

利用維基平台進行專題研習 – 以「資訊科技的社會
議題」為主題的個案分析

USING WIKIS IN PROJECT-BASED LEARNING: CASE STUDIES ON SOCIAL ISSUES IN INFORMATION TECHNOLOGY

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Outline

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3. Findings from wiki sites – the first study
4. The Research Methodology – the second study
5. Findings from wiki sites – the second study
6. Sharing from a student
7. Conclusions

1. Introduction

- ▣ Student teachers are very competent in using information technology (IT) in their daily lives, and yet they may not have a clear idea of how to integrate IT into teaching and learning.
- ▣ It is important for teacher education programs to integrate content, pedagogy, and technology (Hughes, 2005; Koehler, Mishra, & Yahya, 2007) and also for teacher educators to model IT pedagogical competencies in classroom teaching (Gomez, Sherin, & Griesdorn, 2008; Kim & Hannafin, 2009; Lim & Chan, 2007; Nicholas & Ng, 2009).

2. The First Study

- ▣ Conducted from Jan to March 2010
- ▣ To attempt to integrate IT with content, pedagogy and technology – group projects in social issues in IT

Social Implications

Topic
<u>Consequences of Indulging in Internet Activities</u> (e.g. Internet addiction) - MAIE Group B
<u>Internet Piracy</u>
<u>Browsers and Security</u> (Full time PGDE students)
<u>Privacy Threats on the Internet</u> (Part time PGDE students)
<u>Ordinances against computer crime and unauthorized access</u>

3. The Research Methodology – the first study (1)

- ▣ The research objectives
 - To enable the participants to attain their course learning objectives as it can help “develop participants’ ability to coordinate and manage issues related to ICT Management in school” (MAIE module) and also “enhance participants’ ability to select appropriate strategies to create learning environments for their students that foster learning and teaching of ICT subjects” (PGDE module)
 - To enable the researchers to explore whether wiki can support student-centered learning and assessment activities.
 - The research questions:
 - ▣ 1. *Can wiki provide a platform for promoting student-centered learning?*
 - ▣ 2. *What essential elements are included in their assessment rubrics?*
 - ▣ 3. *Can assessment rubrics serve as viable guidelines for evaluating wiki projects?*

3. The Research Methodology – the first study (2)

The participants

- There were 16 participants in this study
- They formed 5 groups:
 - ▣ 4 students who were taking a one-year full-time Postgraduate Diploma in Education (Secondary) program (hereafter termed the FT PGDE)
 - ▣ 3 students who were studying a two-year part-time Postgraduate Diploma in Education (Secondary) program (hereafter termed the PT PGDE)
 - ▣ 3 groups of participants were enrolled in a four-year full-time Bachelor of Science in Mathematics and Information Technology Education program (hereafter termed the MAIE) and were in their final year of study

3. The Research Methodology – the first study (3)

□ The tasks

1. During the period of this study, the MAIE students were taking a “Supporting Information Technology in Schools” course while the PGDE students were taking a “Learning and Teaching of Selected Topics in Information Technology” course.
2. The course lecturers created a wiki site (Project link: <http://sites.google.com/site/teachandlearnict/>)
3. Each group was required to select a topic related to the “social implications of IT”, namely internet addiction, internet privacy, browsers and security, privacy threats on the Internet, and ordinances against computer crime and unauthorized access.
4. They were also required to develop an assessment rubric for themselves and others to evaluate their projects.
5. They were given a brief demonstration on how to use the editing functions to create materials on wiki.
6. Students could post the materials in either Chinese or English due to Hong Kong’s official language policy of “biliteracy and trilingualism.”

4. Findings from wiki sites - the first study (1)

- #### □ Research Question 1. Can wiki provide a platform for promoting student-centered learning?
- Similar to some findings (Nicholas & Ng, 2009), the contents of the learning materials created on the wiki site demonstrated that the students had created high quality learning materials for pupils to learn social implication topics (Figure 1).
 - Apart from text, a variety of learning resources such as video, newspaper clippings, and cartoons were also embedded in the groups’ wiki site (Figure 2).

Example of Findings - the first study (Group 1)

- ▣ What is Internet Addiction
- ▣ The situation of Internet Addiction in Hong Kong
- ▣ Consequence
- ▣ Case Study
- ▣ Solution
- ▣ Related Resource
- ▣ About us

Teaching and Learning of ICT
沉迷上網的後患

1. 何謂沉迷上網
2. 香港沉迷上網的現況
3. 後果
4. 個案分析
5. 解決方法
6. 相關資源
7. 有關我們 (評估專欄及組員的反思)

Figure 1: An example of a Table of Contents

The wiki site contains text, videos, comics, graphics (statistical graphs), and tables.

