

Research Space
Conference paper

Leading transformation in ITE teaching within the EI consortium

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Leading transformation in ITE teaching within the EI consortium

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Research Fellow
Consortium Lead*



Research has shown a systematic gap in students' ability to connect knowledge across disciplines due to compartmentalised curriculum

We hypothesise that our research-based resources will close gaps in students' understanding/knowledge

My role as a consortium lead

- ✓ Building relationships through sharing vision and knowledge
- ✓ Reaching out for new partners
- ✓ Leading embedment of epistemic insight into ITE curricula
- ✓ Supporting consortium partners through CPD, co-creating resources, delivering events, regular consortium meetings and conferences
- ✓ Leading research data gathering



Consortium Partners



Biology Education
Research Group (BERG)
Special interest group of the
Royal Society of Biology



What do we do?

- ✓ We **embed** EI in ITE curricula – transformational teaching and learning
- ✓ We **collaborate** across the consortium
- ✓ We **co-create teaching resources** and research **instruments**
- ✓ We **co-create sessions and events** – consortium members and LASAR team members
- ✓ We **involve students in co-creation** of research via epistemic insight sessions
- ✓ We **gather research data which informs** the activities further
- ✓ **Bespoke sessions** depending on tutor experience and student needs (curriculum, specialism, level – postgraduate, undergraduate, primary, secondary)

Consortium - part of Epistemic Insight Initiative (PI - prof Berry Billingsley)

Consortium Lead – Dr Aga Gordon



Support from the team and across the consortium



Making it work – project level

- ✓ Build shared vision, values and goals
- ✓ Have a communications strategy
- ✓ Challenge assumptions
- ✓ Be flexible and ready to change – agile PM
- ✓ Do a pre-mortem – anticipate problems before they start (plan for what might go wrong)
- ✓ Involve tutors and students in planning and co-creation
- ✓ Understand different styles; patience and resilience

Making it work – organizational level

- ✓ Build shared values and goals
- ✓ Provide resource – time, space and money, feedback, support
- ✓ Have a go – fail fast, try again!
- ✓ Share experiences
- ✓ Review progress
- ✓ Look outwards

- ~**1000 baseline surveys** gathered across **12 institutions**
- **18 tutors** engaged ;
- Epistemic Insight embedded in the teacher trainee programmes (PGSE (Primary and Secondary), BA

**Consortium
yr1 and yr 2**



- Co-create research
- produce educational or research output (Digest, blogs, Zenodo
- present at the CCCU Scholarship Day/conferences
- Experience innovative and interactive education

Our students



- ~**400 surveys** pre and post surveys gathered through consortium events at University of Hull, University of Roehampton, University of Leicester, Leeds Trinity University.

**Consortium
activities 2022**



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Advantages of working within consortium

- ✓ Collectively developing and carrying out research (richer and bigger sample)
- ✓ Co-creating and co-refining resources
- ✓ Knowledge exchange (learning different styles, experiences, gaining knowledge)
- ✓ CPD
- ✓ Collectively contributing to knowledge creation
- ✓ Collaboration across the consortium

Challenge – get a buy-in; fitting EI into busy courses with heavy workload



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University of Hull – co-created and co-delivered with Paul to a cohort of 70 Primary Science teacher trainee students

Non-science specialists

Sessions:

- ✓ Spinner, Clouds – developing students' confidence and providing them with hands-on resources in teaching scientific enquiry
- ✓ Putting epistemic Insight into practice with students' own Big Question and exploring through a variety of disciplines using a discipline wheel.

