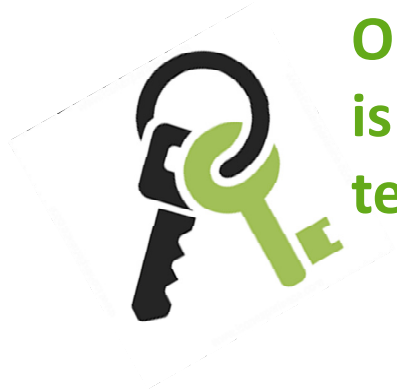




Engineering Student Engagement

Gabrielle Hartin



One of the keys to driving greater student engagement is to increase teacher driven – student guided;

- **Problem solving**
- **Risk taking**
- **Collaboration**
- **Innovative opportunities**

into learning programs.....

An experiential workshop – to explore the dynamics and benefits of incorporating a more collaborative approach into your teaching delivery to drive these learning behaviours.

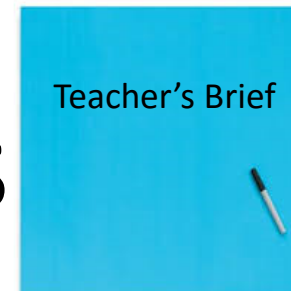


**Activity 1:
GET THE JOB
DONE**

4 Teams: 1 Teacher, 1 Student and Observers



4 Teachers



5 mins prep

4 Students



Wait outside



Observers




(Lead Observer for debrief)



Activity 1: GET THE JOB DONE

4 Teams: 1 Teacher, 1 Student and Observers

Our Volunteer Students were asked these questions while waiting outside.



Student's
Brief &
Questionnaire

1. How are you feeling?

Excited
Excited, enthusiastic
Slightly nervous
Nervous, curious
Good, interested, happy to learn
Worried
Tentative

2. What are you hoping/expecting to learn?


'Anything fun, something to better the knowledge I already have.'
'Something about being a learner of something new. How I learn. How a good teacher communicates new knowledge.'
'Something new, helpful about the experience of being a student'
"Something new"
'How to keep 'trade' students engaged in a classroom for a 4 hour class.'
'To be lead'
'What it is like to be a 'tentative' learner'



Activity 1: GET THE JOB DONE

4 Teams: 1 Teacher, 1 Student and Observers

Our Volunteer Students were asked these questions while waiting outside.



Student's
Brief &
Questionnaire

3. How do you hope the session will be conducted?

'I like to do with my learning as an activity no theory based'

'Professionally, without judgement of learner, allowing space for risk taking'

'Shared input by the teacher and students, challenging but not overwhelming, well-structured: intro, activity, debrief/reflection.'

'Hands on practical'

'Well'

'With fun'


'With acknowledgement of my feelings and consequent support, encouragement and FUN!'



Activity 1: GET THE JOB DONE

4 Teams: 1 Teacher, 1 Student and Observers

Our Volunteer Students were asked these questions while waiting outside.



Student's
Brief &
Questionnaire

4. What qualities or characteristics would you like your teacher to display throughout the session?

'Engaging me, caring, fun'

'Empathy, supportive, informative, giving good direction for spontaneous/incidental learning'

'Interested in me, knowledgeable, open-minded, kind, mature, passionate.'

'Receptive to questions, patience.'

'Calm, being directive, encouraging and happy.'

'Understanding of my learning.'

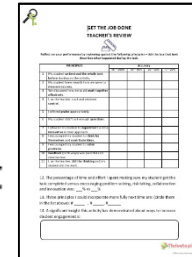
'Motivating and encouragement and also instilling accountability!'



DE
BRIEF



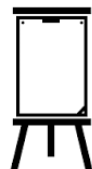
- Teacher's Review Sheet
- Student's Review Sheet
- Observer's Review Sheet



The Objectives of the review are to understand and develop:

- **Each other's perceptions of what happened and why**
- **The Implications of these actions and perceptions**

1. Complete your review sheet independently and without discussion.
2. Teacher and Student discuss their insights.
3. Observers help facilitate this discussion and then add their own insights.
4. Record key findings





Record key findings

**Activity 1:
GET THE JOB
DONE**

Morning Session Team 1:

'Let them experiment, fail, retry and encourage.'

'Reduce pressure by having fun'

'Importance of explaining the task and how success will be measured.'

'Teacher positivity – enhances learning'

'Importance of constructive feedback.'

'Importance of encouraging creativity'

Morning Session Team 3:

'Stop 'rescuing' student.'

'Encourage independent thinking.'

'Proximity – sit beside student to see problem from other perspective.'

'Allow student to explore parts in the beginning.'

Morning Session Team 2:

'Student focus learning.'

'Good understanding from the start.'

'Calm, quiet, low voice, but firm and directing.'

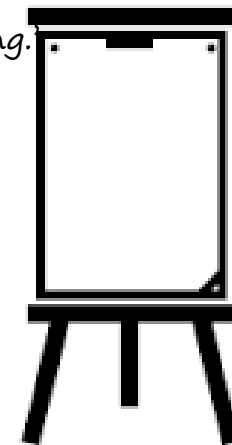
'Checked for comfort.'

