STUDENTS-AS-PARTNERS

IN TRANSLATING PEDAGOGICAL RESEARCH INTO PEER-SUPPORT PRACTICE IN UNDERGRADUATE MATHEMATICS

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TALK OUTLINE

Students-as-Partners

Sonia's project	Project outline
	Interviews with lecturers
	Developing resources and final report
Integration into PASS	(Quick) introduction to PASS and the student coordinator role
	Scholarly-informed PASS materials

What's next?

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STUDENTS AS PARTNERS (SAP)

Students as Partners is…

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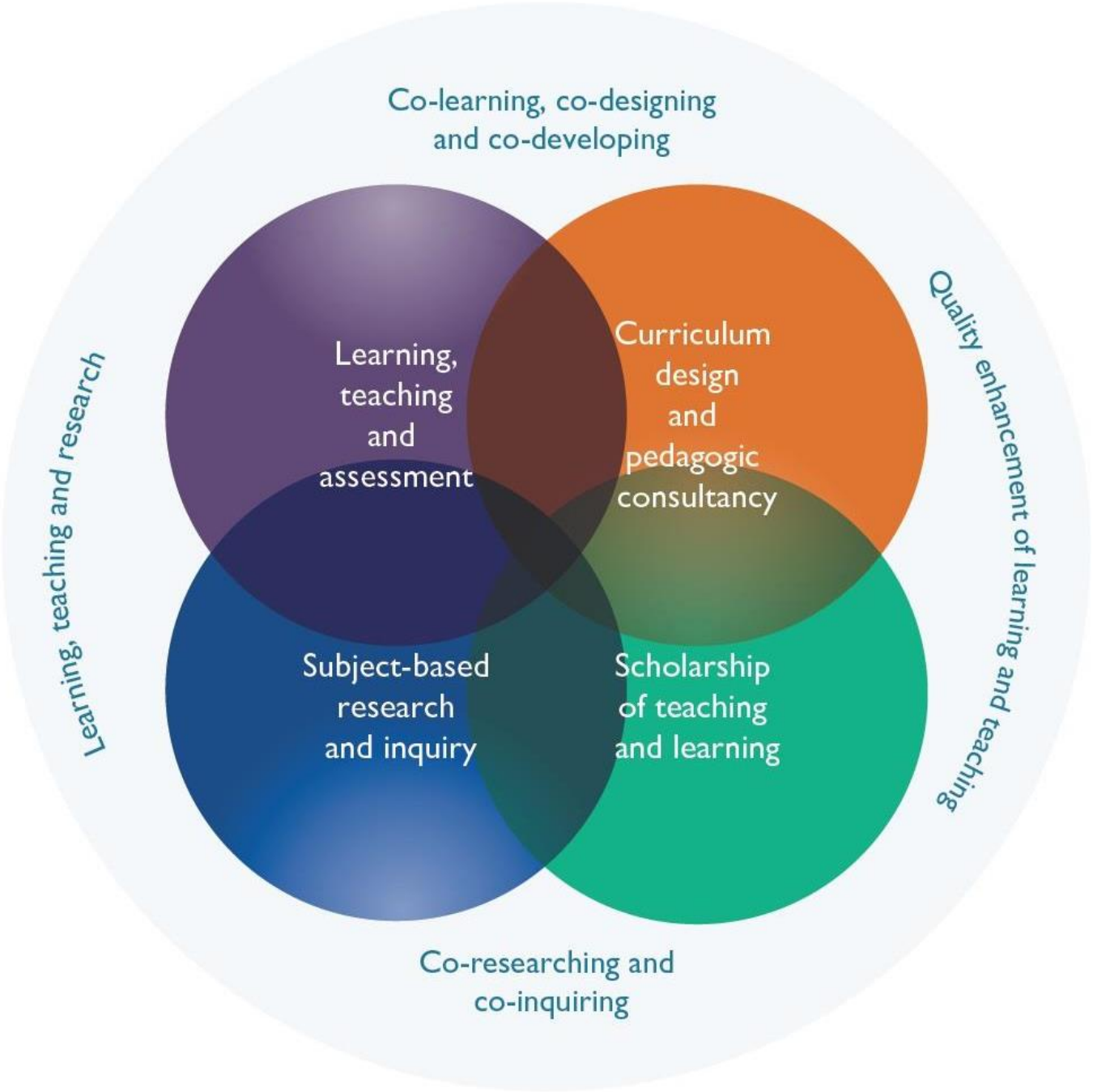

(Healey, Flint and Harrington 2014)

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STUDENTS AS PARTNERS (SAP)

Students can **influence** how we teach and they take more **responsibility** for their learning.

