



Flipped Learning through the Use of MyConnexion in Nursing Simulation: A Sharing of Best Practices in Pedagogies of Digitalisation

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- Nursing Curriculum Review (E-Learning)

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Who we are...

'ONE ITE SYSTEM, THREE COLLEGES' GOVERNANCE MODEL

ITE implemented the *"One ITE System, Three Colleges"* Governance and Education Model in 2005. Under this system, ITE Headquarters oversees system and policy issues, and ensures standards, while the *"Three Colleges"*, comprising ITE College Central, ITE College East and ITE College West, delivers the curriculum to students.



NURSING

Who we are...

ITE's Education Philosophy





2015 - 2019

VISION

A Trailblazer in Career and Technical Education

GOAL 1

Adaptive System,
Dynamic
Curriculum

STRATEGY 1

Strengthen Career-Based
Training System

STRATEGY 2

Build Millennial
Competencies

GOAL 2

Engaging Pedagogy,
Empowered
Learning

STRATEGY 3

Explore Innovative
Pedagogies

STRATEGY 4

Intensify ICT-Enabled
Learning

GOAL 3

Holistic Experience,
Well-Rounded
Students

STRATEGY 5

Maximise Students'
Potential

STRATEGY 6

Foster Values-Driven
Experience

GOAL 4

Strategic Collaboration,
Passionate
People

STRATEGY 7

Strengthen Value-Creating
Collaborations

STRATEGY 8

Nurture
Professional Staff

EXPECTED OUTCOMES

1. Confident and Well-Rounded Students
2. Career-Ready and World-Ready Graduates
3. Passionate and Professional Staff
4. Engaged and Valued Partners

ITE Trailblazer in Career & Technical Education

School of Applied and Health Sciences

Nitec in Nursing

- **Nitec in Nursing**
- **2 years full time course**
- **Accredited by Singapore Nursing Board (SNB)**
- **Graduates are licensed by the SNB as Enrolled Nurses**
- **Skills Oriented Curriculum**
- **About 50% emphasis on hands on practice**
- **Provide nursing care with their 'thinking hands and caring hearts'**



Our Students...



Ages 17 to 24 years old

Prior educational experiences

Exposure to online learning platforms prior to ITE admission

PERSONAL EXPERIENCES

Limitless communication is having a revolutionary impact on the way young people interact, socialise, work and play

Interests

Social media, internet that leads to instant gratification

Motivators

growing up with the wired generation

Learning Styles

Visual and kinesthetic Learners

Readiness level

Traditionally, a simulation session in ITE was....

Case Scenario Worksheet

Simulation Training-Reflective Learning Journal
 Scenario: 2.2 In campus: Anaphylactic Shock
 29 years old, Ms Clara Abdul who was admitted for a chest pain. She weighs 50kg and is 165cm tall. She has currently been prescribed with a new antibiotic to treat her current infection. She has never been admitted into hospital and has no known history of allergy.

Before Scenario
 Identify 5 problems/challenges that you anticipate when managing this patient's condition?

Based on each problem/challenge, identify 2 appropriate nursing actions.

During Role-Playing

Strength	Areas to improve

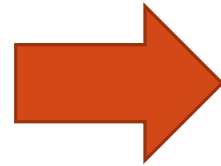
After Scenario
 Identify at least 5 nursing actions that you observed the role players do.

Identify 1 nursing actions of the role player that you did not agree with? Why?

Why do you think caused this to happen?

Is there any other way the role player could have managed this situation?

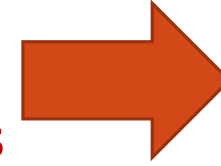
Identify 1 action that you would choose to do differently next time in a similar situation.



Role Play Documentation of Events

Mr Ang Ah Seng \triangle ca lung
 97/male δ Vitals: Bp:110/60 mmHg Temp 36.2°C
 RR: 24 bpm O₂ sat 95%
 - Pt's condition Worsening pr: 8.5 bpm
 - pt's daugh. has been informed.