Morning Session Team 4:

'Allow the student to experiment and be innovative.'

'Question/clarify the students understanding of the task.'

'Allow student to act/think for themselves in a supported environment.'





Record key findings

**Activity 1:
GET THE JOB
DONE**

Afternoon Session Team 1:

'Need to be clearer with setting the scene – time/task expectations.'
'Student following – not asking questions.'
'Could feel the tension.'
'Passive student.'

Afternoon Session Team 2:

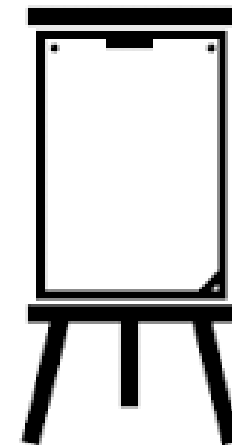
'Confusion/lack of understanding/communication in initial task (setting up in beginning).'
'Encouraged/allowed the freedom to explore, play, construction.'
'Lack of instruction..??'
'More about...'
.Task driven/learning driven.'

Afternoon Session Team 3:

'Clear, very supportive instructions.'
'Student didn't feel he needed to ask questions.'
Insight:
'Student could have had the opportunity to explore the pieces first.'
'Student was comfortable, supported, encouraged.'
'Was getting positive feedback so didn't feel like he needed to ask questions.'

Afternoon Session Team 4:

'Good example of task focussed instruction (male to male)'
'Teacher giving encouraging acknowledgement, but no feedback from student encouraged.'

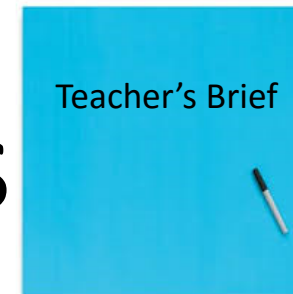


Activity 2: NEAT AND TIDY

4 Teams: 1 Teacher, 1 Student and Observers



4 Teachers



5 mins prep

4 Students



Wait outside

Observers

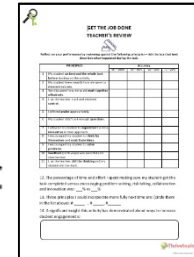
(Lead Observer for debrief)



DE
BRIEF



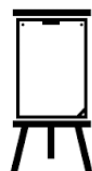
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3. Observers help facilitate this discussion and then add their own insights.
4. Record key findings





Record key findings

Activity 2: NEAT & TIDY

Morning Session Team 1:

'Instruction, direction and communication imperative.'
'Experience, then feedback.'
'Not all students have same approach.'
'Trust between student/teacher.'
'Student felt frustrated not being able to communicate with teacher.'

Morning Session Team 3:

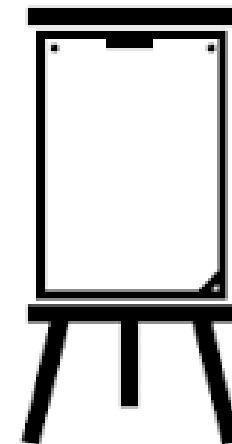
'Importance of checking for understanding and feedback.'
'Value of teachers and working with and encouraging students.'
'Clarity and achievability of tasks.'

Morning Session Team 2:

'Clear and as much pre-information prior to the activity to facilitate success.'
'A teacher needs to be able to provide a student with real-time feedback, but is doing it constantly facilitating growth?'

Morning Session Team 4:

'Clear instruction to student.'
'Allow student to work through situation.'
'Student expectation – teacher support.'





Record key findings

Activity 2: NEAT & TIDY

Afternoon Session Team 1:

'Interaction was very good – questions and instruction.'
'Permission given to ask questions and clarify prior to commencing task.'

Afternoon Session Team 2:

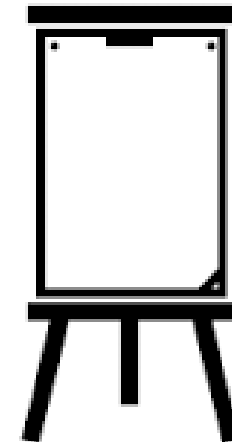
'Teacher unsure how to begin.'
'Clear instructions of task needs to be given at start.'

Afternoon Session Team 3:

'Communication
- lack of
- Ongoing support
- Other forms of communication

Afternoon Session Team 4:

'Importance of clear instructions, setting the scene.'
'Opportunities to clarify the requirements.'



Your Quick Guide to Engineering Student Engagement

DESIGN

Incorporate new activities or look for ways to adapt existing activities where learners can be coached through the activity rather than instructed.

PREBRIEF

Start with an upfront discussion to – put the task in context, set the objectives and measures for success, understand the constraints, discuss how the task should be approached, discuss various ways to develop the students skills.

ACTION

Step back and let the student take control –the student completes the task (mistakes and all!) whilst solving problems, taking risks, collaborating and innovating as required.*

DEBRIEF

Discuss challenges and successes experienced and share insights as to how continuous improvement can be implemented for the next time.

DUAL FOCUS

Focus on both areas of critical importance:

1. Technical skill development through completion of task
2. Ability to problem solve, take risks, collaborate & innovate.

