

## Partnerships in Learning & Teaching (PLanT) Projects Application Form 2022-2023

Reference Number (CQSD use only): 003/2022

### Lead student contact details

Name: (student details removed)
School: Politics Economics and International Relations (SPEIR/ECONOMICS)
Degree programme: BSc Business Economics and Trade (NUIST)
Year group: 3
Email:

### Lead staff member contact details

Name: Dr Fangya Xu module convenor for the new consolidated part 1 20-credit maths related module <b>EC128 Intermediate Mathematics for Economists</b>
School: Department of Economics, School of Politics Economics and International Relations (SPEIR)
Email: <a href="mailto:fangya.xu@reading.ac.uk">fangya.xu@reading.ac.uk</a>

### How did you hear about the PLanT scheme? (tick all that apply)

I have applied previously	X	Email from CQSD	X
Staff portal		Word of mouth (staff)	X
Student Rep training session		Word of mouth (student)	
PLanT webpage	X	Other (please specify):	

### Project title

<u>Building Confidence in Maths and Communication</u>
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### Project team

Project team name: Confidence Boosters
Other members of the team (including students and staff) Include name, year group and degree programme of student partners
Student: (student details removed) Year 1 BA Economics More students are to be invited to participate in the project. Specifically, We plan to invite at least 5 volunteers among the 126 part 1 economics students (single honours as well as joint degrees) who take EC128 Intermediate Mathematics for Economists in the spring term and at least 5 part 3 NUIST BSc Business Economics and Trade students at Reading who have strong maths skills.

**Project description** (maximum 700 words in total)

**Describe the proposed project including the following:**

**Project outline and rationale**

What do you plan to do, why and how?

We plan to start a pilot scheme on boosting maths and communication confidence in students whilst fostering a stronger sense of belonging and community.

A global survey (Cuemath) in 2021 found that 10-17 year-old UK students have the most negative perceptions towards math and female students have the highest maths-related anxiety. In Economics over the years we have seen interested applicants often frightened away by the maths content in this subject. Among our economics students, a considerable number of them achieve unsatisfactory grades on mathematical economics modules. As such, they miss out on future placements and graduate schemes that require numerical and analytical skills.

On the other hand, every year we have dozens of NUIST students from Nanjing China transferring to Reading for the final part of their degree programme. The majority of them have achieved very good (70%+) to excellent grades (90%+) in maths. But they have other concerns such as having less confidence in communication and a weaker sense of belonging and community which could be related to the fact that some NUIST students chose to study in 4+0 mode completing the entire programme in Nanjing China rather than transferring to Reading in 3+1 mode\*.

Peer assisted learning method has been found useful in maths learning ( Duah et al., 2013<sup>ii</sup> and Cheng et al., 2009<sup>iii</sup>). We would like to experiment and see if the issues of these two groups could be alleviated by pooling their respective strengths together and benefitting from cross year and intercultural communications.

- i. In the past two years, the transfer rate has been 16/60 in 2020-21 and 23/65 in 2021-22, compared to almost 100% in previous years when the 4+0 mode was not permitted.
- ii. DUAH, F., CROFT. T. and INGLIS, M., 2013. "Can peer assisted learning be effective in undergraduate mathematics?" *International Journal of Mathematical Education in Science and Technology*, 45 (4), pp.552-565.
- iii. Cheng, Dorothy and Walters, Matthew, "Peer-assisted learning in mathematics: An observational study of student success", *Journal of Peer Learning*, 2, 2009, 23-39.

How will students work as partners with staff in the design and delivery of the project?

We have two student partners, one part 1 BA economics student and one part 3 NUIST student. We met at the Welcome Week academic tutoring meeting for the first time and continued discussions on this idea either in person or via emails. They have contributed to the design of the application with suggestions and comments.

We will invite EC128 students (part 1) who feel less confident in maths but are reasonably good at communications and NUIST students (part 3) who are strong in maths but would like to sharpen up their communication skills into this project. With student partners helping and organizing, student volunteers will take part in paired activities to share their maths learning experience, reflect on their learning journey and help on sharpening maths and communications skills. Student partners will lead focus groups before and after the project to encourage open and honest discussions/feedback as well as keeping an eye on the running of the project.

How does the project support strategic priorities within your School/Department and the University's [Strategic Plan 2020-2026](#)? (If your project is focussed on decolonising the

curriculum, please indicate this here and outline how it aligns specifically with the University's strategic focus on equality, diversity and inclusion.)

This project supports strategic priorities within our School/Department on Learning Community, specifically on “continue efforts to develop a strong learning community in the Department and the School” and “Employability: Increase the quality and uptake of careers and placement provision across the school”, (cited from school STEAP).

It is also consistent with the University's Strategic Plan 2020-2026's Principle 1 Community. In particular, it is highly relevant to KPI-2 “to improve from Second quartile (32nd percentile) to Top (fourth) quartile (i.e. 75th percentile or above) on National Student Survey: ‘I feel part of a community of staff and students’ (Question 21).”

### **Impact and sustainability**

What does success look like? What are the anticipated benefits of the project for students, staff, department/school, institution etc?

- **Objectives** – What exactly are you hoping to achieve?

