A partnership approach for assisting students through a 'one-stop-shop'

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VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

A bit of history on our partnership…

2011: Partnership between Library & ASD

- Drop-in for all VU international students
- Focused on transition issues

2014: Re-instated for STEM students

- Teaching academic language, library research

2015: Expanded to include Maths & Physics

2016: Further expanded to include Engineering: **One-Stop-Shop**

Consolidated approach for teaching engineering, library research, language & learning, and maths

One-Stop-Shop drop-ins

- To advise students on multiple areas as required, in one session
  - Engineering studies
  - Language & learning
  - Library research
  - Maths (Physics)

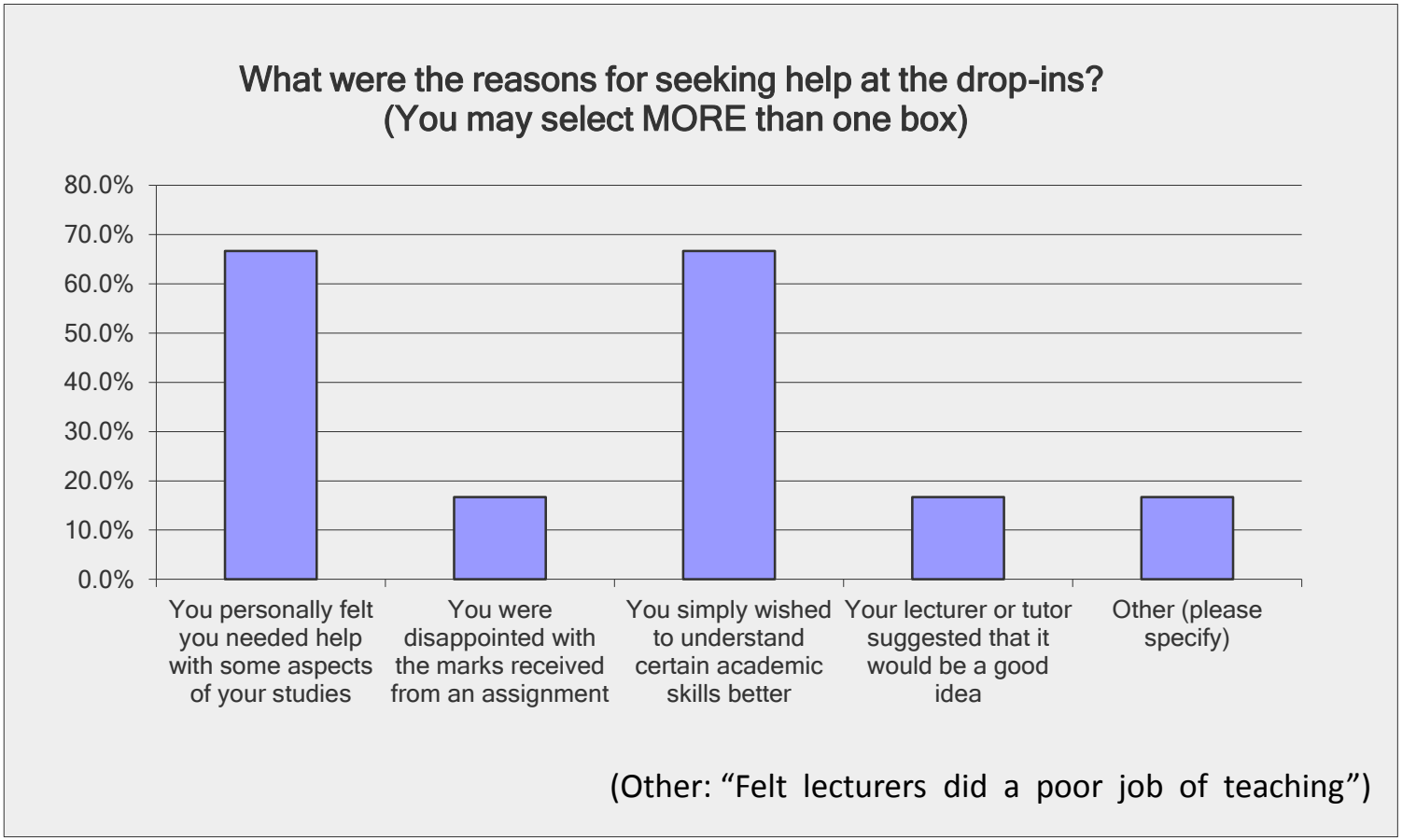
- To raise awareness of the interconnectedness of content knowledge, background research, communication, team work in STEM problem solving
- To help students adjust/cope due to diverse pedagogies, PBL, flipped classes, blended learning etc.