Date / Time	Events/ actions	learning points
09-05 1630hrs	- check parameters - pt is unresponsive - vital signs need to be monitor closely - conscious level of the pt is weak - pt is Gasping for air / difficulties in breathing. - BP has been checked it is unrecordable - navotic pulse is been taken & recorded. - pt has been died as he is still unresponsive and the heart has stop breathing.	- vital signs needs to be monitor closely to establish baseline evaluation of the pt.
Before	- Although the pt has died, the nurses still open & communicate with the pt. - pt's relative has been informed quickly about the death of the pt. - Death pros. is performed after the relatives had seen the deceased. - While the procedure is being done, ensure the rolled up towel to be placed at the pt's jaw near the chin. - At this is the non-covener's case, all the drainage tube, lines must dispose carefully.	- This is a mark of respect. - The relatives should not be there when the procedure being done. - rolled up towel must be placed there to provide natural look for the pt. - It is to dispose carefully for giving a respect to the deceased that is maintained.
During	- Ensure Acs before leaving the pt - They verify the identification label which is in blue colour attach on the deceased right angle. - complete death procedure check list	- safety - correct pt is been labeled. - Ensure correct procedure has been taken accordingly.
After		



Reflection and Learning Points on Exercise Book Pen and Paper

What I have learnt today?

- **Respect.**
 - Although if the patient has already died, I've learnt that ~~the~~ I, as a student nurse still need to respect and treat the patient in a proper way as in the patient is still alive.
- **Doing a Death procedure**
 - As what I've learnt, there will only be 2 nurses that will be helping in ~~assisting~~ assisting the deceased. All the equipments for the procedure must be prepared earlier for easy actions and much more faster actions.
- **Feelings.**
 - As a nurse, when our patient died, we will surely be very sad about it but when it came to the relatives visiting the deceased and felt very sad about it, we shouldn't ~~showed~~ show our sadness in front of the relatives as we must behave professionally.

Reflection contents produced at a minimum

Non-engaging PASSIVE LEARNING

Facilitates rote learning

More time spent in writing

UNTIMELY SUBMISSION OF WORKSHEET

Never bring worksheets
during simulation





Flipped Learning

through the Use of **MyConnexion** in **Nursing Simulation**





"This isn't what I imagined when they said 'flipped classroom'!"

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media

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A **pedagogical approach** in which direct instruction moves from the **group learning space to the individual learning space**, and the resulting group space is transformed into a **dynamic, interactive learning environment** where the educator guides students as they apply concepts and **engage creatively** in the subject matter.

Flipped Learning Network (www.flippedlearning.org)



Related Literatures

“Flipped classroom model has the effect of increasing students' achievement”

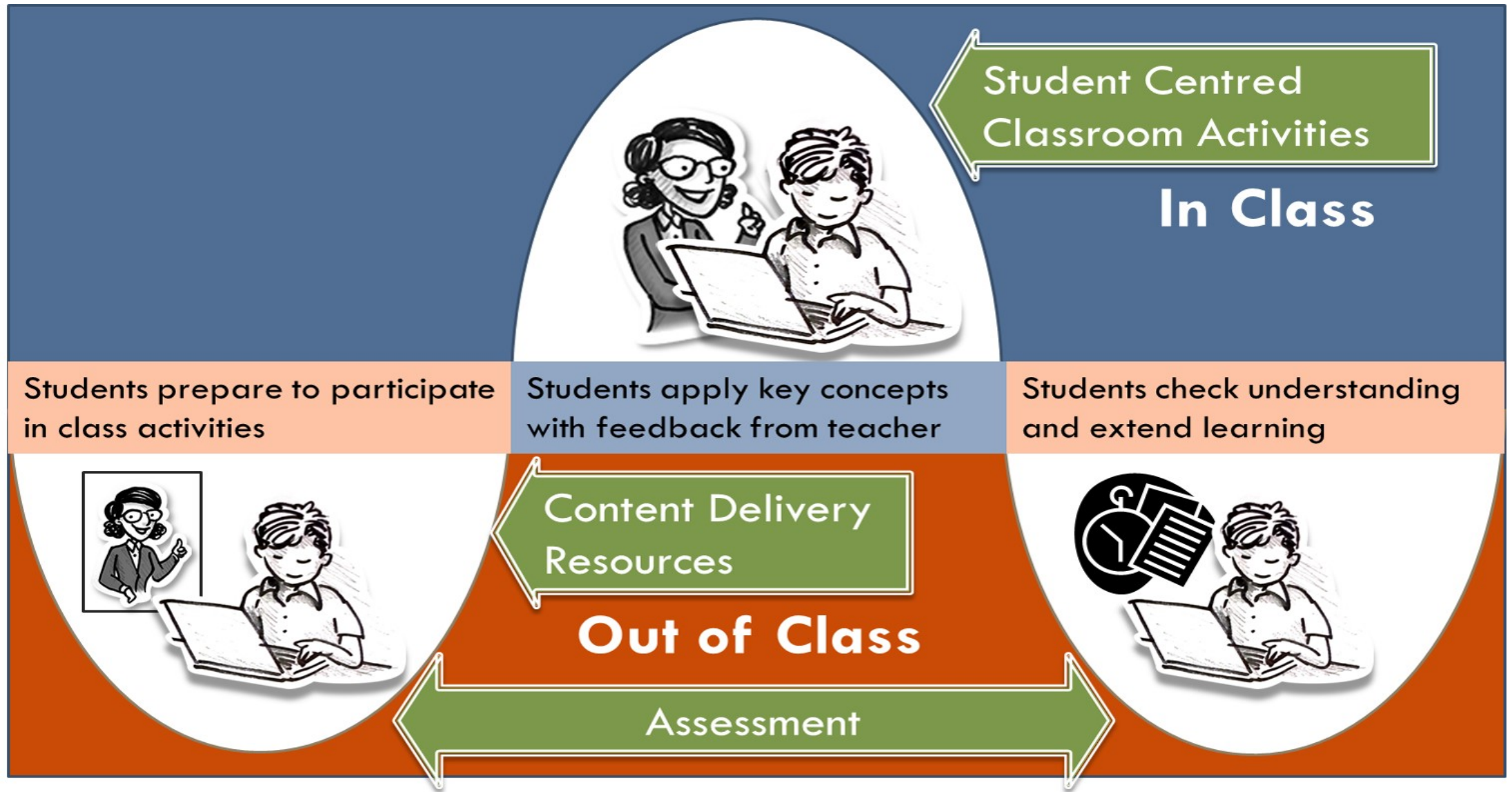
Didem ALSANCAK SIRAKAYA, Selçuk ÖZDEMİR. (2018)