University of Hull –examples



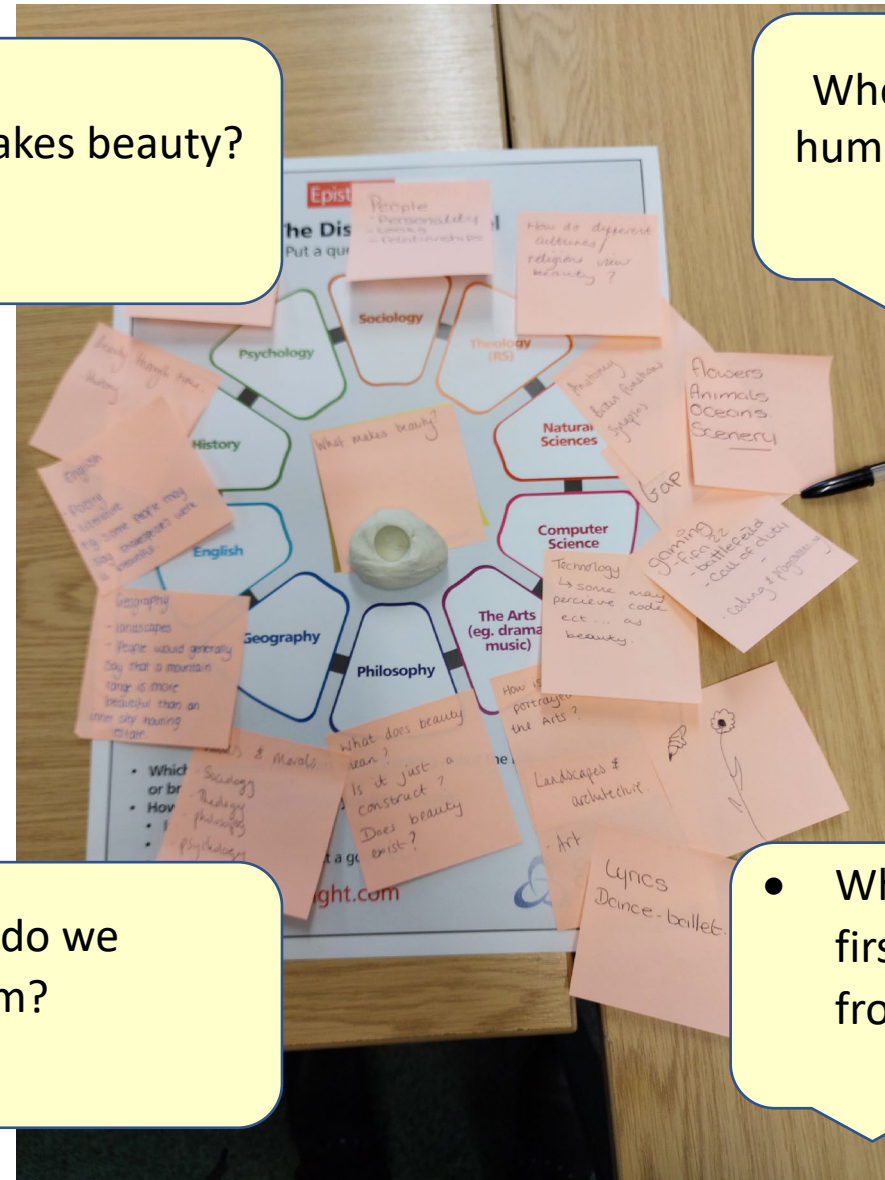
Spinner card

What makes beauty?

Where did the first humans come from?

- Why do we dream?

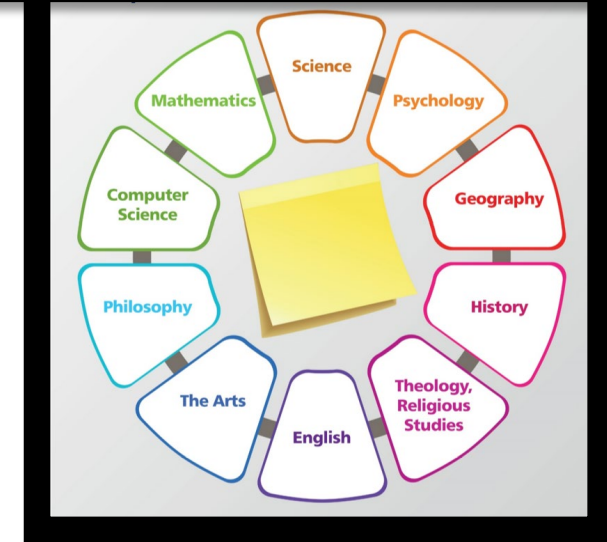
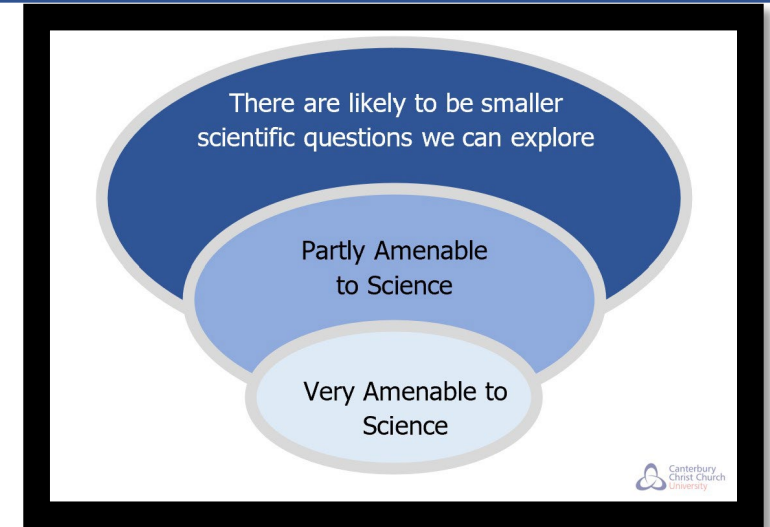
- Where did the first human come from?