- Implemented for 1st year students but welcomed all years, including postgraduates
- Located in open plan area in CES building
- 2 x weekly offerings and multiple visits encouraged

Areas of teaching in L&L

- Unpacking the assignment question : 20%
- How to structure technical reports/theses: 60%
- How to write specific sections of a report: 40%
- How to paraphrase: 40%
- How to reference: 40%

Reasons for visiting the drop-ins



(Other: "Felt lecturers did a poor job of teaching")

Student feedback

How the drop-ins assisted students

Answer Options	Yes	No	Unsure
Do you believe the help and advice provided at the drop-ins assisted you to improve your marks in assignments and/or tests?	100%	0%	0%
Did you apply what you learnt at the drop-ins in other study situations?	71%	0%	29%
Did the assistance given at the drop-ins cover new topics that you had not yet covered in class?	17%	50%	33%
Did the assistance given at the drop-ins help you to adjust to new ways of learning at university?	57%	29%	14%
Did the assistance provided at the drop-ins contribute to a positive experience as a student?	86%	14%	0%
Would you recommend using the Drop-in academic support sessions to other students?	100%	0%	0%

Student feedback

Answer Options	Extremely satisfied	Satisfied	Neither satisfied nor unsatisfied	Unsatisfied	Very unsatisfied
On help and advice provided	29%	71%	0	0	0
On teachers who helped you	29%	57%	14%	0	0
On time you had for getting help	14%	57%	29%	0	0

Written comments from survey:

"Clears out confusion with study materials."

"It is a great way to help students gain vital knowledge on aspects they feel weak in or require more learning."

"Having a lecturer to learn from was why I came to uni rather than having to look at a YouTube video to teach me."

Email feedback:

"I wish to thank you for all your support for helping me to finish my Masters in Project Management thesis….. I hope you continue to help other students by doing this small group sessions."

QILT Student Experience Survey

Percentage of students providing positive feedback for "**English Language Support"** in the field of Engineering and Related Technologies:

