/ Associate Professor
2. Dr. Lai Yiu Chi/ Associate Professor
3. Dr. Xie Haoran/ Assistant Professor
4. Mr. Chui Hin Leung Mike/ Lecturer I
5. Dr. So Chi Fuk Henry/ Lecturer I
6. Dr. Ling Man Ho Alpha/ Assistant Professor
7. Dr. Song Yanjie/ Assistant Professor
8. Dr. Poon Kin Man Leonard/ Assistant Professor
9. Yung Chi Hoi/ BEd(S)-ICT student
10. Wong Ming Ho Justin Dominick/ BEd(S)-ICT student
11. Yeung Wing Ho/ BEd(S)-ICT student

Research Assistants:
1. Liu Chun Yin Chris/ CUHK
2. Lo Kai Hong Issac/ EdUHK Graduate
3. Lai Mincong Louis/ EdUHK Graduate

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PROJECT SCHEDULE

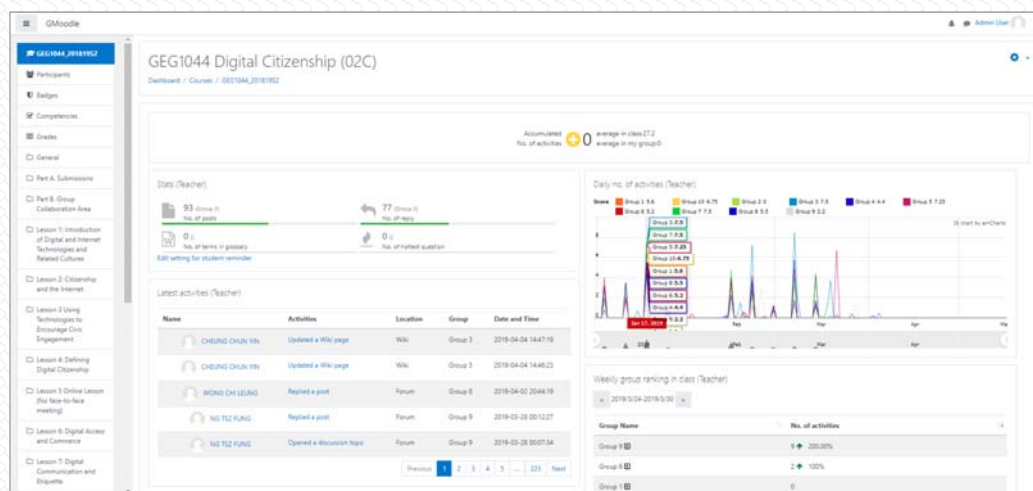July 2018 – June 2019 (12 months)

Period (MM/YY)	Work plan / Activities
07/18 – 09/18	- Design and Construct the Online Evidence-based Assessment System - Prepare survey questions for pre/post test - Provide training workshop for the involved teachers
09/18 – 11/18	**Phase I Testing**: Use the Online Evidence-based Assessment System in **5 courses**
12/18	Collect feedback from Phase I - Fine tune the system
01/19 – 05/19	**Phase II Testing**: Use the revised system in **4 courses**
05/19 – 07/19	- Perform data analysis with the activity log data - Focus group interviews with students for investigating the effectiveness of the system - Collect sample course plans from teachers for the sharing session - Prepare conference paper to report the result
05/19 – 08/19	Sharing sessions

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GMoodle

https://gmoodle.eduhk.hk

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GMoodle vs. Moodle

	GMoodle	Moodle @ EdUHK
Common activities: • Assignment, Chat, Choice, Database, Feedback, Forum, Glossary, Group choice, Lesson, Quiz, SCORM package, Survey, Wiki, Workshop	✓	✓
Wiki with individual contribution %	✓	✗
Progress report (individual and group)	✓	✓✗ (not easy to read)
Turnitin assignment	✗ (pilot)	✓
Single Sign-On login	✗ (pilot)	✓

