DiaNable: A reading-companion mobile app for a science core-text course

CHEUNG Hang Cheong Derek, HOI Wan Heng Sandy, NG Ka Leung Andy, PANG Kam Moon, WONG Wing Hung
General Education Foundation Programme, Office of University General Education

Abstract:
Science core-text reading provides opportunities for students to gather evidences and knowledge and to explore how renowned thinkers investigate and understand Nature. Yet, some students, especially those who have not had an acquaintance with rudimentary science, find difficulties in understanding science texts on their own. DiaNable serves as a reading companion and a self-evaluation tool to help students comprehend the texts. Statistics shows that students have significantly improved in their performance in written examination, and their feedback from qualitative focus group interviews suggests that they have more confidence in applying knowledge to questions about nature of science.

General Education Foundation Course: In Dialogue With Nature (UGFN 1000)

* Students are required to read selected science texts
* 2h/week student-oriented, seminar-based tutorial
* 1h/week lecture

Students' common problems
* Fails to understand the ideas & details of the texts
* Has not finished reading before attending tutorials
* Survey on the reading habits of ~500 UGZN students

Students' feedback
* Positive towards the interface design
* Effective in helping themselves understand the texts
* Increased motivation of reading

March: Survey

June: App design and programming

Late July: Pilot Scheme

Objectives:
* Stimulate self-initiative in reading
* Enhance comprehension of texts
* Evaluate students' understanding of the texts

August: Refinement of the design

* Invited 22 students to use a trial version
* Online survey of the design and effectiveness
* Focus group

September: Soft launch

Soft launch: Results

* 24 classes of 600 students from 4 teachers
* Usage:
  Lindberg: ~50%
  Cohen-Newton: ~40%
  Darwin: ~33%
  Poincare: ~14%

Future works:
* Focus group
* Include a mini dictionary
* Include pronunciation
* Revise existing questions
* Diversify the question type
* Include more UGFN texts

Acknowledgment:
This project is partially supported by Courseware Development Grant Scheme 2013-14 (Project code 4170406), Learning Team, ITSC, The Chinese University of Hong Kong