VU: 2015 - **34%** 2016 - **48%**

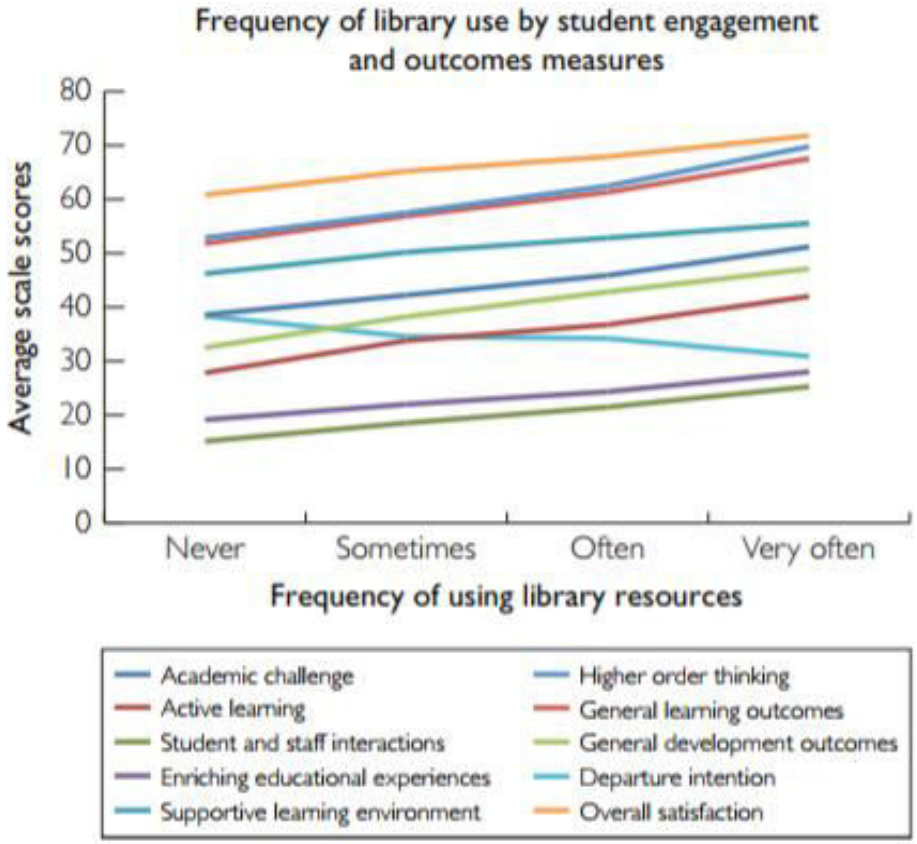
Go8: 2015 - **34%** 2016 - **35%**

Data from QILT website

Library Research Skills Component

- Why is the library doing this?
  - Librarians reaching into learning communities
  - Student engagement
  - Enhancing the student learning experience
  - Increasing student access to library resources

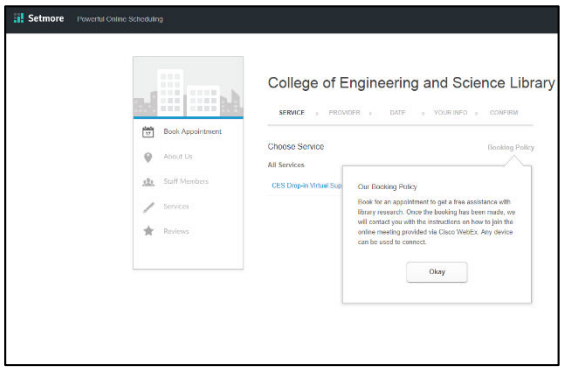
Student Engagement

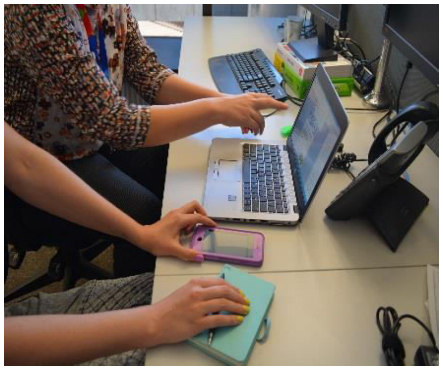


The link between using the library and student engagement (with university) – Australian Survey of Student Engagement (AUSSE) 2008.

The CES Library Research Skills Services

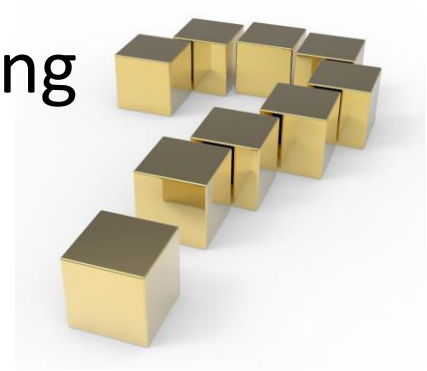
- What the librarian covers
- Experience of students
- Web conferencing for consultation
- Won library Innovation award for “one-stop” shop in 2014-2015





Library Drop-in Session Queries

- Library systems navigation, finding resources and referencing
- Library services orientation
- Using databases: IEEE, ScienceDirect, Scopus, Web of Science
- EndNote help
- Capstone projects
- Using electronic books, troubleshooting