Through student-led focus groups and paired activities,

- ❖ to boost part 1 economics students' confidence in maths
- ❖ to boost confidence in communication among part 3 NUIST students
- ❖ to develop a stronger sense of belonging and community among these two groups
- ❖ to enhance inclusive practices in the department/school, supporting a changing and diverse student body.

- **Outputs/deliverables** – What will be created as a result of the project?

- ❖ A report on students' reflection on experience and feedback from taking part in this project, some of which will be anonymised and shared with NUIST.
- ❖ A short research article based on the project submitted to relevant outlet(s) such as *Higher Education*.

- **Outcomes** – What will change because of the project?

- ❖ Students will increase their confidence in maths and communication whilst developing transferrable skills such as leadership, organisation and communication during the whole process.
- ❖ Strengthened sense of learning community will also help students to be more engaged in their studies and to achieve better academic results which in return will help retention rate.
- ❖ Increased confidence and attainment in mathematics could have impact on uptake of placements and graduate schemes that require numerical skills.
- ❖ Improved student satisfaction can marginally improve NSS scores for Economics.

When do you anticipate that you will be able to demonstrate this impact?

By Summer 2023, we anticipate to see outcomes (impact) in the end of project survey, in the exam results for EC128 Intermediate Mathematics for Economists, and in the feedback from NUIST students on their sense of learning community and belonging either informally or formally at Student-Staff Partnership Group meetings, and in the provisional NUIST transfer rate for 2023-24. We also anticipate to see some impact on NSS score (learning community questions: 21. I feel part of a community of staff and students. 22. I have had the right opportunities to work with other students as part of my course) for economics in a couple of years.

Outline plans for project-related activities to continue beyond this PLaNT project and/or for project outcomes to be realised in a sustainable way.

With lessons learned, we plan to establish this PAL scheme in EC128 Intermediate Mathematics for Economists for future cohorts. We may apply to another teaching and learning scheme to launch a cross programme project so other NUIST programmes can take part in the experiment and benefit from the experiences and lessons learned from this pilot scheme.

### **Evaluation and dissemination**

How will you know the project has been a success? What are your success criteria?

1. Successful completion of the focus groups and paired activities
2. Improved maths results for part 1 students
3. Increased sense of confidence in communication for part 3 students
4. Increased sense of belonging and community amongst participants

How will you evaluate each success criterion? How will students be involved?

These criteria combine both subjective and objective evaluation and each focuses on students, their participation in activities, their perceptions and reflection, as well as their academic performance.

For criterion 1: Completion rate of each pair will be calculated, compared and discussed by student partners and staff.

For criterion 2: We use module marks (presentation marks as well as exam marks) and module evaluation compared to past results to measure changes in confidence in maths and communication for part 1 students.

For criterion 4: self-evaluation of confidence levels in the before and after surveys of the project can tell us changes in confidence levels among part 3 students.

For criterion 4: Feedback from part 1 and part 3 participants in the before and after surveys of this project can tell us changes in perceptions of learning community and confidence levels for both part 1 and part 3 groups.

How will you disseminate project outcomes? How will students be involved?

Students co-create content of the report and they can take part in research writing and become co-authors. We will share the report with colleagues in the Department/School, the NUIST-Reading Academy and more widely across the University. For example, we aim to take part in RUSU Partnership in Teaching & Learning Showcase and write an article on the T&L Exchange.

**Word count: 698 (excluding original questions, direct quotes and references)**

**Project start date: 16<sup>th</sup> Jan 2023**

**Project end date: 24<sup>th</sup> April 2023**

### **Budget details**

Brief outline of project activities	Activity start date and end date	Approximate costs associated with the activity.
		<p>(Note: All claims and/or expenses need to be arranged before 30<sup>th</sup> June 2023)</p>

Student focus groups, one at the beginning and the other at the end chaired by student partners. Beverages and snacks will be provided	W/C 16 <sup>th</sup> Jan 2023: Focus group W/C 24 <sup>th</sup> April 2023: Focus group	£5 per student for approximately 12 students (2 student partners and 10 participants)  Each focus group=£60 £60 X 2 focus groups=£120
Student partners organise and run the project	Jan-April	2 student partners* 10 hours each* 10 pounds per hour=£200 (Approximately £10 per hour based on the Campus Jobs framework)
Student partners to co-design code of conduct with staff partner; Paired activities. 5 part 3 students and 5 part 1 students. 1 hour per activity. Sharing reflections/experiences, providing maths support and improving communication	Jan- April	Maths advisors (part 3 NUIST students): 5 advisors * 5 paired activities each (duration: 1 hour)=25 hours. £10 X 25 hours=£250. (will also advertise using campus jobs)
Notes: 1. Student registration for most conferences costs hundreds of pounds and hence does not fit in the budget but other sources of funding will be explored, for example, SPEIR surplus fund. 2. Journal submission fee will come from staff SDA account.		

**Total funding applied for £570**

<b>Signature of lead student</b> (student signature removed)	<b>Signature of lead staff member</b> <i>Xu Fang Yu</i>
<b>Date 09/11/2022</b>	<b>Date 09/11/2022</b>

Applicants must convert the completed application into one pdf file and submit this electronically to Martin Wise ( [m.wise@reading.ac.uk](mailto:m.wise@reading.ac.uk) ) by 17:00 on the day of the submission deadline.