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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
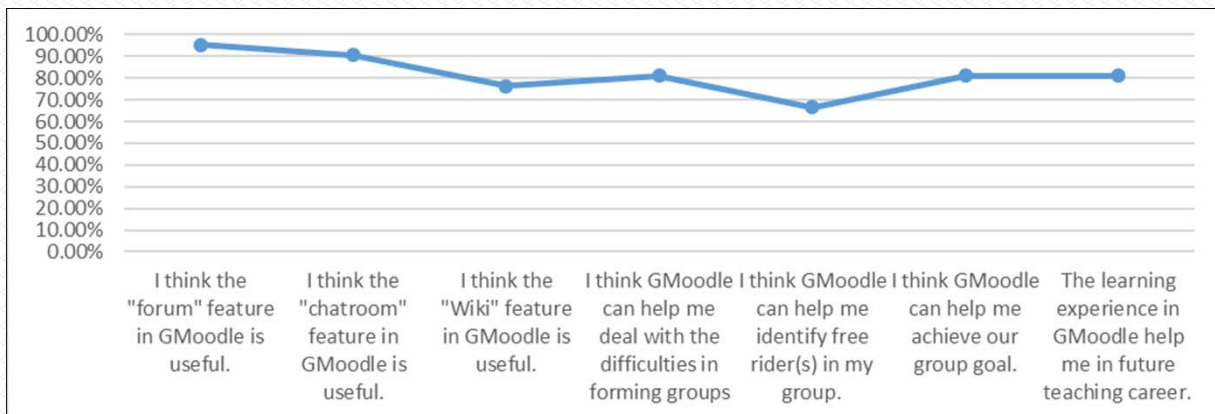
d) Self-management skills
4. I take responsibility for my own learning in the group