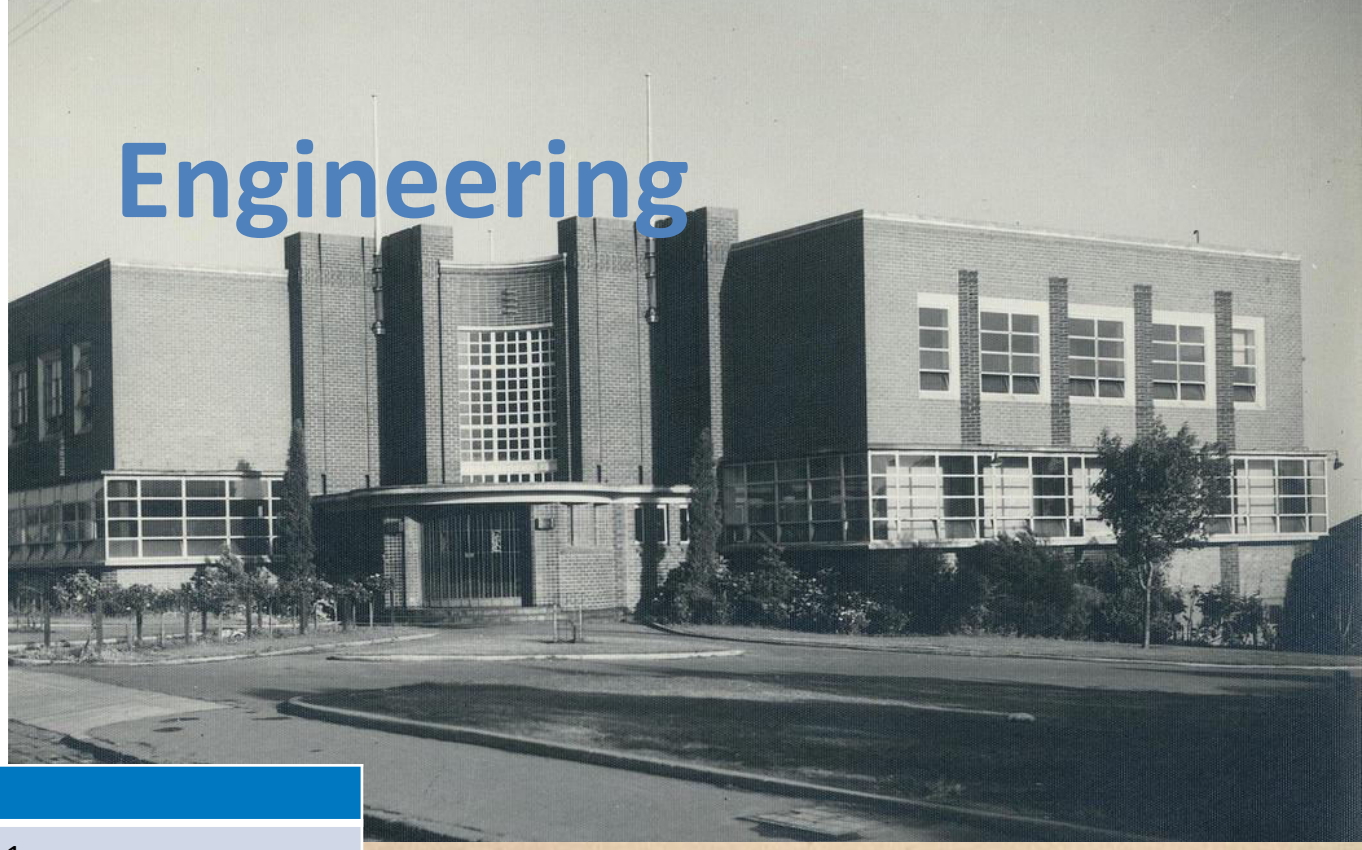


Library Drop-in Sessions – future directions

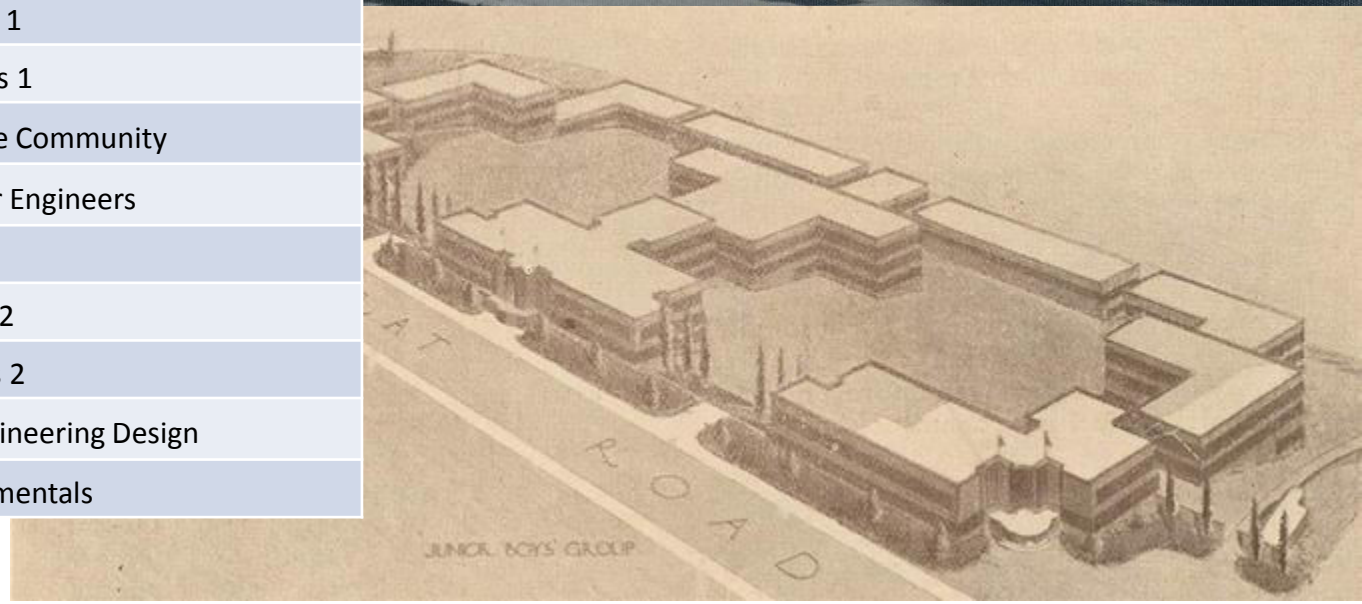
"The library of the future, whether the physical space or its digital resources, can be the place where you put things together, make something new, meet new people, and share what you and others bring to the table. It's peer-to-peer, hands-on, community-based and creation-focused."

Miguel Figueroa of the Center for the Future of Libraries

Engineering



FIRST YEAR	
NEF1101	Engineering Maths 1
NEF1102	Engineering Physics 1
NEF1103	Engineering and the Community
NEF1104	Problem Solving for Engineers
NEF1201	Engineering Maths 2
NEF1202	Engineering Physics 2
NEF1204	Introduction to Engineering Design
NEF1205	Engineering Fundamentals



Engineering

FIRST YEAR	
NEF1103	Engineering and the Community
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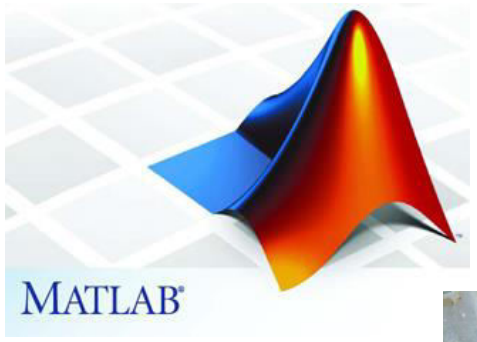
Electrical