“More time is used for online and in-class discussion, helps students clarify the ideas and boosts student/teacher as well as peer interaction.”

Bergmann, J., & Sams, A. (2012)

“The students (medical) reported that the learning environment fostered accountability and self-directed learning. Specific perceived benefits included preparation for the clinical rotation.”

Liebert, Mazer, Merrell, Lin, Lau (2016)

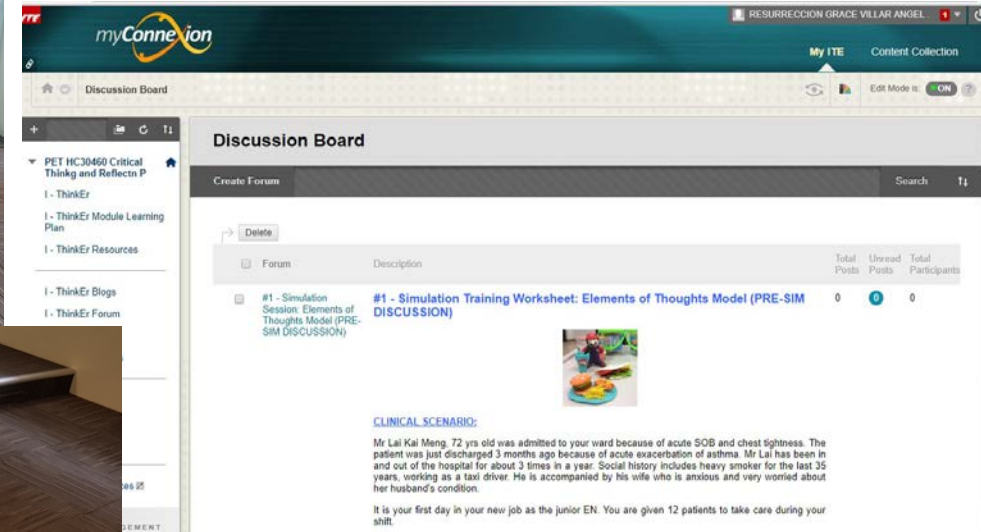
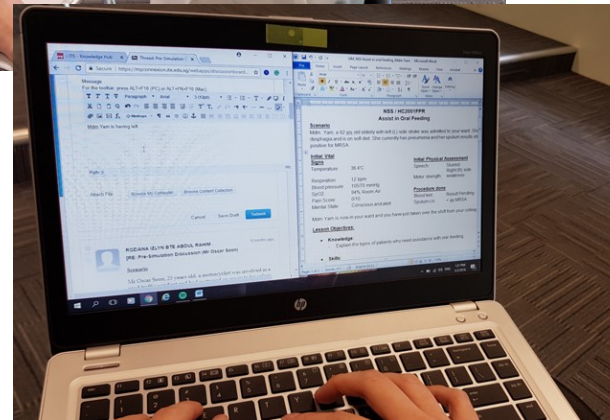
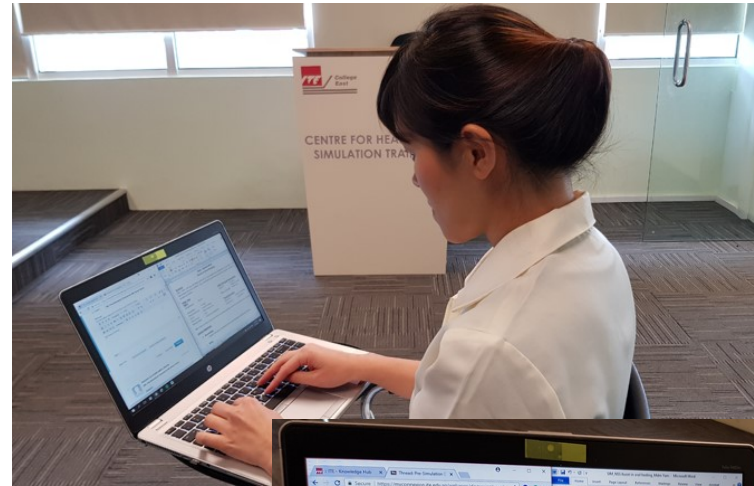