Staff and students **learn from each other** through an ongoing dialogue.

"[SaP leads to] **student engagement**, increased **motivation** and **ownership of learning**, increased **sense of confidence** and **self-awareness**, as well as a **sense of belonging** to university, discipline and community as some of the most important positive outcomes of the practice." *(Mercer-Mapstone 2017)*

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FACILITATING EFFECTIVE TEACHING PRACTICES IN ABSTRACT ALGEBRA AND PROOF COMPREHENSION

Inspiration: Exposure to maths education research and evidence-informed teaching

Inspired by how Craig Barton (2017) translated conversation with educational researchers into classroom practice

Context: Students often find the transition to abstraction and proof reasoning challenging

Focus on introductory abstract algebra topics at UoM

STUDENTS-AS-PARTNERS

Co-creation throughout the project

Project initiated through shared interest in mathematics education

Research question and methodology developed collaboratively

Student experience informed the project focus and output

Continuous dialogue shaped interviews, findings, report writing and toolkit2

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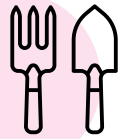
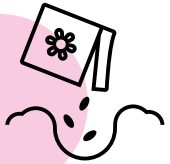
THE PROJECT



Planning

SaP partnership

Defining project aims



Literature Review

Maths education

Proof Comprehension

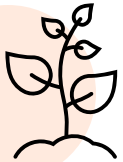
Lecturer Interviews

Teaching practices

Staff perspectives

Toolkit development

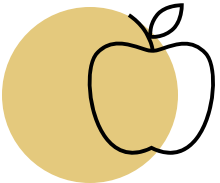
Scholarly-informed practice



Synthesis

Student voice

Research evidence



Implementation

PASS coordinator role

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THREE KEY THEMES

Examples & Variation

"When I think of a Lie Algebra, I have a stack of friendly examples that I know are representative. But students don't have that…."

Explanation & Discussion

"They don't understand why I am doing the next step and I have to explain again….."

Feedback & Self-Regulation

"I always tell my students to highlight where in the proof they got stuck…."

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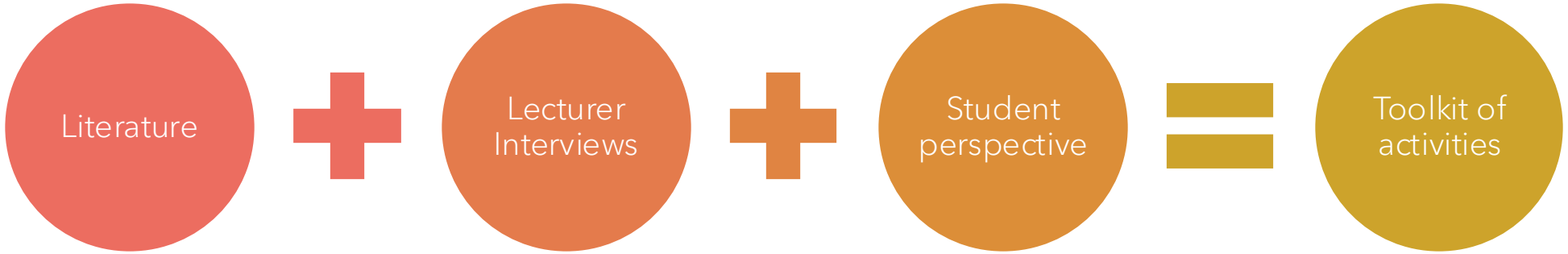
FROM THEORY TO PRACTICE