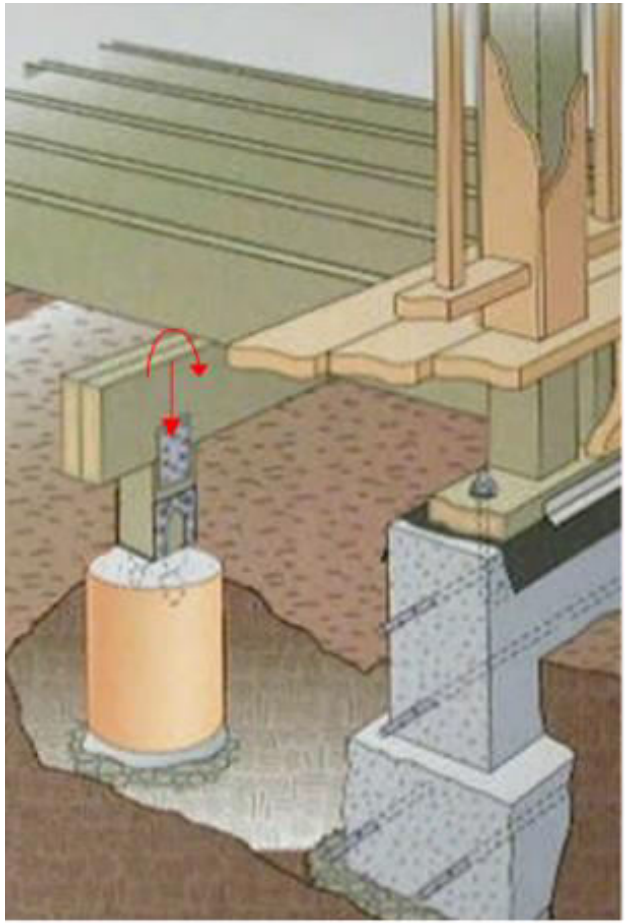


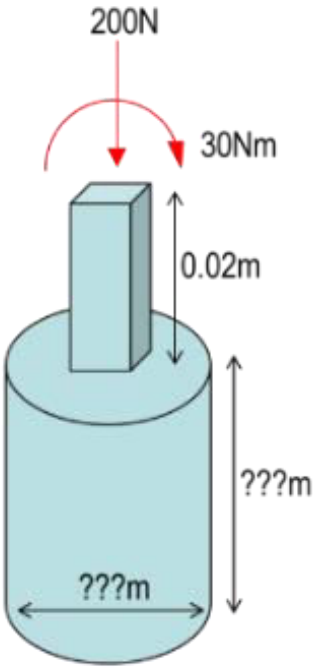
Application of Engineering

Structures

Engineering

Typical Question from Building Students

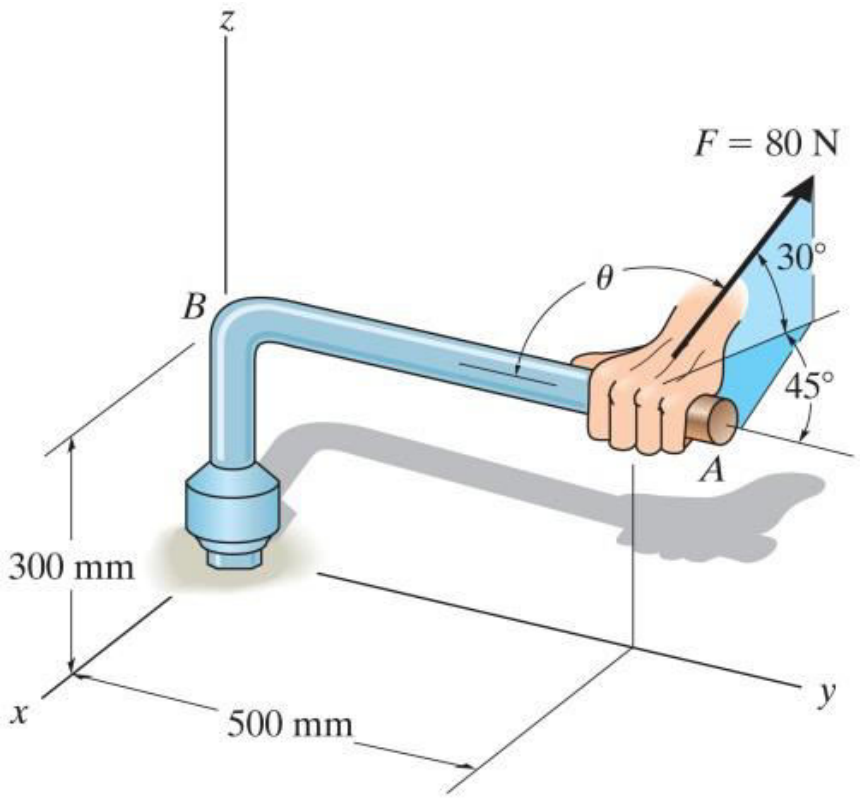




- How to determine bearing capacity of soil.
- Calculating the required surface area of the footing.
- General questions such as unit conversion and volume calculations.

