

## Using a Facebook Group for interactive clinical learning

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**Background:** Facebook is a popular social networking site with more than five hundred million users. This study assessed whether Facebook Groups can be used to teach clinical reasoning skills.

**Methods:** Sixty-seven final year medical students from the International Medical University, Malaysia, were exposed to interactive online learning through a Facebook Group for a period of six months in this study. The purpose was to determine if supervised interactive online learning could be used to augment the deep learning that comes from learning medicine at the bedside of patients. The interactive online discussions were entirely triggered by clinical problems encountered in the medical wards of the general hospital to which these students were attached.

**Results:** A total of 10 topics were discussed in this forum during the duration of this study and an example of one such discussion is provided to illustrate the informal nature of this kind of learning. The results showed a high degree of student involvement with 76 percent of students actively participating in the discussions.

**Conclusion:** The high degree of voluntary participation in the clinical discussions through the Facebook Group in this study tells us that Facebook Groups are a good way of engaging students for learning and can be used in medical education to stimulate creative clinical thinking.

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### Introduction

E-Learning is the term used to indicate learning by using the Internet. Online learning or e-learning can, however, mean different things to different people. It can mean reading journals and textbooks online; it can refer to the posting of lecture notes for students

to access online; it can mean using Blogs and Wikis for students to read from, and comment on; or it can mean using social media like Facebook and Twitter for creating a learning experience. Jorge G. Ruiz, et al<sup>1</sup> in an article titled "The impact of E-Learning in Medical Education" says that e-learning can do three things:

1. It can create adaptive learning. This implies that it can be tailored for individual needs.
2. It can create collaborative learning. This means that it enhances interaction with other learners, and
3. It can transform the role of the teacher wherein the teacher truly can become a facilitator of learning instead of being a supplier of content.

Interactive e-learning mimics the online games that many young people play. Interactive e-learning is not a new concept in medical education<sup>2,3</sup>. Facebook, a social networking site which has more than 500 million users, is the crowning example of an interactive online site. It has a huge potential for use in education because that is where many students 'hang out'. However, this potential is still largely untapped by educators – it has been noted that Facebook is used by only about 25 percent of students for education<sup>4</sup>.

### Methods

A Facebook Group for e-learning was created in August 2011 for the final year medical students from the International Medical University who were doing their senior clerkship posting in Hospital Batu Pahat. It was created for the purpose of discussing online their clinical encounters in the wards. It was an open group – meaning that it could be viewed by anyone, including those not belonging to the group. However, only group members could write and comment on it. The group was active for the entire duration of the semester which lasted from August 2011 to January 2012.

An example is given below of an interactive session on the topic "Paradoxes in Therapeutics" to illustrate the nature of discussion within the Group.

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**Supervisor:** I have three examples to illustrate what I call paradoxes in therapeutics:

1. Rosiglitazone is a good drug to reduce blood sugar in diabetics. When blood sugar is reduced in patients with diabetes, we expect a decrease in cardiovascular mortality. But Rosiglitazone increases cardiovascular mortality.
2. Fluoride increases bone density. When bone density increases, we expect bones to be stronger. But fluoride increases the risk of fractures.
3. Arrhythmias can increase mortality in ischemic heart disease. Flecainide is a good antiarrhythmic drug and we expect it to reduce mortality in those with arrhythmias. But Flecainide increases mortality in those with ischemic heart disease.

*Do you have any such paradoxes to share?*

**Student LN:** This is interesting!!!

**Student KSC:** SSRIs is the first line anti-depressant used in MDD which is a common co-morbid of suicide. However, SSRIs are associated with increased suicidal ideation, especially in the paediatric and adolescent population (Though it is debatable that SSRI really result in increased suicide rates).