- Scholarly-informed activities
- Low-cost interventions
- Smaller groups in tutorials



But I wanted to test these myself…

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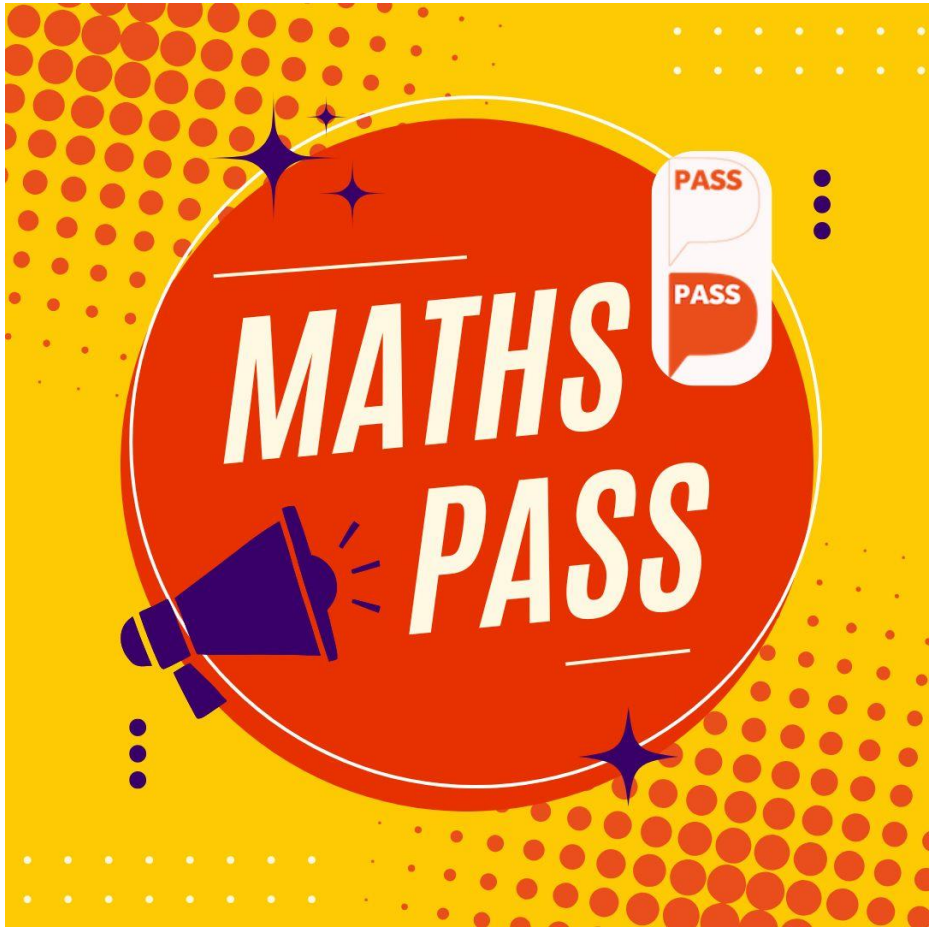
MATHS PASS