What best practices does our institution have in the field of educational pedagogies and flipped learning?



Pedagogy in Simulation

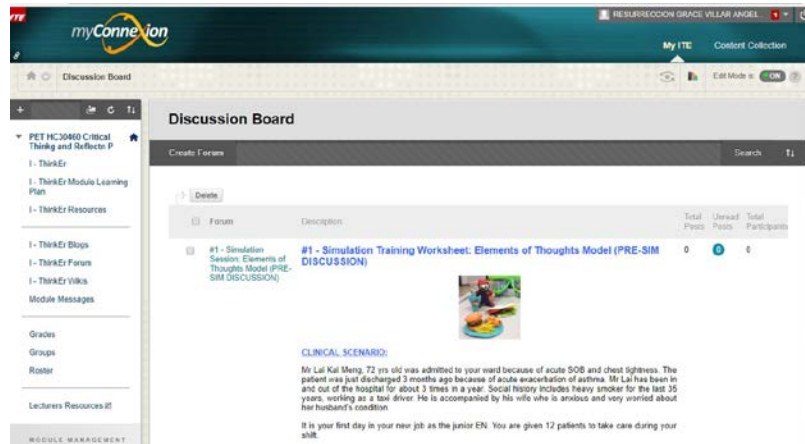
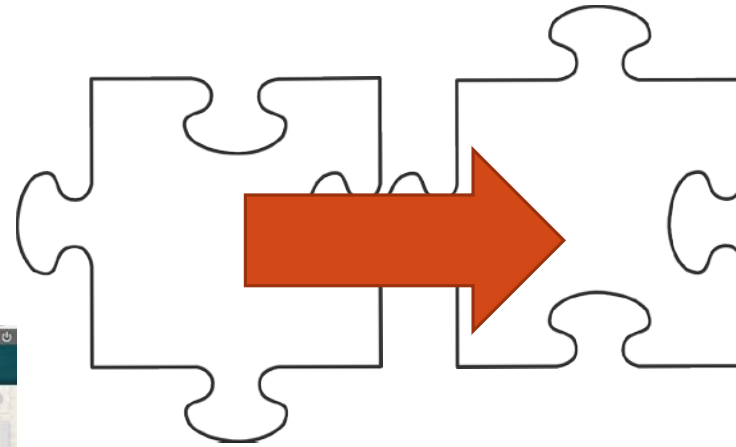
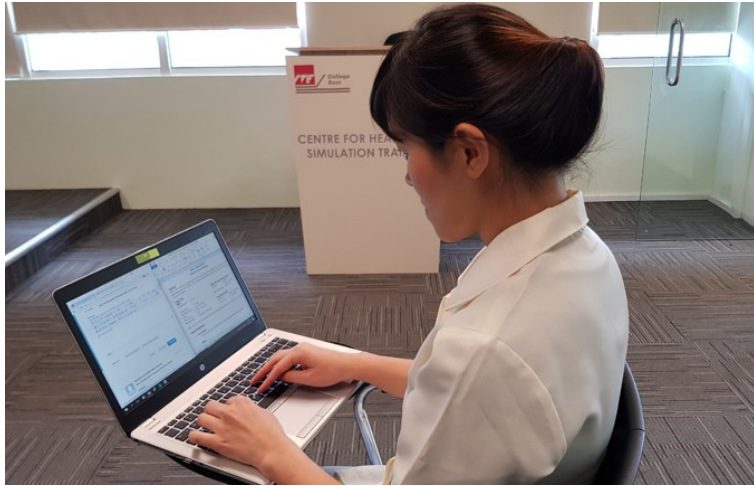
Pre-Activity: Case Scenario > MyConnexion > Online Discussion



