

Promoting Inquiry-based Learning: What Should Be Noted By Using Social Media?

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OPPORTUNITIES • ACTION • SUCCESS

良機 • 實幹 • 成功



PREVIOUS WORKS (1)

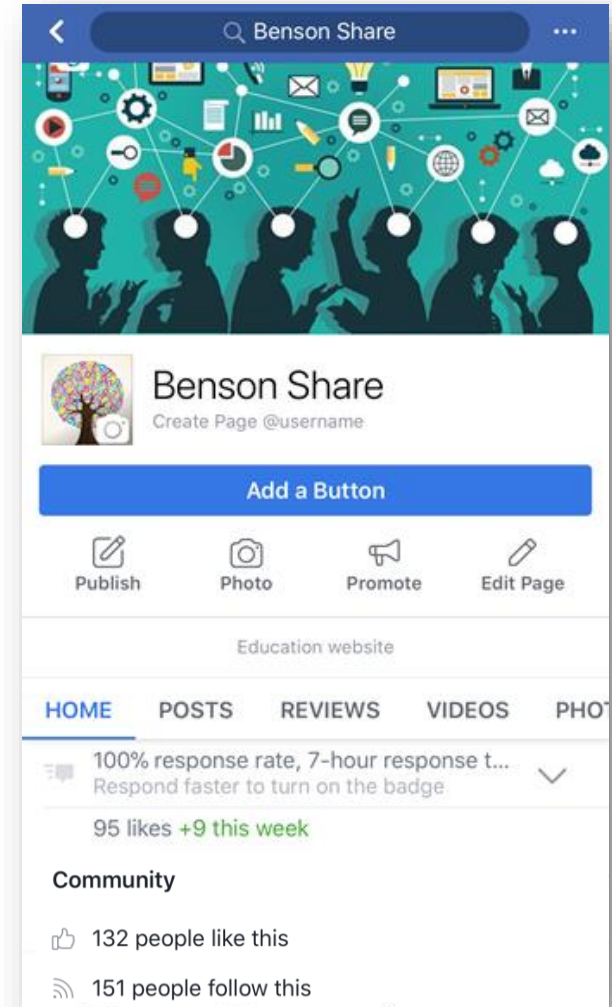
Using Facebook to Promote Student Engagement in Authentic Learning for VET

Objectives:

- To investigate the effectiveness of FB page use in bringing up authentic learning opportunities
- To understand how the overall quality of students' educational experience with this technology usage

Question:

Does Facebook (FB) page help students in acquiring authentic learning opportunities and promoting engagement for VET?



PREVIOUS WORKS (2)

My efforts to engage students are beyond the classroom



- In the student survey, levels of engagement is positive
- Students were rewarded and recognized with the successful proof-of-concept products
- The statistics gathered from the survey suggested that the students have found the communication plans to be effective
- Implying that student engagement has improved

The effectiveness of Facebook use in
bringing up authentic learning opportunities

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Positive

PREVIOUS WORKS (3)



I aim to arouse students' interests and to enhance student learning experience

- Students prefer not to discuss issues or topics on the said Facebook page instead of that in a classroom session
- Whether students feel encouraged by their friends “liking” the ideas or comments on the said Facebook page is not distinctive

The overall quality of students' educational
experience with this technology usage

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Fair


$$\begin{aligned} & \frac{d}{dx} \frac{1}{x} \\ &= \frac{d}{d} \frac{1}{x^2} \\ &= \frac{\cancel{d}}{\cancel{d}} \frac{1}{x^2} \\ &= -\frac{1}{x^2} \end{aligned}$$


FURTHER RESEARCH OBJECTIVES & QUESTIONS

Key words: Inquiry-based Learning, Nurturing Inquiry, Student Engagement, Social Media, Facebook, Engineering Education



Objectives:

- To explore Facebook as a teaching and learning tool in tertiary education
- To evaluate the factors affecting students' comfort in nurturing inquiry to enhance students' critical thinking skills using social network

Questions:

1. What are the critical factors affecting students' comfort in an online inquiry based learning environments?
2. What considerations would be necessary to facilitate inquiry on the social media for education?