Engineering

Typical Question from Civil Engineering Students



- How to determine reaction forces.
- Moment calculations.
- General questions such 2D and 3D visualisation and force vector calculations.

Benefits of One-Stop-Shop

- Comfortable setting for students. Students are not ashamed to ask basic questions
- Some students preferred the one-stop-shop to peer mentors
- Opportunity to meet study friends with similar questions
- Great setting for gaining more information on Problem Based Learning
- Informs unit content based on student feedback
- Multiple visits by each student over semester: 60%
- Several areas of teaching during one visit: 50%

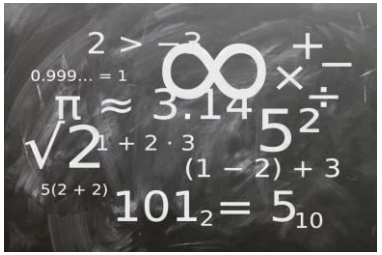
Concluding comments

- Did the partnership work? What we've learned from each other?
- Did we succeed in modelling the importance of the connections between the different areas to students?
- Advantage for students - ability to seek assistance in multiple areas but did they make use of opportunities?
- It's expected that drop-ins will continue next year and offered in the new Learning Hub connected to FYC

Unexpected outcome

Opportunities to identify gaps in students' conceptual understandings and pass that information to relevant discipline academics for adjustments to teaching and curriculum

The Maths Poem - 1



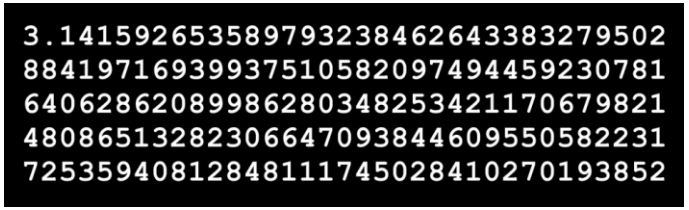
Mathematics: the truth,
The wisdom, the way –
Its theorems and proofs
Turn darkness to day.

Mathematics: the law,
The instrument in hands,
The toe-tapping score
That makes chaos dance.

Mathematics: the sun,
Blossom opening to bees,
The form and function
Of what a spider weaves.

Mathematics: the curve
Of rainbow and space,
Proportions that observe
The Mona Lisa's face.

The Maths Poem

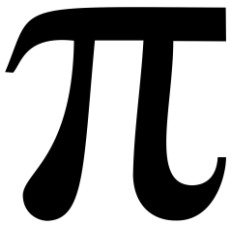


Mathematics: the word
Scrabbling alphabets crave,
And recently observed
In a gravity wave.

Mathematics: the key
To growth and decay,
To an infant's destiny
Locked in its DNA.

Mathematics: the cure
For the God-disease –
One and zero will ensure
We rise from our knees.

The Maths Poem - 2



Music and mathematics
Fill us with wonder -
Nothing is more ecstatic
Than a Greek number.

Good old Pythagoras
Squared the hypotenuse,
Down in the agora
He danced around his muse.

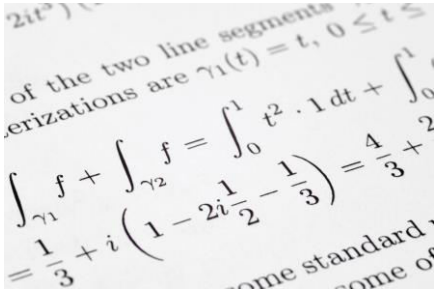
When Euclid demonstrated
Primes are unbounded,
His proof was celebrated,
Instruments sounded.

We know that Archimedes
Wasn't a streaker,
Careless of fleshy needs
He sang out 'Eureka'.

The Maths Poem

Then there's Hypatia,
Teacher Platonic,
Let's sing and praise her
Love of the conic.