Students are given a case scenario to study the topic by themselves, through Online Discussion Forum

Student login into MyConnexion to do Pre - SIM homework online

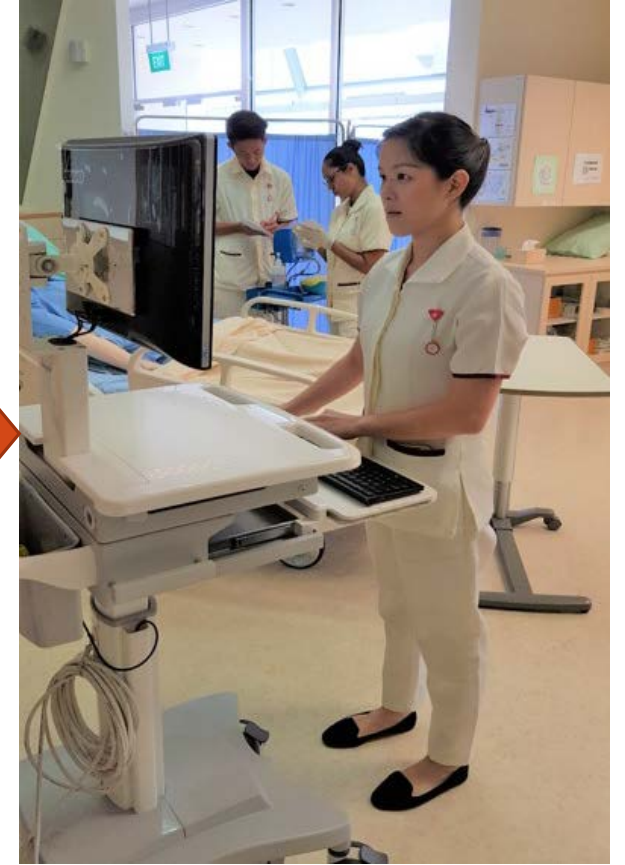
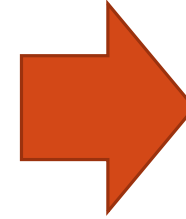
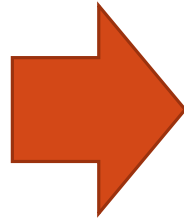
Pre – Role Play Group Discussion



Pre - SIM Online Discussion Forum

Case Group Discussion

Activity: The Role Play....

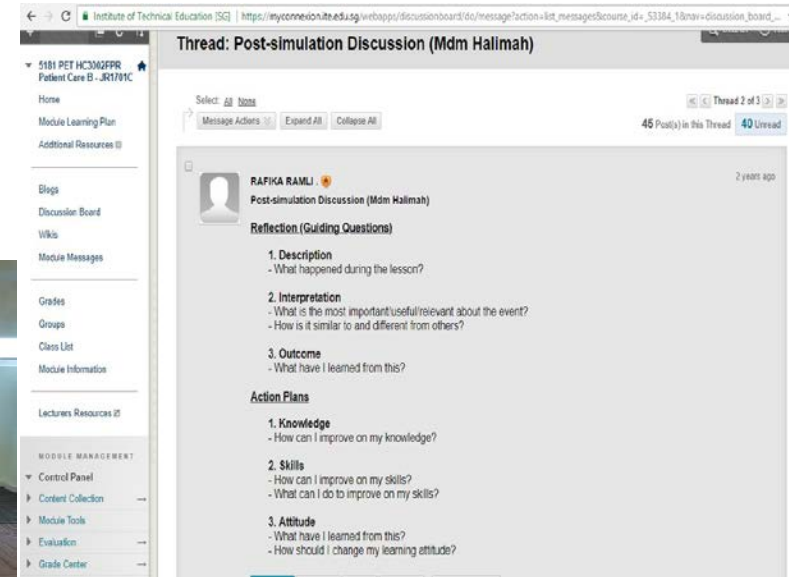
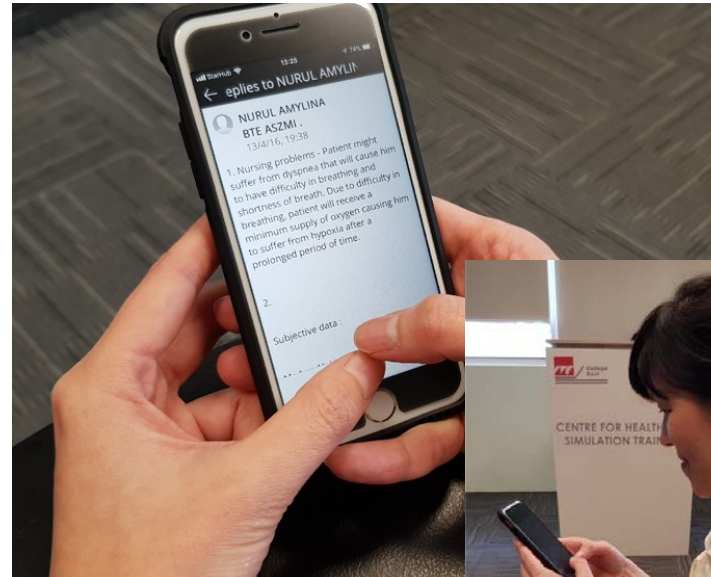