Inquiring Mind

- Inquiring mind is essential to develop critical thinkers who have knowledge and understandings of scientific ideas. Inquiry is the central word for “good science teaching and learning” (Anderson, 2002).
- The three benefits of inquiry based learning include acquiring general inquiry abilities, acquiring specific investigation skills and developing an improved understanding of the concepts of science (Edelson et al., 1999).

Social Facebook Use

- It has been used increasingly to support learning in higher education, whether using it to replace a learning management system (Wang et al., 2012; Wang et al., 2013) or for an individual learning activity (Miller, 2013; Shaltry, Henriksen, Wu, & Dickson, 2013).
- Rewarding student participation in social media activities has been found useful to fostering students’ engagement. The same research also showed that having students interact with each other through Facebook can help them establish early connections which were then fostered during the face-to-face activities (Fontana, 2009).

METHODOLOGY

Hence, I have developed tools for measuring the effectiveness

	Details
Period	September 2019 - December 2019
Institute	Hong Kong Institute of Vocational Education (Tsing Yi)
Programme	Higher Diploma in Civil Engineering
Mode of study	Full-time
No. of students	87 students
Survey	Online questionnaire
Questionnaire	One closed question Six likert scale questions One open-ended question

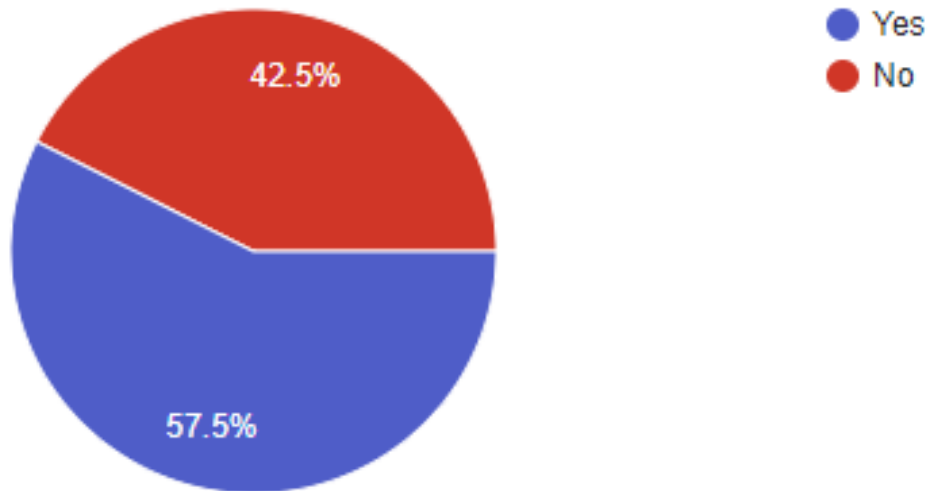
FINDINGS AND RESULTS (1)

Students-generated feedback is an important indicator, and I listen

One Closed Question

I feel comfortable posting ideas and nurturing inquiries on FBgroup than that of in a traditional classroom.

Findings and Results



FINDINGS AND RESULTS (2)

Students-generated feedback is an important indicator, and I listen



Six Likert Scale Questions

To understand students' comfort level in posting and inquiring on Fbgroup.

