

Learning Enhancement Development (LED): Sustaining Academic Resilience through Peer-Mentoring Support

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Introduction

Aims & Objectives

Applications

- During the COVID-19 pandemic, the education sector was severely impacted which resulted in swift migration of conventional face-to-face teaching activities to online learning platform.
- Learning Enhancement and Development (LED) programme was piloted in 2021, aimed at building an academic community for new engineering students who require more help academically during their first-year studies.
- The project involves a diverse community of undergraduate and postgraduate students as well as academic staffs and programme directors.

- This programme promotes staff-student collaboration through sharing of expertise, as well as student taking ownership of their learning through peer mentoring support on digital platform.
- Student learning experience is enhanced in the difficult times of pandemic despite the remote or online learning, whilst building their resilience and life skills such as leadership and communication skills through collaboration with others.

- This work-in-progress initiative is to improve academic engagement and progression of first-year engineering students who require more supports academically upon enrolment.
- Students undertake a series of workshops in the beginning of semester and checkpoints in the form of formative assessments throughout the semester.
- The supervisory team to identifies both students who needs assistance, as well as students who have improved who no longer need the PALS support.

Programme Structure

Learning Enhancement & Development (LED) Strategy

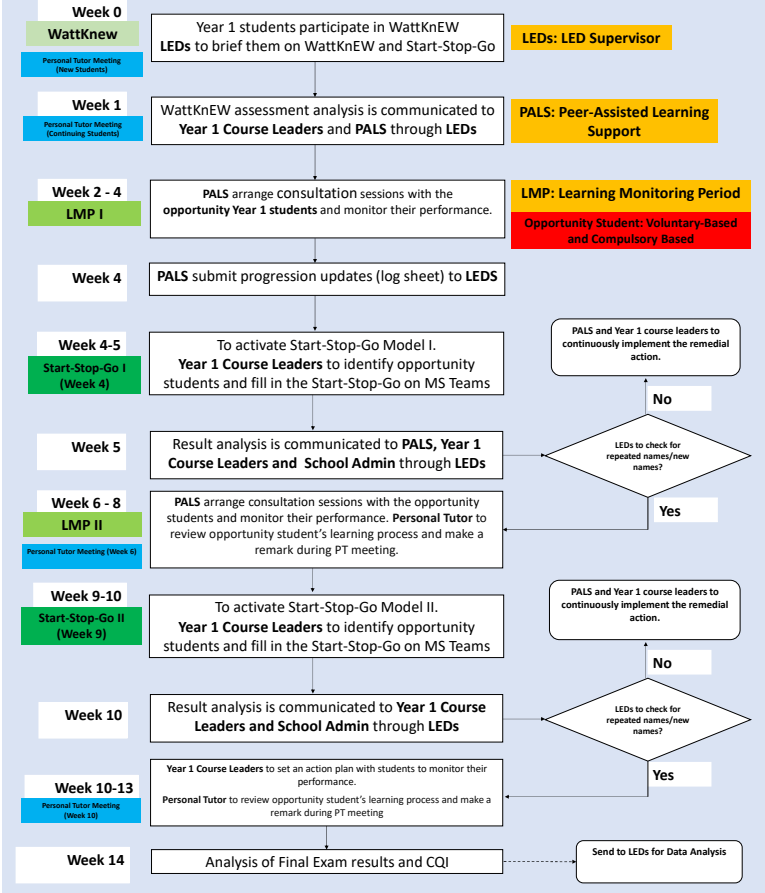


Figure 1: Flow Chart for Learning Enhancement Development Strategy

Methods

- The programme consists of 4 main components:
 - WattKnew workshop (entry workshop conducted in Week 0).
 - WattKnew Assessment (conducted at the end of WattKnew workshop as a baseline assessment)
 - Start-Stop-Go I & II (interim assessment used to evaluate student performance)
 - PALS engagement sessions
- LED supervisors play a key role in coordinating and arrangement of PALS to opportunity students to ensure effective delivery as well as the.
- Start-Stop-Go models were designed and implemented in the form of formative or summative assessments during the semester as illustrated in Figure 1.
- The results from the assessments were then collected and analysed and remedial actions in the form of consultation sessions were provided.
- Personal tutors and course leaders were also notified to provide necessary additional supervision if needed.