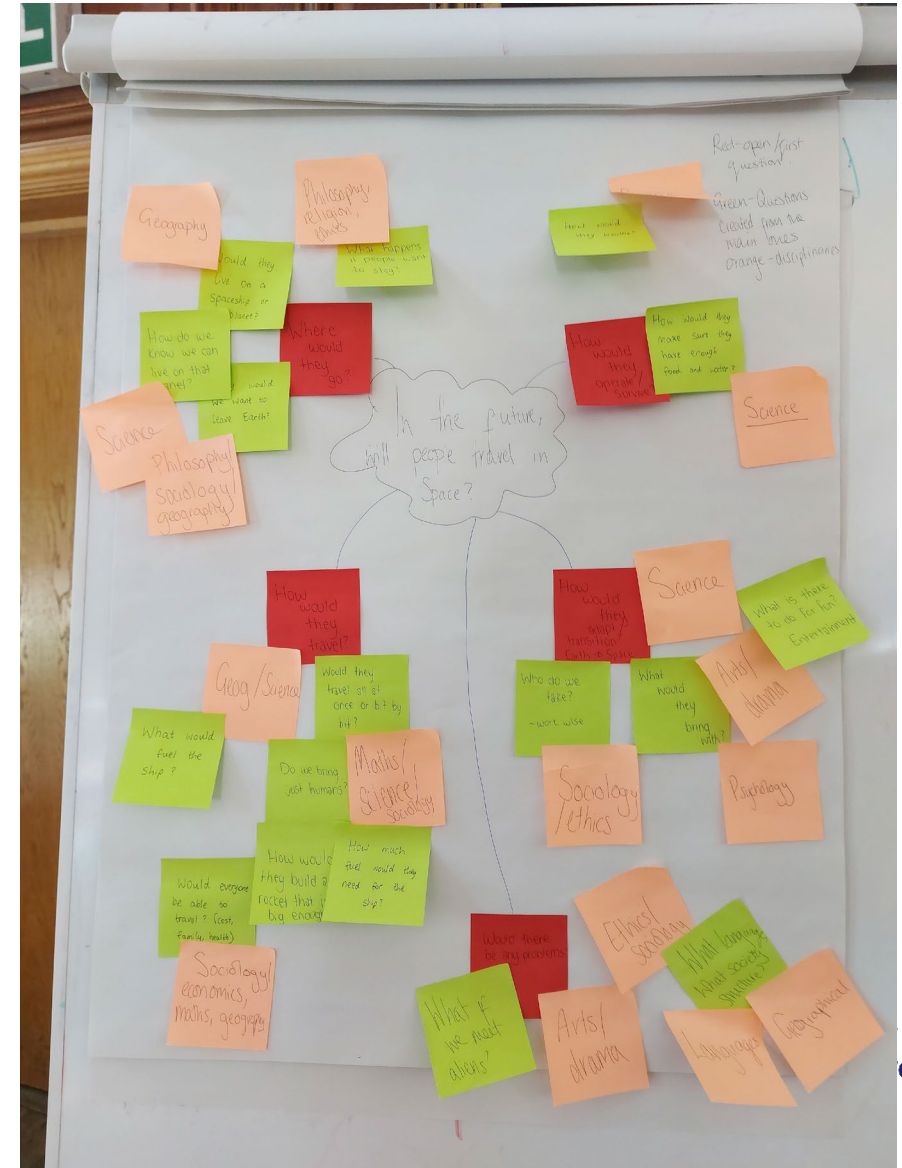
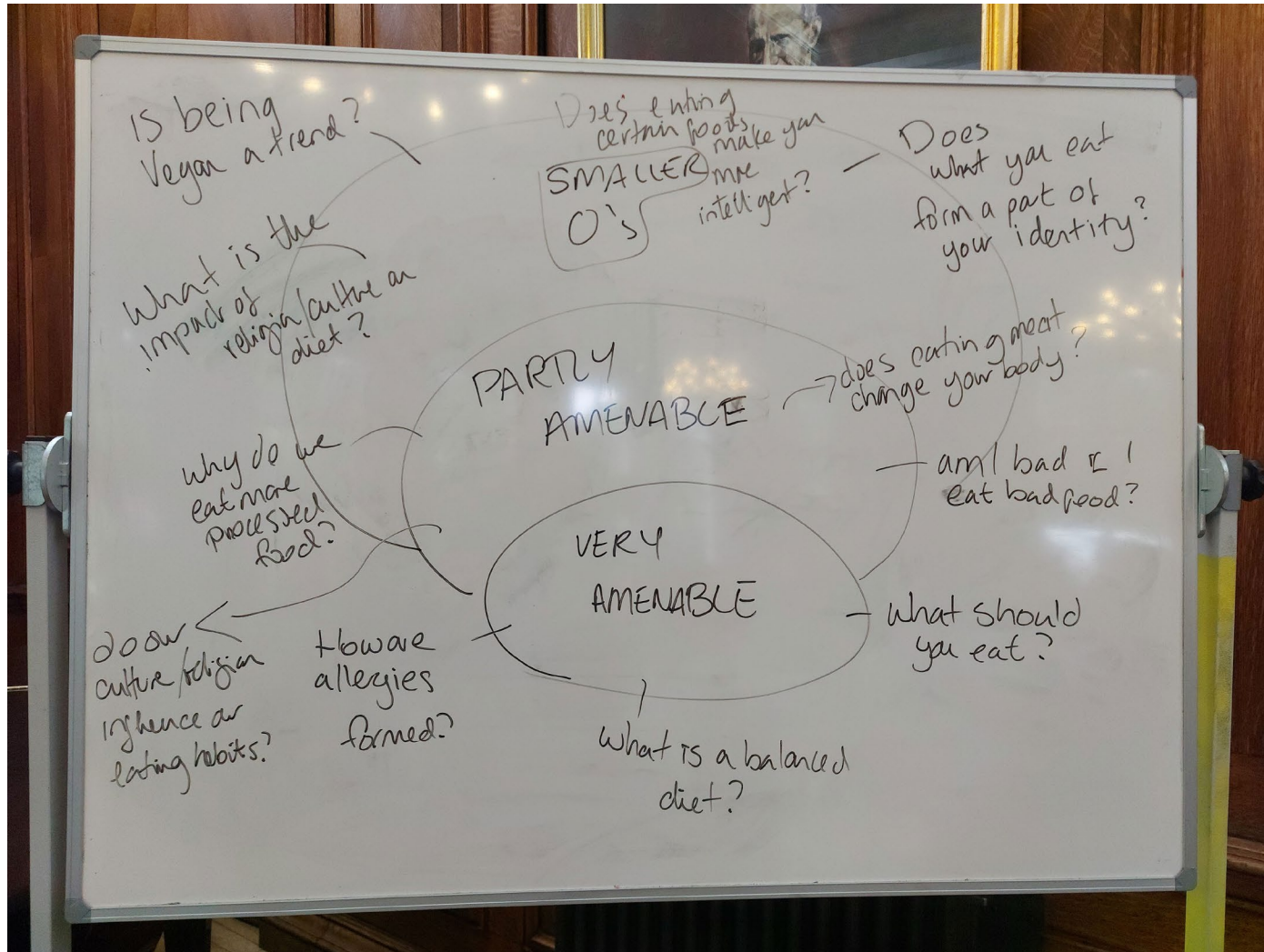
University of Roehampton – co-created and co-delivered with the LASAR team and Arif to a cohort of 50 BA Education students