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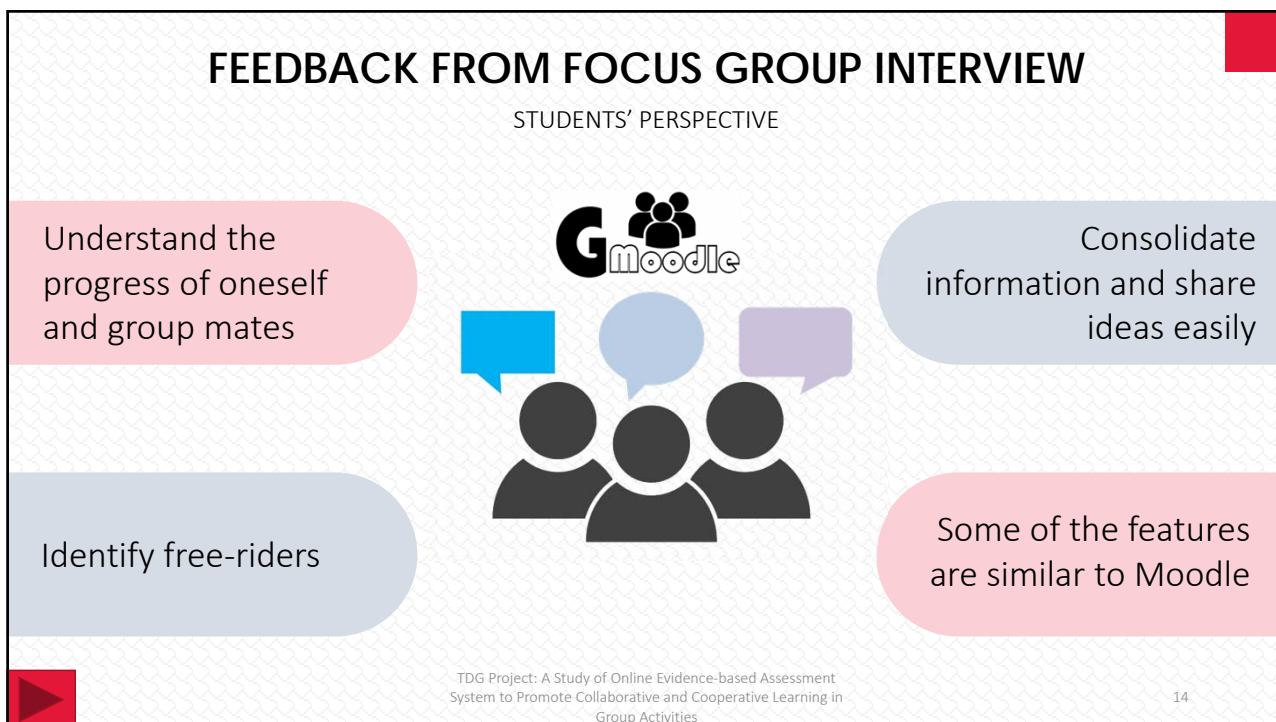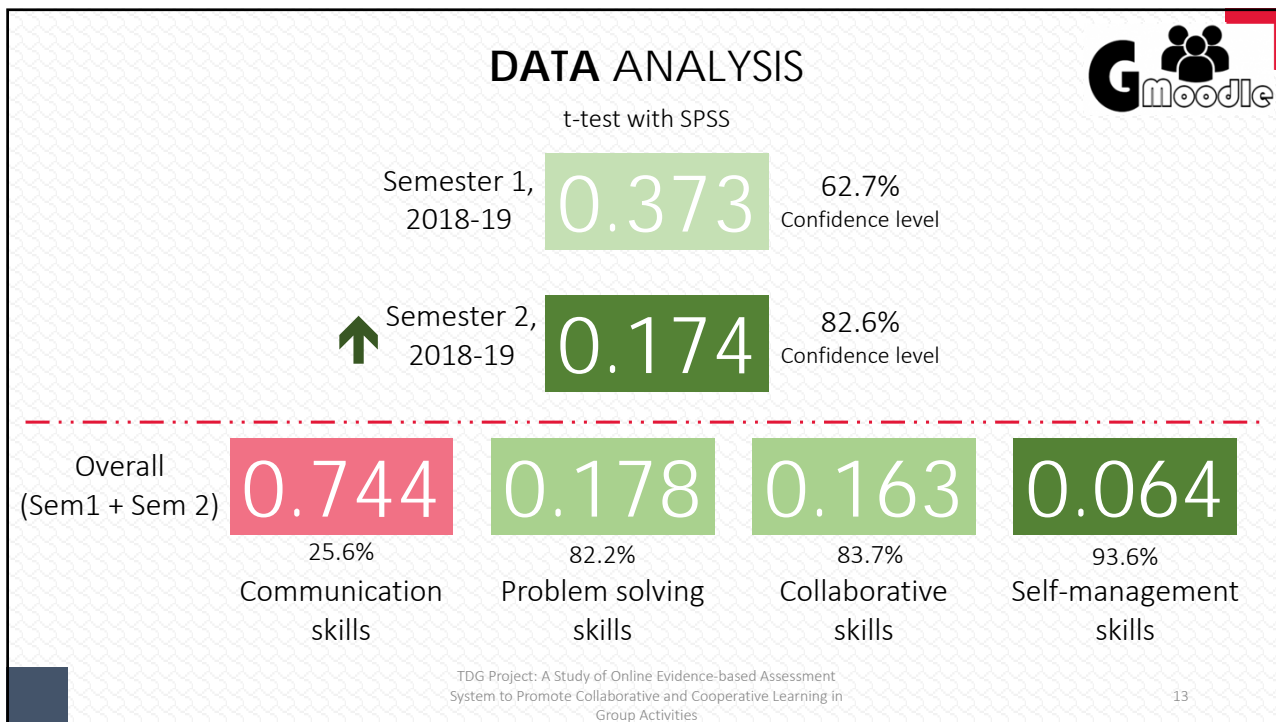6. I prefer online discussions more than face-to-face meetings

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Evaluation of GMoodle's features

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DATA ANALYSIS

t-test with SPSS

Semester 1, 2018-19	**0.373**	62.7% Confidence level
⬆ Semester 2, 2018-19	**0.174**	82.6% Confidence level

Overall (Sem1 + Sem 2)	**0.744**	**0.178**	**0.163**	**0.064**
	25.6% Communication skills	82.2% Problem solving skills	83.7% Collaborative skills	93.6% Self-management skills

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FEEDBACK FROM FOCUS GROUP INTERVIEW

STUDENTS' PERSPECTIVE

Understand the progress of oneself and group mates

Consolidate information and share ideas easily

Identify free-riders

Some of the features are similar to Moodle

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CONGLUSION

This study showed that GMoodle can

- help students to 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.

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THANK YOU

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