Findings and Results

Q.1 About "difficulty forming the question" Results: Mean = 3.276, Standard Deviation = 1.117

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	6	6	-2.276	5.18	31.077
2	13	26	-1.276	1.628	21.162
3	33	99	-0.276	0.076	2.511
4	21	84	0.724	0.524	11.012
5	14	70	1.724	2.973	41.617
Total ->	87	285	-	-	107.379

Q.2 About "bad habit for no-question" Results: Mean = 3.241, Standard Deviation = 1.303

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	12	12	-2.241	5.024	60.285
2	12	24	-1.241	1.541	18.492
3	23	69	-0.241	0.058	1.34
4	23	92	0.759	0.576	13.237
5	17	85	1.759	3.093	52.577
Total ->	87	282	-	-	145.931

FINDINGS AND RESULTS (3)

Students-generated feedback is an important indicator, and I listen



Findings and Results

Q.3 About “fear of peers” Results: Mean = 3.299, Standard Deviation = 1.295

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	12	12	-2.299	5.285	63.417
2	10	20	-1.299	1.687	16.87
3	22	66	-0.299	0.089	1.965
4	26	104	0.701	0.492	12.782
5	17	85	1.701	2.894	49.196
Total ->	87	287	-	-	144.23

Q.4 About “fear of appearing dumb” Results: Mean = 3.402, Standard Deviation = 1.298

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	11	11	-2.402	5.771	63.481
2	8	16	-1.402	1.966	15.732
3	24	72	-0.402	0.162	3.884
4	23	92	0.598	0.357	8.217
5	21	105	1.598	2.553	53.606
Total ->	87	296	-	-	144.92

FINDINGS AND RESULTS (4)

Students-generated feedback is an important indicator, and I listen

Findings and Results

Q.5 About “low self-esteem” Results: Mean = 3.345, Standard Deviation = 1.292

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	10	10	-2.345	5.498	54.982
2	11	22	-1.345	1.809	19.894
3	26	78	-0.345	0.119	3.092
4	19	76	0.655	0.429	8.156
5	21	105	1.655	2.74	57.532
Total ->	87	291	-	-	143.655

Q.6 About “shyness” Results: Mean = 3.391, Standard Deviation = 1.341

Rating(X)	Frequency(f)	Freq*X	(X-mean)	(X-mean) ²	f*(X-mean) ²
1	13	13	-2.391	5.716	74.307
2	8	16	-1.391	1.934	15.475
3	18	54	-0.391	0.153	2.749
4	28	112	0.609	0.371	10.391
5	20	100	1.609	2.59	51.79
Total ->	87	295	-	-	154.713

FINDINGS AND RESULTS (5)

Students-generated feedback is an important indicator, and I listen



Rearranging the order of different factors which affect students' comfort in posting and inquiring on Fbgroup:-

1. Fear of appearing dumb
2. Shyness
3. Low self-esteem
4. Fear of peers
5. Difficulty forming the question
6. Bad habit for no-question

FINDINGS AND RESULTS (6)



Students-generated feedback is an important indicator, and I listen

One Open-ended Question

Other comments in nurturing inquiries on Fbgroup.

Findings and Results

Some students expressed that they may encounter difficulties in posting ideas and nurturing inquiries on FBgroup including:-

- Difficult to form the question
- I have some difficulties when doing the past paper but I don't know how to ask, I just know I don't know how to do.
- 大多是沒興趣或麻煩而在瀏覽後沒回應

However, some students provided positive comments about nurturing inquiries on FBgroup including:-

- Feel free
- Can provide some private way to ask questions

CHALLENGES

The biggest hurdles are commitment and alignment



- It is important to create a **supportive** learning community on the online platform to ensure successful implementation
- How students engage with social media for learning is related to the **students' previous experiences** with social media as well as **what are the value they attach to** it generally and specifically within a learning context
- **Encouragement and appreciation** influence student engagement the most

CONCLUSION

Students' views on FB page are realized, followed by best practices to improve



- This paper successfully explores uses of social media in inquiry-based learning as a communication tool. Moreover, it develops opportunities to engage students in communication with peers outside school using social media platforms.
- The communication channel in social media is believed to be an effective alternative, implying that student engagement can be improved in this way
- In order to encourage learners' inquiry online
 - the instructor should prepare a safe and nurturing learning environment, and provide prompt guidance at the appropriate time
 - the instructor may allow students speak on condition of anonymity to enhance participation outside the classroom

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THANK YOU