



Singapore Healthcare
Management 2019

“To Improve Performance in Nursing Assessment for All SGH Nursing Students to A Median of 90% Within 12 Months”

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Background

The primary responsibility of SingHealth Alice Lee Institute of Advanced Nursing is to meet the learning needs of the nursing students while delivering safe care to patients.

Evaluation of nursing students' skill is important to bridge the gap between theory and practice. In the current situation, students show insufficient improvement in skill performance even after feedback by Clinical Instructors (CIs).

Mission Statement

To improve performance in nursing assessment for all SGH nursing students to a median of 90% within 12 months

Analysis of Problem

Baseline Data Collection

- 12 points data were collected (students' result) within 2 weeks using APIE checklist (Fig 1)
- Primary measurement was based on 2nd assessment result (Fig 2)
- Baseline median score was 60%

Student Name	procedure	✓	✗	Student Name	procedure	✓	✗
A				A			
P				P			
I				I			
E				E			

Figure 1: APIE Checklist

A – Assessment
P – Planning
I – Implement
E – Evaluation

Student's Skill Performance in Clinical Area

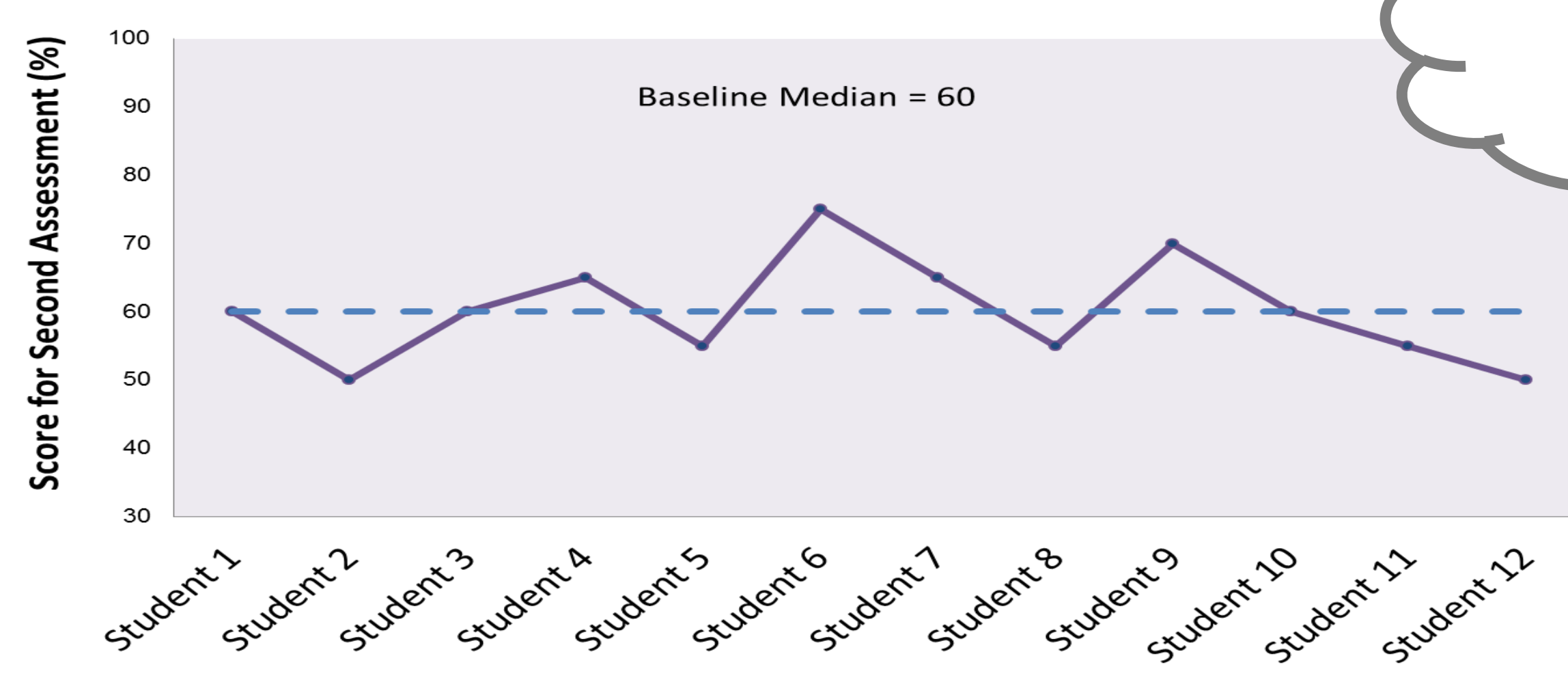
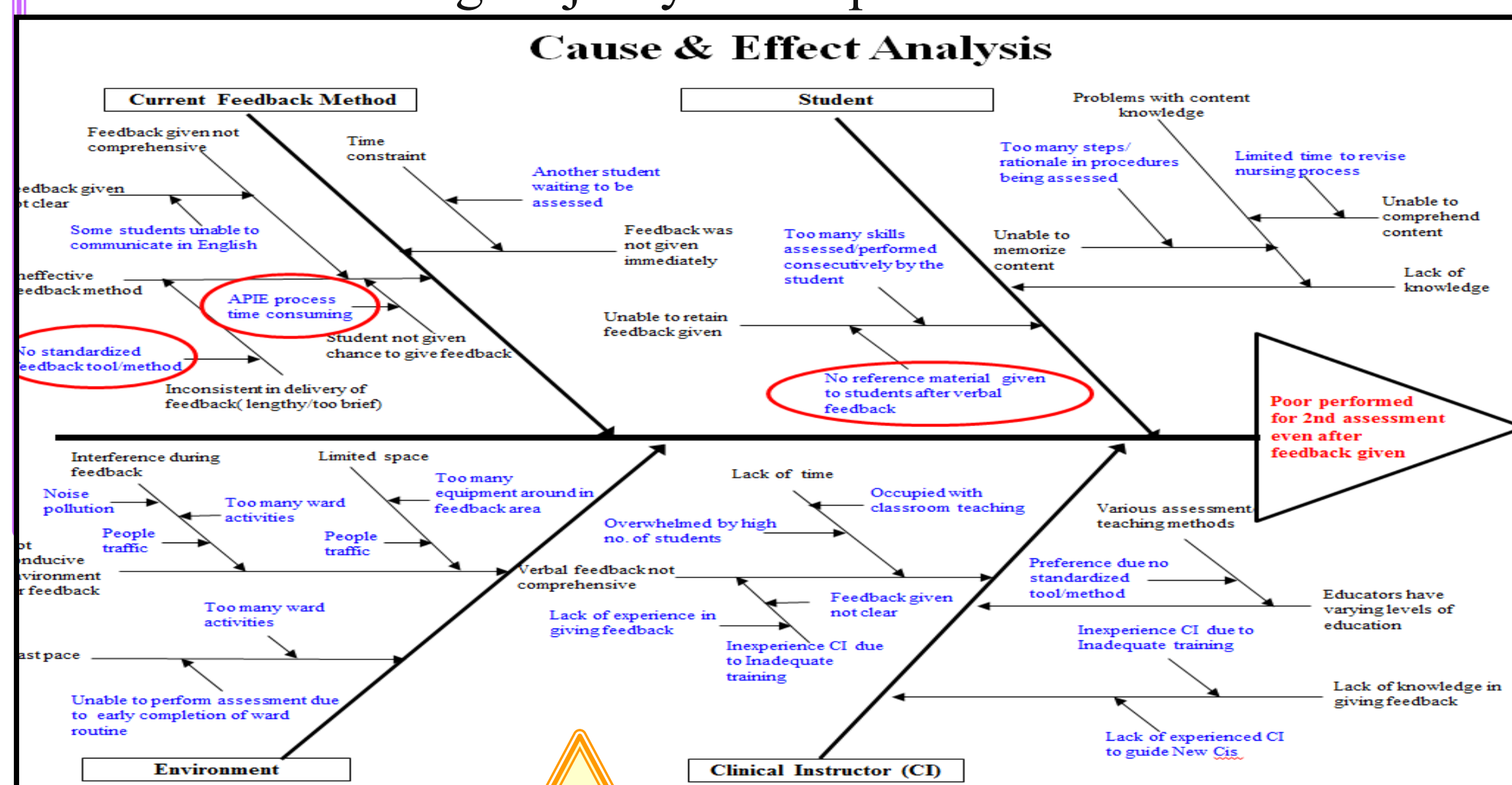


Figure 2: 2nd Assessment Baseline Data

Ishikawa diagram

- Ishikawa diagram was used to identify the cause and effect analysis (Fig 3)
- Pareto analysis was conducted twice to determine the crucial 20% of root causes causing majority of the problem.