Students carrying out their role as nurses caring for a patient

Post Activity: Documentation of Students' Learning Points & Reflection



Debriefing session



<http://www.ite.edu.sg>

Student Login into MyConnexion to do
POST - SIM Discussion (via mobile devices)

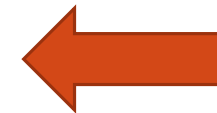
In a nutshell....



- Content needed for class activity
- Pre-lesson assessment



- Practice/ application-oriented activities



- Complete work started in class
- Assess or extend learning

Pilot Study



Pre and Post Sim

- 414 nursing students from the January 2016 nursing cohort
- Use of flipped learning approach through ICT-enabled learning platform for simulation lessons since their Year 1
- Exposed to doing online discussion forums for pre and post simulation lessons
- Students' performance in simulated clinical scenarios were assessed through the Critical Thinking and Reflective Practice nursing module



Positive Feedbacks on Students' Experience in Flipped Learning

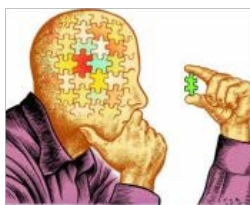
- ❖ This ICT-enabled learning environment (MyConnexion) is easily accessible via their mobile devices.
- ❖ Real-time documentation of their work which leads to timely submission.
- ❖ They have more in-depth understanding of patients conditions before simulation lessons.
- ❖ They are more actively engaged in the formulating nursing care plan.
- ❖ They can express more of their thoughts in online discussions rather than handwritten.

Results from the Pilot Study



Self-directed
learners

- 96.82% (304) more prepared for simulation lessons; able to collaborate learning with their peers and use learning resources independently



I-ThinkEr +

Critical Thinking
Skills



Problem - solving skills



- 97.77% (307) improved their situational awareness, communication skills and teamwork
- 98.09% (308) claimed that they attained better performance during their clinical practice
- 97.77% (307) are able to assimilate their roles as Enrolled Nurse



Benefits...