Example of Findings - the first study (Group 5)

- ▣ Teaching objective
- ▣ Current situation
- ▣ Current statistics
- ▣ Computer crimes ordinance
- ▣ Compare to other countries
- ▣ Related news
- ▣ Related documentary
- ▣ Related case
- ▣ Comment on the ordinances of copyright (Computer part)
- ▣ Lesson activities
- ▣ Assessment rubric

Teaching and Learning of ICT > Social Implications >
Ordinances against computer crime and unauthorized access

Created by: Vincent Au Yeung, Jenny Yim, Leo Lam

Teaching Objective

1. Understand different ordinances of the computer crimes
2. Know the current situation of the computer crime locally
3. Know the current news in computer crime which are sentenced with ordinances
4. Compare Hong Kong's ordinances with different countries' ordinances in Computer Crime

Current Situation

Responding to the increase in computer crimes cases¹ in the last couple of years, the Government (Working Group) in March 2000. The Working Group, with representatives from various Government bureaux and Internet crimes and identifying areas where changes would be required. In September 2000 the Working Group's recommendations made by the Working Group in its report are summarized and analyzed briefly in the

Reference: [http://dx.doi.org/10.1016/S0267-3649\(01\)00206-0](http://dx.doi.org/10.1016/S0267-3649(01)00206-0)

Current Statistics

Technology Crime Statistics in Hong Kong

The table below illustrates the figures of Technology Crime in Hong Kong between 2003 to 2008.

Figure 2 - An example of one of the teaching objective

The topic titles are primarily in English, some materials are in Chinese while some are in English. Even though this group of students was the first group to include videos on the wiki site, very limited multimedia resources are included in their wiki site.

4. Findings from wiki sites - the first study (2)

- ❑ Research Question 2. What essential elements are included in their assessment rubrics?
 - None of the groups chose or developed the same assessment rubric.
 - Four out of the five groups chose five criteria for their assessment rubrics while one group chose seven.
 - **"Content" is the most important element in evaluating a wiki page, followed by presentation elements such as "organization" and "design".**
 - Most of the groups used a qualifier such as "excellent," "good," "satisfactory," and "needs improvement," but some used numeric scores to evaluate against the criteria.

4. Findings from wiki sites - the first study (3)

Teaching and Learning of ICT > Social Implications > 沉迷上網 - 有關我們

MAIE - Group B

This is an group online mini wiki project of module IIT4068.

The rubrics of our project is shown as follow:

	Excellent - 4	Good - 3	Satisfactory - 2	Needs Improvement - 1
Subject Knowledge	Subject knowledge is evident throughout the project. All information is clear, appropriate, and correct.	Subject knowledge is evident in much of the project. Most information is clear, appropriate, and correct.	Some subject knowledge is evident. Some information is confusing, incorrect, or flawed.	Subject knowledge is not evident. Information is confusing, incorrect, or flawed.
Citing Sources	All sources are properly cited.	Most sources are properly cited.	Few sources are properly cited.	No sources are properly cited.
Organization	The sequence of information is logical and intuitive. Menus and paths to all information are clear and direct.	The sequence of information is logical. Menus and paths to most information are clear and direct.	The sequence of information is somewhat logical. Menus and paths are confusing and flawed.	The sequence of information is not logical. Menus and paths to information are not evident.
Originality	The project shows significant evidence of originality and inventiveness. The majority of the content and many of the ideas are fresh, original, and inventive.	The project shows some evidence of originality and inventiveness.	The work is an extensive collection and rehash of other people's ideas, products, and images. There is little evidence of new thought or inventiveness.	The work is a minimal collection or rehash of other people's ideas, products, and images. There is no evidence of new thought.
Technical	Project runs perfectly with no technical problems. For example, there are no error messages, all sound, video, or other files are found.	Project runs adequately with minor technical problems.	Project runs minimally. There are many technical problems when viewing the project.	Project does not run satisfactorily. There are too many technical problems to view the project.

Reference:
http://www.uen.org.uk/ubiohub/ubiohub_id55

Figure 3 - Example of the assessment rubrics

4. Findings from wiki sites - the first study (4)

Group 1	Group 2	Group 3	Group 4	Group 5
Subject Knowledge	Content and Learning of Material	Preliminary Work	Content	Content
Citing Sources	Design	Design	Organization	Readability
Organization	Technical	Content	Attractiveness	Web Skills
Originality	Organization	Presentation	Collaborative Work	Presentation format
Technical	Interest		Accuracy	Group Work

Table 1 – Summary of Criteria Adopted or Adapted in Student Teachers' Assessment Rubrics