Peer-Assisted Study Sessions



Maths PASS Team

- PASS Leaders
- Student Coordinators
- Academic Coordinator
- PS Staff

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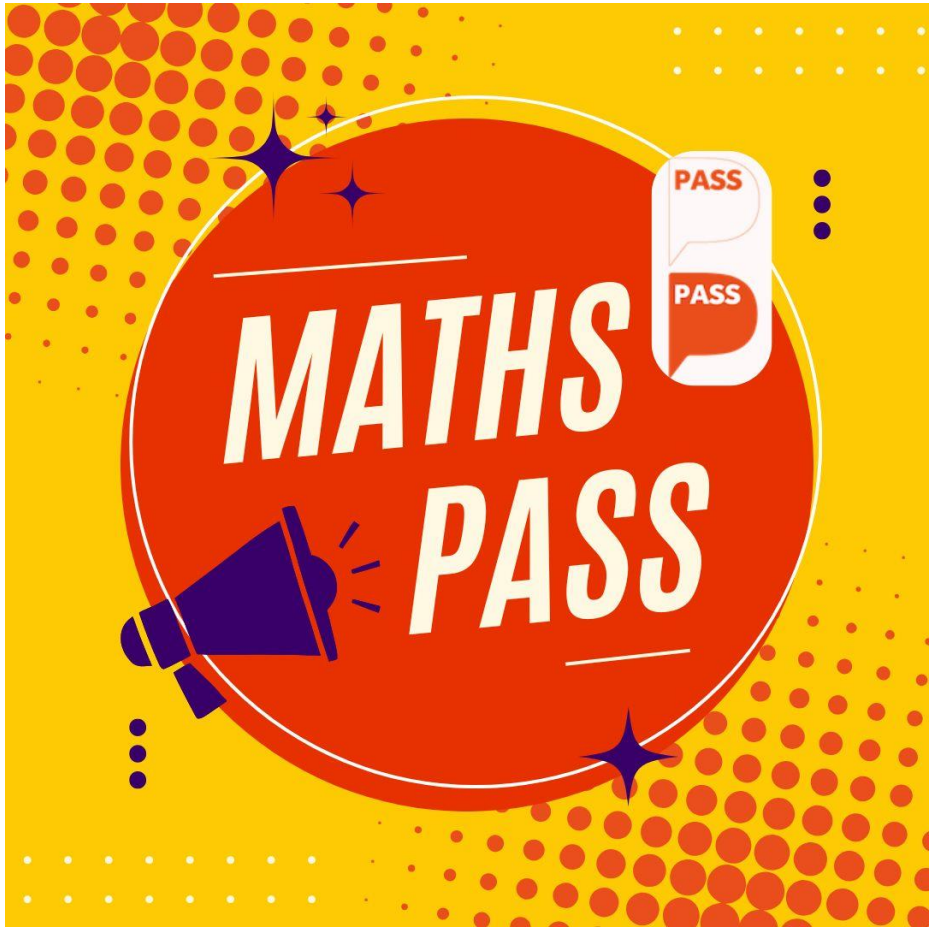
MATHS PASS

Peer-Assisted Study Sessions



Student-led

- Sense of ownership of the scheme
- Taking responsibility
- Personal investment in the scheme's success

Student coordinators

- Working as partners with me
- Taking a leading role
- Making decisions & guiding scheme's direction