Cause & Effect Analysis



Top Causes:

- No reference material given to students after verbal feedback
- No standardized feedback tool / method
- APIE process is time consuming

Sustainability

Team members

- Brief other clinical instructors and Nurse Educators on assessment tool checklist
- Implement assessment tool checklist for other clinical skills e.g. administration of nebulizer, oxygen therapy, insulin and etc.
- Orientation for new CI
- Monitor the progress and review checklist for improvement

Interventions / Initiatives

Brainstorming

- Silent brainstorming using post-it notes
- Each member brainstormed multiple solutions for each root causes. These were then grouped together
- 4 solutions were chosen by the team (Fig 4)

Prioritization Matrix (Fig 4)

To improve nursing students' performance in delivering safe care to patients	No reference material given to students after verbal feedback	Measuring tools for the rubrics Create checklist for easy reference Feedback template for students Note taking for students on their strength and weakness Create feedback ruler scale of 1-10 (students) Voice/video recording of feedback
	No standardized feedback / method	Create a standard feedback tool (similar to nursing competency checklist) Refine feedback tool with reference to other institutions Note taking for students on their strength and weakness
	APIE process time consuming	Students write down the process of APIE then CI will go through Create a APIE tool (Q card) Smart phone APPS Checklist for APIE

Solutions

- Create checklist for easy reference
- Feedback template for students
- Create a standard feedback tool
- Checklist for APIE

PDSA Cycle 1



PDSA 1: Created “Skill Assessment Tool”

- Skill assessments are based on hospital guideline and academic institutions' nursing procedure
- “Skill Assessment Tool” was verified by Senior Nurse Educator
- Assessment tool was used throughout all school institutions (NUS, NYP, NP & ITE)
- Students were assessed twice on the same nursing skill to monitor for any improvement in their performance
- Students kept the “Skill Assessment Tool” after the 1st assessment done for their own reflection and revision before the 2nd assessment took place

Skill Assessment: Capillary Blood Glucose (CBG) Test									
Name: _____ Institute: _____ Year: _____									
APIE									
Date of 1st assessment: _____ Date of 2nd Assessment: _____									
AP NI P NA AP NI P NA									
1. Assessment	• Patient o Correct 2 identifiers o Current condition and special precaution o Past medical history and medications o Indication for CBG monitoring and previous CBG readings								
2. Planning	• Preparing patient o Explain the procedure and purpose to patient • Preparing environment o Height of bed o Patient's position o Sufficient lighting o Switch off fan • Preparing requisites o Clean glucometer o Bottle of test strips o Disinfectant-impregnated wipes o Clean procedure COW o Puncture-resistant container o Disposable kidney dish with - Non-sterile disposable o Gloves - Lancet - Alcohol swab - Cotton ball or gauze • Self o Knowledge of prescribed insulin or oral hypoglycaemic agents, if any o Competent in doing CBG test o Knowledge of glucometer function								
3. Implementation	• Perform medical bandaid • Check expiry date of test strips and put one into the kidney dish • Scan barcode on Staff Card • Verify patient's identity by asking for patient's name and NRIC number.								
APIE									
• Make sure that the code number on glucometer display matches the one on the test strip bottle									
• Insert test strip									
• Select an appropriate puncture site. Avoid fingers with: o Bruises o Poor circulation o Open lesions o Oedema o Inflammation • Repeat puncture									
• Clean puncture site with alcohol swab and allow it to dry completely									
• Perform medical bandaid and wear gloves									
• Prick patient's finger with lancet and discard lancet into puncture-resistant container immediately									
• Hold glucometer with strip pointing downwards and place a drop of blood to the front edge of the strip									
• Apply cotton ball or gauze to puncture site to stop bleeding									
• Discard test strip as biohazard waste									
• Place glucometer on patient's cardiac table									
• Remove gloves and perform hand hygiene									
• Disinfect glucometer with disinfectant-impregnated wipes. Ensure that test strip port is tilted towards the floor when cleaning it.									
• Perform hand hygiene									
• Inform patient about CBG reading									
• Administer anti-diabetic medications, if prescribed									
• Dock glucometer at base station as soon as possible									
Evaluation									
• Ensure that CBG reading is reflected in SCM Insulin Flowchart									

APIE									
Date of 1st assessment: _____ Date of 2nd Assessment: _____									
AP NI P NA AP NI P NA									
1. Report	• Inform Shift-in-charge about CBG reading								
Self-Reflect									
Self-Assessment Scale									
1 2 3 4 5									
Date of 1st Assessment: _____ Date of 2nd Assessment: _____									
Area of Improvement									
Area of Improvement									

Results

- Students' performance showed improvement to a median of 90%
- Students display more confidence during the 2nd assessment
- Students' feedback on the skill assessment checklist:
 - ✓ Easy to follow through and understand the process
 - ✓ Aid them to reflect and revise on the area of improvement
 - ✓ The tool is effective and beneficial for them
- Survey collected from CIs
 - ✓ Easy to use and saves time
 - ✓ Consistency between different CIs evaluation
 - ✓ Able to compare between 2 assessment
 - ✓ Student able to self-reflect on the skill

2nd assessment scores