4. Findings from wiki sites - the first study (5)

- Research Question 3. Can assessment rubrics serve as viable guidelines for evaluating wiki projects?
 - For the ranking of the groups' projects, rank 1 is the best group and rank 5 is the worst group.
 - The average ranking for the peers' group (Table 2) shows that Group 1 created the best learning materials, followed by groups 2, 5, 4, and 3.
 - Three groups gave higher scores to their own work while the two other groups (Groups 1 and 2) gave lower scores to their own work, there was no observable evidence that assessment rubrics can serve as viable guidelines for evaluating wiki projects through either self-assessment or peer assessment.
 - The findings confirm **it is difficult to assess Web 2.0 authoring work**

4. Findings from wiki sites - the first study (6)

For	Group 1	Group 2	Group 3	Group 4	Group 5	Average ranking given to peers' groups	Ranking given to their own group	Rank order
From						Peer assessment	Self assessment	
Group 1	4	1	1	3	2	1.67	4	Peer > Self
Group 2	1	4	3	5	4	2.25	4	Peer > Self
Group 3	2	4	2	4	3	3.25	2	Self > Peer
Group 4	2	3	5	2	Missing	3.3	2	Self > Peer
Group 5	Missing	1	4	1	1	3	1	Self > Peer

Table 2 - Summary of the Assessment Results (Rank) among the Groups

4. Findings from wiki sites - the first study (7)

▣ Reflections from students

- *This wiki platform is well designed and we almost have no difficulties in creating the wiki pages. We made hyperlinks, we imported images, and we imported video into this wiki pages. It is user-friendly enough to use since we get no problems.*
- *... as all wiki projects are of different topics and they may be different in format ..., it is difficult for us to assess the quality of the wiki. With the use of assessment rubrics, we have a fair assessment guideline to base on when marking.*
- *It is not easy to understand the rubrics posted by others, and it takes time to read and understand.*

The Second Study

- Conducted from Jan to March 2012
- Similar to the first study
- Changes:
 - Students were given the **assessment rubric** at the beginning of the project work
 - **Introduce formative assessments**
 - Students were given one week to revise their projects after receiving peers' feedback

MMBED IIT 2059 and PGDE IIT5059

Programme Name: MMBEd(S) PT, PGDE(S) FT, PGDE(S) PT
 Course Title: Information Technology Supported Learning Environment
 Course Code: IIT 2059, IIT 5059
 Lecturer: Dr. Ng Mee Wah, Eugenia
 Online Group Project: Social and ethical use of IT in Education

BEd IIT 2509

Programme Name: BEd
 Course Title: Information Technology Supported Learning Environment
 Course Code: IIT 2509
 Lecturer: Dr. Ng Mee Wah, Eugenia
 Online Group Project: Social and ethical use of IT in Education

5. The Research Methodology – the second study (1)

- The research objectives
 - To enable the participants to attain their course learning objectives “ discuss critically issues surrounding the use of IT-supported learning environments”
 - To enable the researchers to explore whether wiki can support student-centered learning and assessment activities.
- The research questions :
 1. *Can wiki provide a platform for promoting student-centered learning?*
 2. *Can formative assessments improve group projects?*
 3. *Can the assessment rubric serve as a viable guideline for evaluating wiki projects?*

5. The Research Methodology – the second study (2)

The participants

- There were 38 participants in this study
- They formed 12 groups:
 - 2 groups of students (total 4 students) who were taking a one-year full-time Postgraduate Diploma in Education (Secondary) program (hereafter termed the FT PGDE)
 - 2 groups of students (a total of 5 students) who were studying a three-year part-time Bachelor of Education (Secondary) program (hereafter termed the MMBEd) and were in their second year of study
 - 8 groups of participants (a total of 29 students) were enrolled in a four-year full-time Bachelor of Education (Primary) program (hereafter termed the BEd) and were in their second year of study

5. The Research Methodology – the second study (3)

▫ The tasks

- During the period of this study, the FT PGDE, MMBEd and BEd students were taking a “Information Technology Supported Learning Environment” course.
- The course lecturer created a wiki site (Project link for FT PGDE and MMBEd students: <https://sites.google.com/site/mmediit2059andpgdeiit5059/> Project link for BEd students : <https://sites.google.com/site/bediit2509/>)
- Each group was required to create a wiki project of a selected topic related to social and ethical use of IT in education such as copyright, cyber bullying, data privacy, hacking and online addiction.
- They were also required to state the learning objectives, target learners, duration and the prior knowledge of learners, to search and post the related articles in Google site.
- They should give comments to their peers as forms of peer assessment to at least two groups of their class and two group of another class individually from the perspective of a learner.
- After they received the comments, they needed to revise their Wiki project and used the given assessment rubrics for assessing at least two group of students’ work of their class and two group of another class from the perspective of a teacher.
- They should write a reflection on this activity individually.

Findings from wiki sites – the second study (1)

- Research Question 1. *Can wiki provide a platform for promoting student-centered learning?*
 - Similar to the first case study, a variety of learning resources such as text video, newspaper clippings, and cartoons were also embedded in the groups' wiki site (Figure 4 - 6).