TESTING THE FINDINGS IN PASS

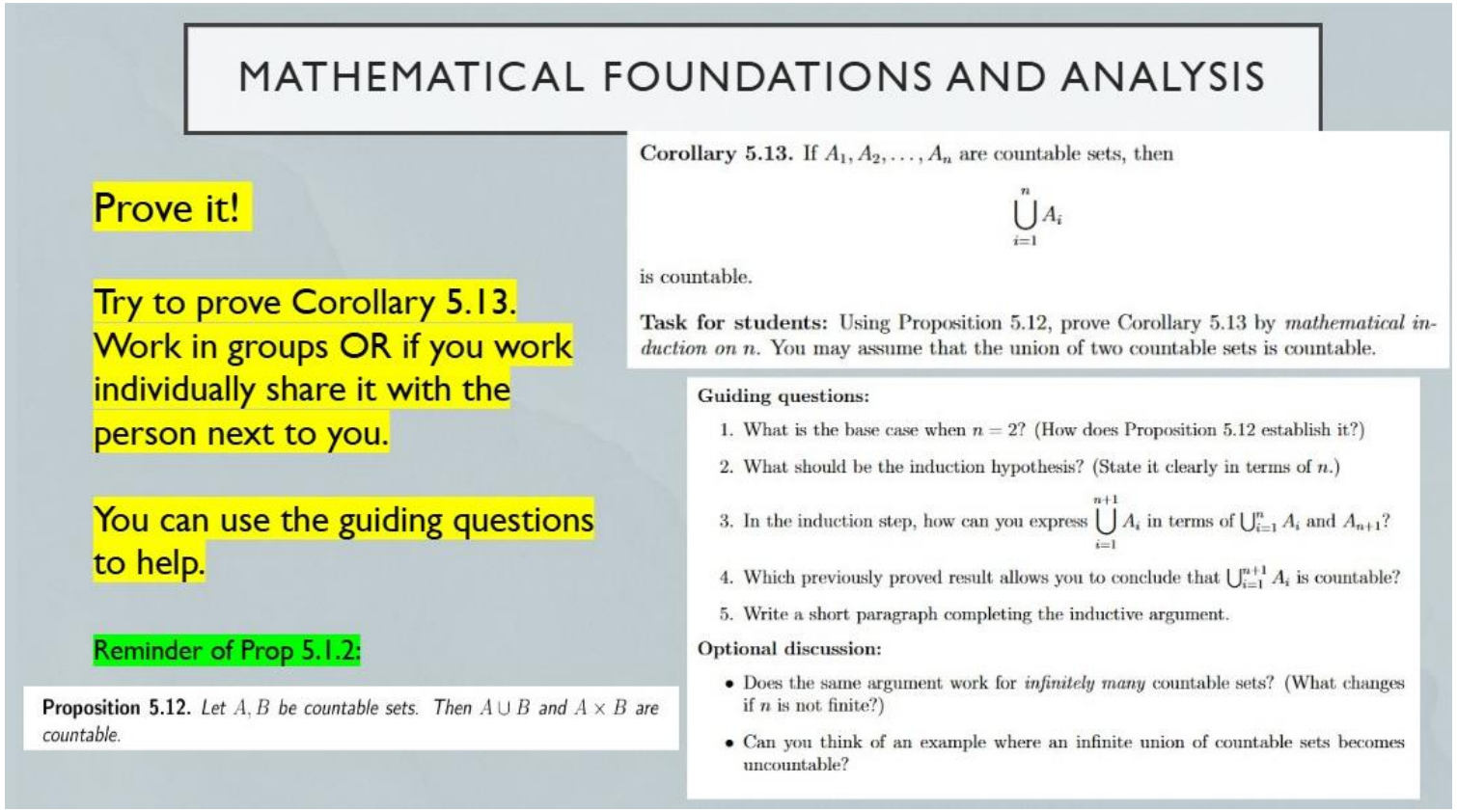
Leader training

- How to facilitate rather than teach
- Using questioning to guide discussion
- Encouraging self-explanation
- Supporting peer- and self-feedback

Weekly activity design

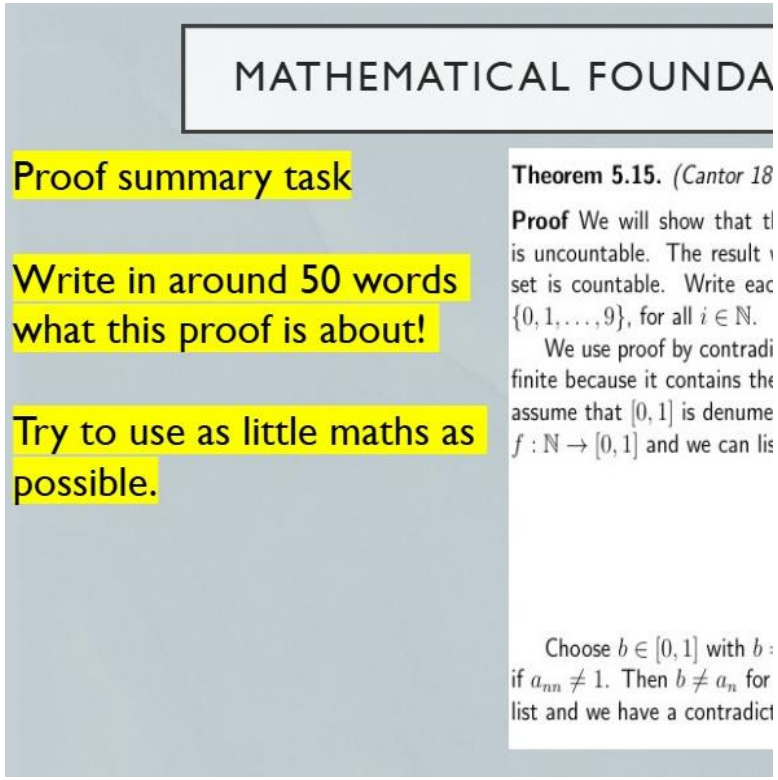
- Reviewed weekly Y1 course content
- Identified challenging concepts
- Adapted existing curriculum
- Reframed content using project-inspired activities