Results and Analysis

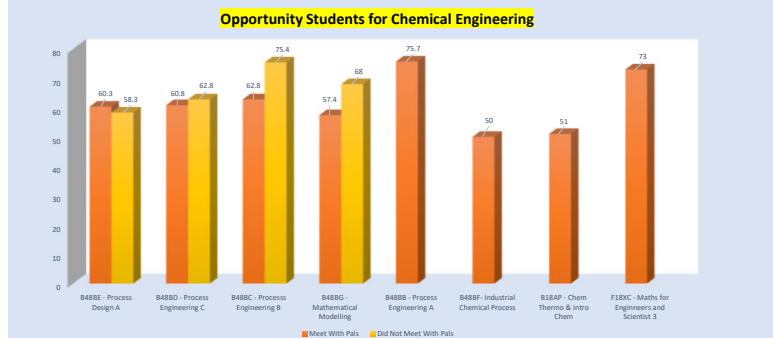


Figure 2: Summary of Results for Chemical Engineering Students

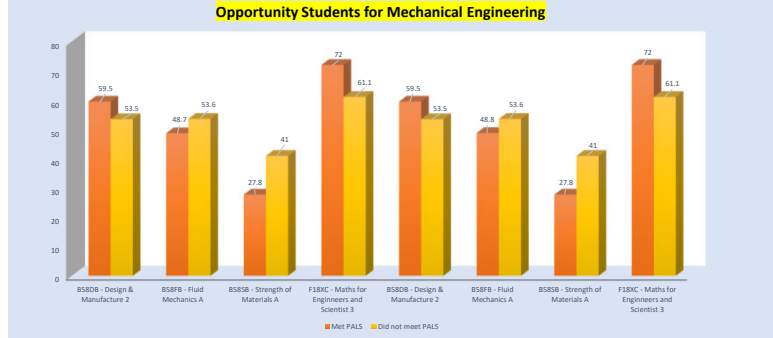


Figure 3: Summary of Results for Mechanical Engineering Students

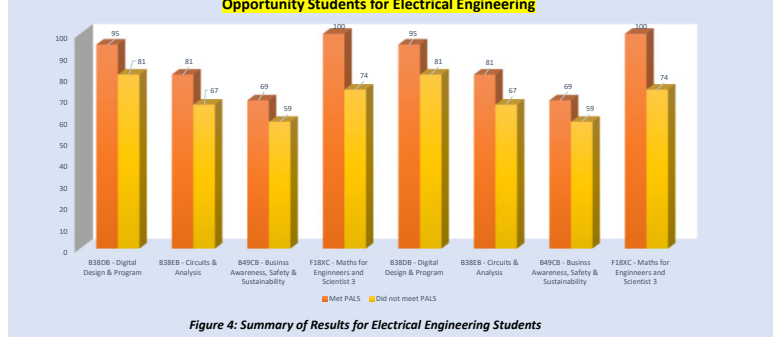


Figure 4: Summary of Results for Electrical Engineering Students

- ❖ Among all three engineering courses, all the non-opportunity students have obtained the minimum passing grade for their academic results.
- ❖ This indicates that the selection process designed in the LED program is effective enough to identify the students who needs extra care and supervision for their academic studies.
- ❖ Over the full academic year, a total of 54 opportunity students were enrolled into the LED program and 45 students (83.3%) passed their Year 1 studies and only 9 students (16.7%) did not manage to pass.
- ❖ Further investigation has revealed that majority of opportunity students that failed did not meet with their PALS and weren't active in the LED program.
- ❖ Opportunity students who did not meet with PALS were also found to have lower average marks across all subjects as shown in the Figures above.
- ❖ This indicates that the regular meetings with PALS is helpful and can provide students with the necessary assistance if they participate in the programme.

Conclusions and Improvement

- The academic performance of the opportunity students have shown improvement for those who met with PALS.
- Repeating opportunity students have decreased after each assessment in overall.
- PALS have found the programme to be helpful in developing their leadership and soft skills.
- LED programme to be integrated as part of EMPOWER programme:
 - Rewarding 'Empower points' to PALS and opportunity students for each consultation session conducted.
 - Or when significant improvement in the academic performance of the student was observed.
- Ensure effective communication between PALS and opportunity students:
 - Make sure that PALS are willing to take up these roles before appointing them. Selected PALS on non-voluntary basis may not be willing to commit to the role.
 - Conduct a face-to-face orientation session at the start of the semester to build better rapport between the opportunity students and PALS.