Students

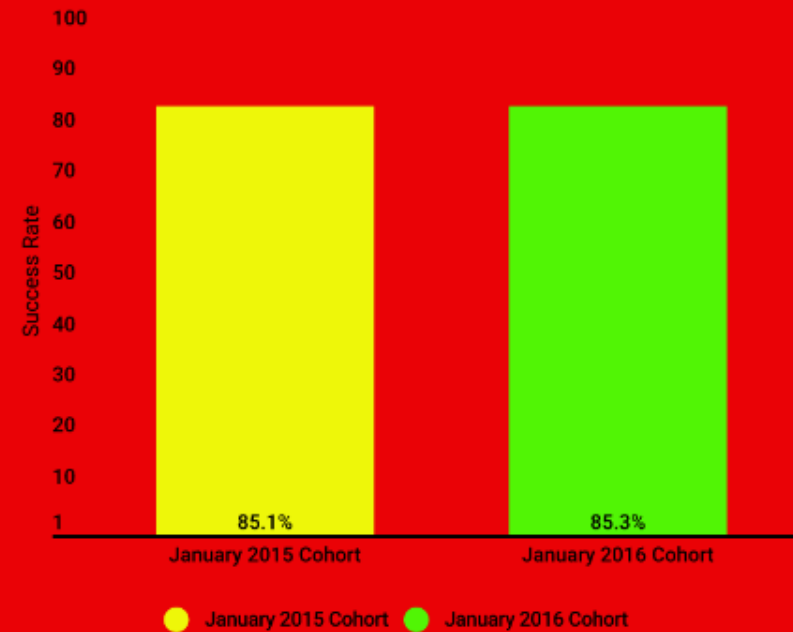
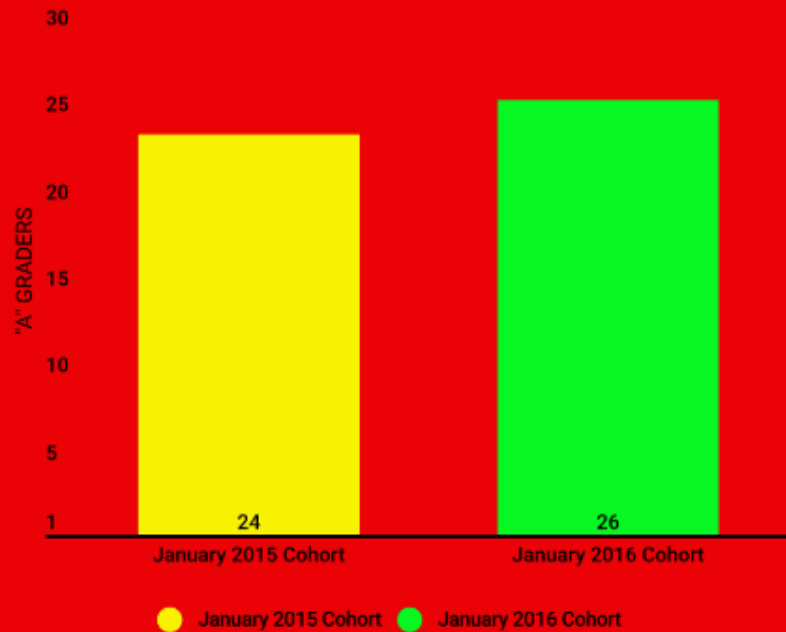
- ❖ Students are engaged in higher order thinking
- ❖ Engaged in active learning leads to deeper and greater retention
- ❖ Takes ownership of learning
- ❖ Students learn at their own pace
- ❖ Reflect on learning before/ after class
- ❖ Fosters more interaction among students and lecturers

Lecturers

- ❖ Elearning can accommodate to different learning styles and facilitate a more effective differentiated instruction.
- ❖ Learning difficulties are identified through pre-lesson tasks and guidance provided accordingly
- ❖ Increase variety of facilitating lessons

Additional findings from the pilot study...

Tangible Outcomes



A noticeable increase of 2% in the number of "A" graders was evident from the **January 2016 cohort** having 26% as compared to the **January 2015 cohort** having 24% of "A" graders in the students' overall performance in the Critical Thinking module.

Success rate among the **January 2016** ITE nursing graduates (85.3%) which is stronger by 0.2% as compared to the **January 2015** ITE nursing graduates (85.1%)



Flipped Learning

through the Use of **MyConnexion** in **Nursing Simulation**



Flipped Learning



<http://www.ite.edu.sg>

Students' Pre-Simulation Lesson Work



LIM HAN BIN .

RE: Pre-Simulation Discussion_Mr Oscar Soon

Assessment

What do you think has happened to Mr Oscar Soon?

Mr Oscar, 25 y/o, motorcyclist was admitted due to ED due to RTA and sustained injury to his spleen. PT has undergone a Laparotomy (surgical site from the abdominal region) to repair his ruptured spleen.

Subjective:

- Mental state: Conscious but drowsy due to post anesthesia + side effect from morphine
- PT is motorcyclist that was involved in RTA, chances other medical issue (e.g. Spinal injuries, ruptured skin, head concussion or fracture). To void areas that are affected when doing any procedure to avoid elevating of PT pain level or discomfort
- C/o: PT has pain level 4/10 with morphine administered, PT increase of pain upon only movement and presents of abdominal discomfort as pain

Objective:

Vitals Sign (OA)	Physical Assessment (OA)
TEMP: 36.2	Dressing at wound site: slight blood stains
PR: 98 BPM	Redivac drain x1: 100mls of fresh blood
RR: 15 BPM	IV plug insitu: IV Normal saline 6 hourly
BP: 110/60 mmHg	
SpO2: 98% (Nasal prong given at 2L/min)	On PCA (Patient Controlled Analgesia) Drug: Morphine

What are the nursing problems that you can identify for Mr Oscar?