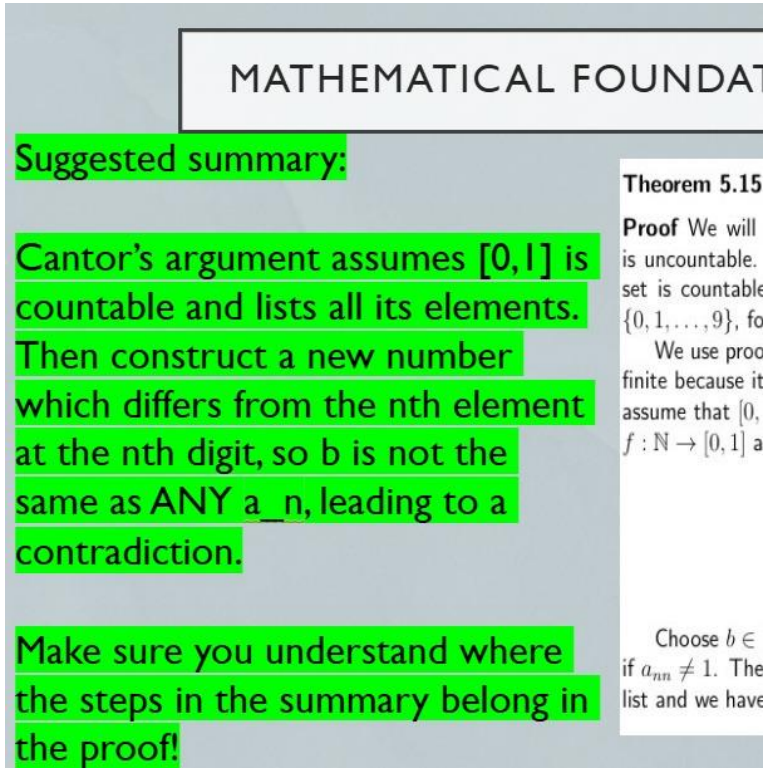
LEARNING THROUGH DISCUSSION



- Collaborative inquiry
- Guided instruction
- Scaffolding

LEARNING THROUGH COMPARISON





- Self-explanation
- Self-regulation
- Self-feedback

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EVALUATION

Recurring themes:

- Increased public speaking confidence
- Deeper understanding through explanation
- Stronger student connections
- Positive impact on PASSees

"The interactive and discussion-based format of PASS sessions should definitely be kept. Peer discussion helps students engage with the content and learn from each other in a supportive environment." - PASS leader

82% said the weekly materials made sessions significantly easier to run.

93% used the materials in every or most sessions.

89% reported increased confidence facilitating PASS.

96% said the materials influenced how they plan sessions now or in the future.

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LOOKING FORWARD

- Our SaP experience has been highly productive
  - Project based on pedagogy and discipline-specific research
  - Created scholarly-informed teaching materials
  - Shared knowledge about scholarship with PASS leaders & helped them develop facilitation skills

- Student reflections on SaP
  - Positive reflections
  - Critical/ constructive reflections

- Future use and dissemination
  - Sharing resources and ideas through Maths PAL-PASS Network (21 HEIs)
  - Sharing through Library contacts (Sonia)

REFERENCES

Students-as-Partners

Healey M., Flint A. and Harrington K. (2014) 'Engagement through partnership: students as partners in learning and teaching in higher education', *Advance HE report*.

Mercer-Mapstone, L. (2017) "A Systematic Literature Review of Students as Partners in Higher Education", *International Journal for Students as Partners,* 1(1), pp. 15–37. doi: 10.15173/ijsap.v1i1.3119.

THE MATHS EDUCATION PROJECT