**Student WT:** KSC, I believe SSRI only increases suicide risk at initiation. Correct me if I'm wrong.

**Student KSC:** Ha Ha. I did this for my Psychiatry learning issues. SSRIs increased the reported incidence of suicidal ideation in those under 25 years old, BUT many evidence show that this does not translate to the act of performing the suicidal act itself. The increased prescription of SSRIs in the US was instead inversely proportional to suicidal act. This is perhaps explained by the theory that SSRIs removes the depressed patient's inhibition to report the suicidal ideation.

**Student LJM:** LOL. My learning issue on SSRI is that it actually increases the rate of suicide attempts but it does not increase the suicide mortality rate.

**Student WT:** KSC, yes. I think I remember our lecturer mentioning about this. It is something like this: Initially the patient is so depressed, they don't even have the energy to think of killing themselves. Very apathetic. When we stop treatment, they gain some interest in their life and they have energy to consider suicide which they previously had no energy to think about. Is this considered paradoxes in treatment then?

**Student KSC:** Ha Ha! I will give you guys a link on one of the resources I used. <http://ajp.psychiatryonline.org/article.aspx?articleID=98635>

**Student LN:** Lupus anticoagulant is an antibody which affects the prothrombin activator complex leading to prolonged PT. However, there is associated paradoxical thrombosis in vivo... Just came across this while reading SLE...

**Student WT:** Any idea why it is so, LN?

**Student LN:** Nope, tried searching but tak jumpa... let me know if you find out why.

**Student WT:** ok. Will KIV that.

**Supervisor:** That is a nice one LN. Perhaps thinking why there is thrombosis in DIVC in spite of prolonged PT and PTT will give you the answer you seek.

## Results

Sixty-seven students enrolled as members of this Facebook Group for the duration of the study from August 2011 to January 2012. Fifty-one of these students (76 percent) were active members, meaning that they asked questions, submitted material for discussions, wrote comments and opinions, or simply indicated their involvement by registering "likes" on the postings of others. Ten topics, triggered by clinical issues and problems encountered in the medical wards were discussed. These ten topics were on paradoxes in therapeutics, anticoagulation with warfarin, management of atrial fibrillation, management of thyrotoxicosis, hypertension, diabetes, atrial and ventricular premature beats, HIV infection in pregnancy,

interpretation of a full blood count in a febrile patient, and the use of diuretics in nephrotic syndrome. The discussions were initiated by either the supervisor or the students; the supervisor would comment on each topic whenever needed. These comments represented a form of feedback for the students. Every topic remained 'live' for the entire duration of the study.

### Discussion

Many medical schools have begun to change the way they train medical students. Where they used to rely only on traditional classroom-based teaching and bedside teaching, they now utilize online learning in a strategy called blended-learning<sup>5</sup>. There is evidence in the literature that such a strategy helps to augment the learning from problem-based discussions in classrooms<sup>6</sup>. This study explored the question whether the learning that takes place at the bedside of patients can also be augmented by interactive e-learning.

Clinical learning at the bedside is a form of experiential learning that medical students must undertake in order to become doctors. Teachers and clinicians have traditionally used ward rounds to show their students the way they think and approach clinical problems. This is also the opportunity for students to ask questions and clarify their doubts. However, clinicians know that not all students benefit equally from such ward rounds. If there is a large group, the students at the back may not be as attentive to the discussions as those in the front. Students may also be inhibited to ask or answer questions because of shyness or fear of ridicule. These barriers to learning at the bedside of patients can be overcome to some extent if clinician-teachers are involved in asynchronous online discussions with their students.

This study has shown that it is possible to enhance experiential learning by giving students a supervised forum to reflect on their interactions with patients. Furthermore, it can do this without any additional expenditure by medical schools and without palpably increasing the work load of the faculty. In this study, 76 percent of medical students were active in discussing

clinical encounters from the wards with their peers and with their supervisor, during a six month period. This degree of voluntary participation shows that Facebook Groups are a good way of engaging students for learning. This is probably because students are already familiar with Facebook as an interactive site for social interactions.

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