- PR: 98 BPM: slightly high nearing to tachycardia due to loss of blood
- SPO2: 98% (Nasal prong at 2l/min)
- Pain scale: 4/10 (PT on morphine, last dosage given: unknown)
- Mental state: Conscious but drowsy (Causes by Post op general anesthesia, closely monitor PT mental state and vitals)
- PT has spleen reputed that affects Lymphatic system (Filters and destroy bacteria, produce of lymphocytes and produce antibodies and antitoxins)



LIM HAN BIN .

RE: Post-Simulation Discussion_Mr Oscar Soon

Description

What happened during the lesson?

Handing over from: Staff Nurse Ms Rafika (surgical ward nurse), Staff Nurse Ms Jessy (ward nurse)

Taking over: Student Nurse Pravin, Uddin, Sarmin, Syahirah

Standby nurse: Student Nurse Pravina

HOTO completed at 1600hr

1600hr: 4 student nurse was discussing on the item to standby, Nurse Sarmin decided to standby blue sheet while Nurse Pravin took pad slide for transferring and dinamap for vitals signs. While both the rest of the nurse are like "parasite" sticking on to them and not sure of what to do. Nurse Sarmin out of the blues went to collect gloves that is not necessary.

1606hr: PT arrive to the ward, staff nurse Ms Rafika requested the nurse to bring the bed slightly outwards so that will be more space for transferring. After pushing the bed slightly outwards, nurse also ensure that the beds are lock as well. After placing the padslide on the bed P apprehensive and asked the nurses that whether he could be stay on the trolley as he is still having pain on abdominal region.

1610hr: Before PT was slide Nurse Pravin asked PT how pain is he feeling and PT just say have pain w/o pain scoring given. Nurse Pravin educate the PT the use of PCA and administer Morphine at 1611hr

Students' Post - Simulation Lesson Work

HUAWEI-65E4
Internet access

itestaff.ite.edu.sg
Internet access

4. When removing the bed linen, check for back skin integrity both left and right side

When during the transfer the head was slightly lifted up and drop and the ward's bed has a pillow that obstructed the transfer. After Staff Nurse Ms Jessy transfer and left, PT C/o of having pain that surgical site and to request another administration of the morphine to relief pain but at first the nurses did not attend to PT enquiry.

1615hr: Nurse Syahirah assess the surgical wound site dressing and told PT there is presence of blood. PT got worried and requested to see whether how bad was it. When PT repeated the question, nurses again did not. When Staff Nurse Ms Jessy came in again, she communicate well with the PT. Staff Nurse Ms Rafika pass by and told the nurse that will be better to push in the bed so that the nasal prong line will not be a tripping hazard.

1618hr: Nurse pravin took the dynamap to assess PT BP and SPO₂ (BP: 98/50mmHg and SPO₂: 98% with N/P 2l/min. 1622hr: Nurse Uddin was told by the rest of the class to measure PR,RR and Temp (PR:98BPM, RR:16BPM, Temp: 37.0). Second round pain score assessment was initiated by Nurse pravin and pain score 4/10 after last dosage given at 1611hr. Second dosage is given to PT. After administrating the morphine PT requested for a drink and nurse pravin reinforce to PT that he has to go NBM until the doctor gives the green light to resume oral intake and in addition Nurse pravin also suggested to PT whether if he would like to have wet cotton wool to dabbed on PT's lip.

Interpretation

What is the most important/useful/relevant about the event?

- When PT request or enquire of any certain uncertainty, do not ignore the PT
- Observe at things that you are doing and to PT
- Assess environment, make sure there is space and no tripping hazards around
- Reduce unnecessary discussion in front of PT
- Usage of PCA morphine

Reflection

If you have the opportunity to nurse Mr Ang, what would you do?

- Not to be nervous while others are watching, remember the high priority that is to monitor closely of PT vital signs and not to forget the critical skills
- Do speak at appropriate timing, unnecessary comments to be kept within ourselves
- Speak to the PT when before any procedure or any enquires ask by the PT
- Don't be a parasite that stick around and move around with others and not helping them can cause obstruction

**Students' Post -
Simulation
Lesson Work**

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Thank you!



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