Example of Findings

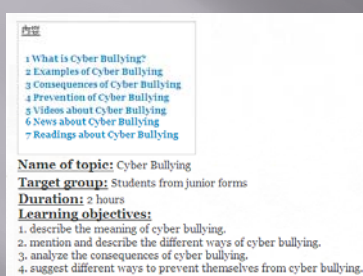


Figure 4 - An example of a table of contents



Figure 5 - An example of video

Case Study

- Q1. Sam buys a new band's CD but decides he doesn't like the singer, so he resells the CD on eBay. That's legal?
- Q2. Amy tells Daniel about her summer vacation, and he says he'd love to see her pictures. Amy uses a peer-to-peer (P2P) file-sharing program to upload the photographs she took at camp so he can download them. That's copyright infringement.
- Q3. Jason copies the entire last chapter from the final Harry Potter book to his commercial blog without any additional commentary. Since he only used part of the work, Jason would be protected by fair use.
- Q4. Paula read an interesting article about the making of the film Titanic and wants to use a short quote in her cinema review paper for journalism class. That's copyright infringement.
- Q5. Justin downloaded the black-and-white horror classic Night of the Living Dead from the Internet Archive and decided to mix an audio sample from the film into one of his original songs. That's copyright infringement.
- Q6. Since Richard forgot to register his screenplay before he sent it out to agents for review, he's no longer eligible to copyright it.

Figure 6 - An example of case study for Junior Secondary Students

Findings from wiki sites – the second study (2)

Items	BEd - No of Groups	MMBEd/PGDE - No of Groups
Text	8	4
Videos	8	4
Hyperlinks	8	4
Comics/cartoons	7	4
Newspaper clippings	6	2
Articles (reports or journal articles)	5	2
Graphs	2	0
Activities	2	1
Questions	2	2
PowerPoint	1	0
Group discussion questions	1	3
Online test	1	1

Table 3 - Elements embedded in project work

Findings from wiki sites – the second study (3)

- ❑ Research Question 2: *Can formative assessments improve group projects?*
- ❑ The Pearson correlation of the number of editing after peer's comments and the peer's marks is 0.807 but the significance of this correlation is 0.193 so we cannot reject the null hypothesis (i.e. there were **no relationships between the no. of editing after peer's comments and the peer's marks**)
- ❑ Similarly, there were **no relationships** between the **no. of editing after peer's comments and the teacher's marks.**

Findings from wiki sites – the second study (4)

Group	No of Revisions	Group	No of Revisions
A	0	1	20
B	35	2	6
C	26	3	5
D	13	4	11
E	1		
F	0		
G	0		
H	13		
Average	11		10.5

Findings from wiki sites – the second study (5)

Item	Descriptor
Content	Excellent (4)
Design	Good (3)
Organization	Satisfactory (2)
Credibility	Need Improvement (1)

Table 4 - Summary of Criteria of the Assessment Rubrics

- ▣ Research Question 3. *Can the assessment rubric serve as a viable guideline for evaluating wiki projects?*
- ▣ The assessment rubrics can provide a good guideline for the assessors especially for rating **Content** and **Credibility**.
- ▣ The largest differences among assessors is **Design** which is more or less subjective.

Findings from wiki sites – the second study (6)

Group	Content	Design	Organization	Credibility
A	0	1	1	0
B	0	0	0	1
C	0	1	1	0
D	1	1	0	0
E	1	1	1	0
F	0	0	1	0
G	0	1	0	0
H	1	1	0	1
1	1	2	1	1
2	1	2	1	2
3	1	0	0	1
4	1	2	1	1

Table 6 – Mark differences among different assessors

7. Sharing from a student

- Ku Heung Wah Raymond
- PGDE(S) student

内容

- 1 What is Cyber Bullying?
- 2 Examples of Cyber Bullying
- 3 Consequences of Cyber Bullying
- 4 Prevention of Cyber Bullying
- 5 Videos about Cyber Bullying
- 6 News about Cyber Bullying
- 7 Readings about Cyber Bullying

Name of topic: Cyber Bullying

Target group: Students from junior forms

8. Conclusions

- RQ 1. *Can wiki provide a platform for promoting student-centered learning?*
 - **Yes** for case study 1 & 2
- RQ 2.1 *What essential elements are included in their assessment rubrics?*
 - **“Content” , “organization” and “design” .**
- RQ 2.2 *Can formative assessments improve group projects?*
 - The Pearson correlation suggested that there is **no relationships between the no. of editing after peer’s comments and the peer’s marks**
- RQ 3. *Can assessment rubrics serve as viable guidelines for evaluating wiki projects?*
 - **No** for case study 1 and **somewhat Yes** for case study 2

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Questions and Answers

Thank you!