The Maths Poem - 3



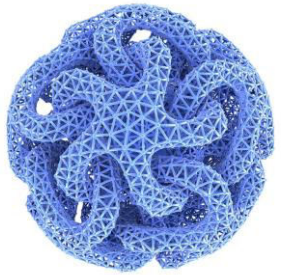
Now that you've found me,
Gather around me,
This is your lucky day.
The dice are rattling,
Laughing and chattering,
Calling on you to play.

Their teeth will delight you,
Kisses excite you –
O, what a sweet affair.
Don't be a loser,
Come up and choose her –
Luck smiles on those who dare.

Don't look for reason,
Enjoy this freedom –
There's no defining chance.
Our life's determined,
Death's always certain –
Take fate into your hands.

More than our winning,
The thrill of sinning
Makes us almost divine.
Hear their lovemaking,
So calculating,
Outwitting God each time.

The Maths Poem - 4



I found a pebble yesterday
Where sea and sorrow meet,
Swept out by the seventh wave
And washed against my feet.

I questioned it, as I do,
All stones that catch my eye,
At which the little pebble moved
And answered with a sigh.

Throw me above the pyramid,
Over the dozing Nile,
And I'll delight all children with
A parabolic smile.

Take me to a still oasis,
There drop me to my rest,
And gather from its surface
The circles I love best.

The Maths Poem - 5

On nights when stars begin to chime
And music sways the heavens,
I slip into a state of mind
Where three dances with seven.

I use my ruler as a prod
To guide fractions in reason;
I give my hand to brother-odd
And skip with sister-even.

Sweet six is equal to the sum
Of her proper divisors:
She's independent as the sun
And no-one can advise her.

A perfect number, she's a queen,
Too proud to mix with the others.
She has no need of go-betweens,
Of sighs and secret lovers.

The Maths Poem - 6

Let others sing the praises
Of Cleopatra's rings,
I've got no airs or graces –
My subject is a string.

I like to give expression
To length that has no width –
This led the stone procession
That shaped the pyramid.

There's always this attraction
When sorrows tighten us:
Cut into proper fractions
Its chords will lighten us.

And when I tire of physics,
And need a paradox,
I emulate the mystics
Who count to God on knots.

The Maths Poem - 7

I have never sought possessions,
O, we pay for them with dreams.
Let others whisper their confessions,
I will praise the golden mean.

Beauty's simple and revealing,
As any rectangle will show,
But the one that's most appealing
Observes the charming ratio.

The pentagon contains the secret
Of the blossom and the star –
When its diagonals intersect
The golden mean divides their parts.

The Parthenon's a work of wonder,
Geometry's high-point, in fact;
But when its columns fall and crumble
The golden mean remains intact.

The Maths Poem - 8

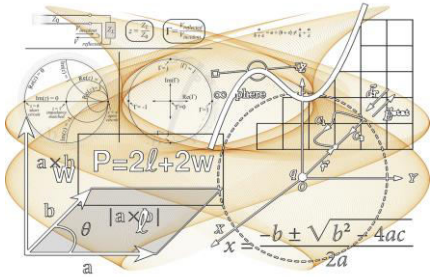
There’s nothing purer than a prime,
A number not produced by pairs:
Their origins go back in time
To when the universe was bare.

One with their own identity,
Their form is found in natural things:
They underscore this melody
And play their part when voices sing.

And stars that pin the night in place,
The tears that fall when women grieve
And heartbeats lost without a trace.

The random way in which they grow
Has challenged us to find a law,
And should we crack their secret code
We’ll understand the source of all.

The Maths Poem - 9



I've looked high and low for a point –
From the pyramid's vanishing top
To the singular tip of a thorn,
From the dot that signifies a stop
To a star that's yet to be born.

Nothing's more elusive than a point –
An entity that's never been snared,
The infinite division of a mite,
The here that's surrounded by there,
A spot moving faster than sight.

I despair at the notion of a point,
And doubt that it actually exists.
Yes, I scoff at belief in a soul –
Is the point any different from this?
A problem impossible to solve.

Maybe faith's the way to a point,
To apprehending its paradox:
A pin that eclipses the sun,
The spot where parallels cross,
The union of zero and one.