Sessions:

- ✓ EI intro, tools and strategies;
- ✓ interactive sessions using EI tools exploring questions – how is tea made (**discipline wheel**), are you what you eat (**bubble tool**) and in future will we travel in space (**learning wall**)?



University of Roehampton – few examples



Sessions with colleagues – few examples

University of Leicester– co-created and co-delivered with Adrian and Rob to a group of secondary science PGCE, mainly science specialists

Sessions:

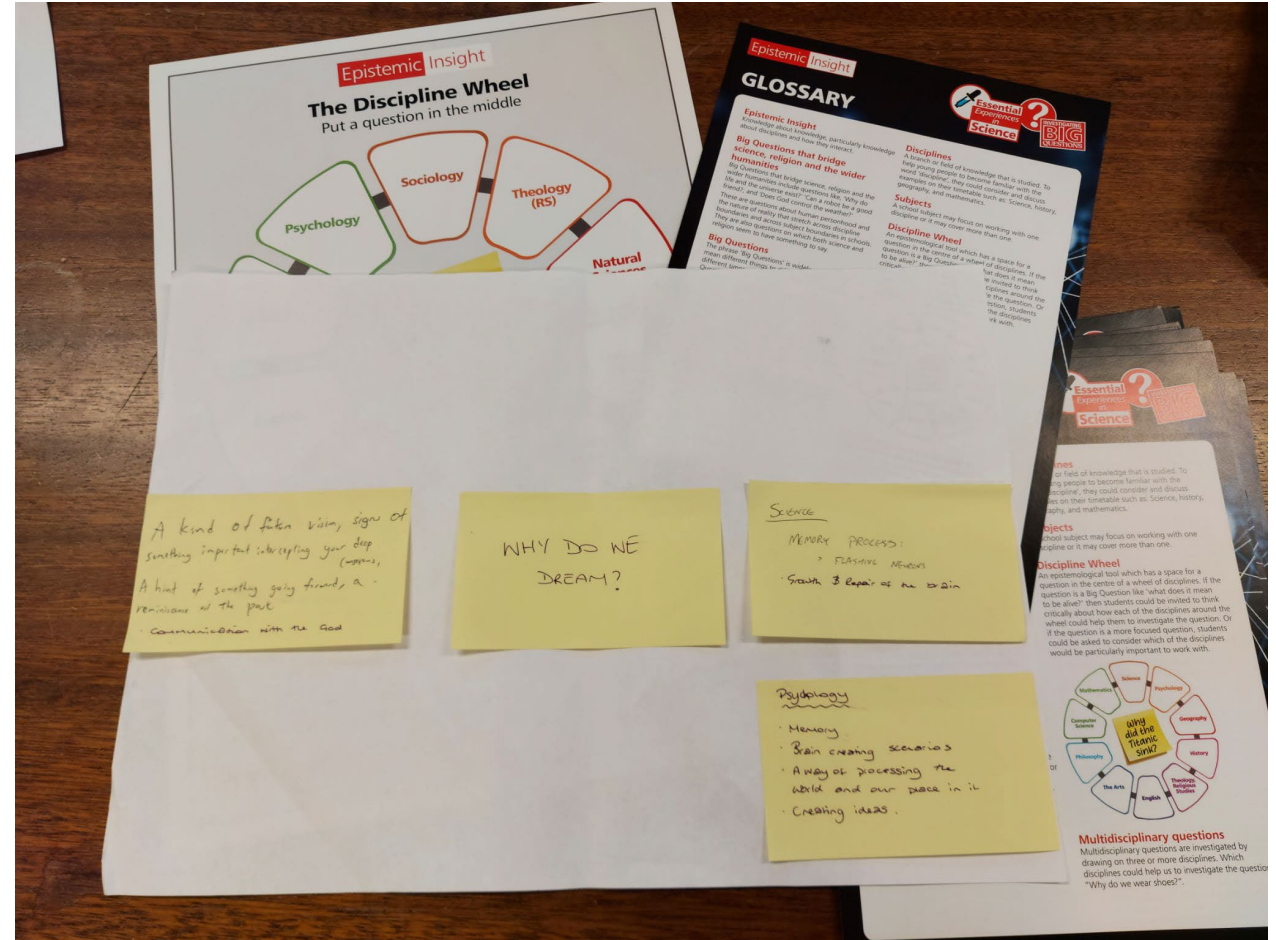
- ✓ EI intro, tools and strategies;
- ✓ interactive sessions exploring Big questions – why did titanic sink, are you what you eat
- ✓ workshops: ‘Saviour Siblings’ and ‘Can a robot be alive?’
- ✓ Students’ own multidisciplinary question explored using DW



Students made videos on **how being more epistemically insightful can enhance their teaching and the pupils’ learning about the big questions that cut across disciplines** - Adrian



University of Leicester



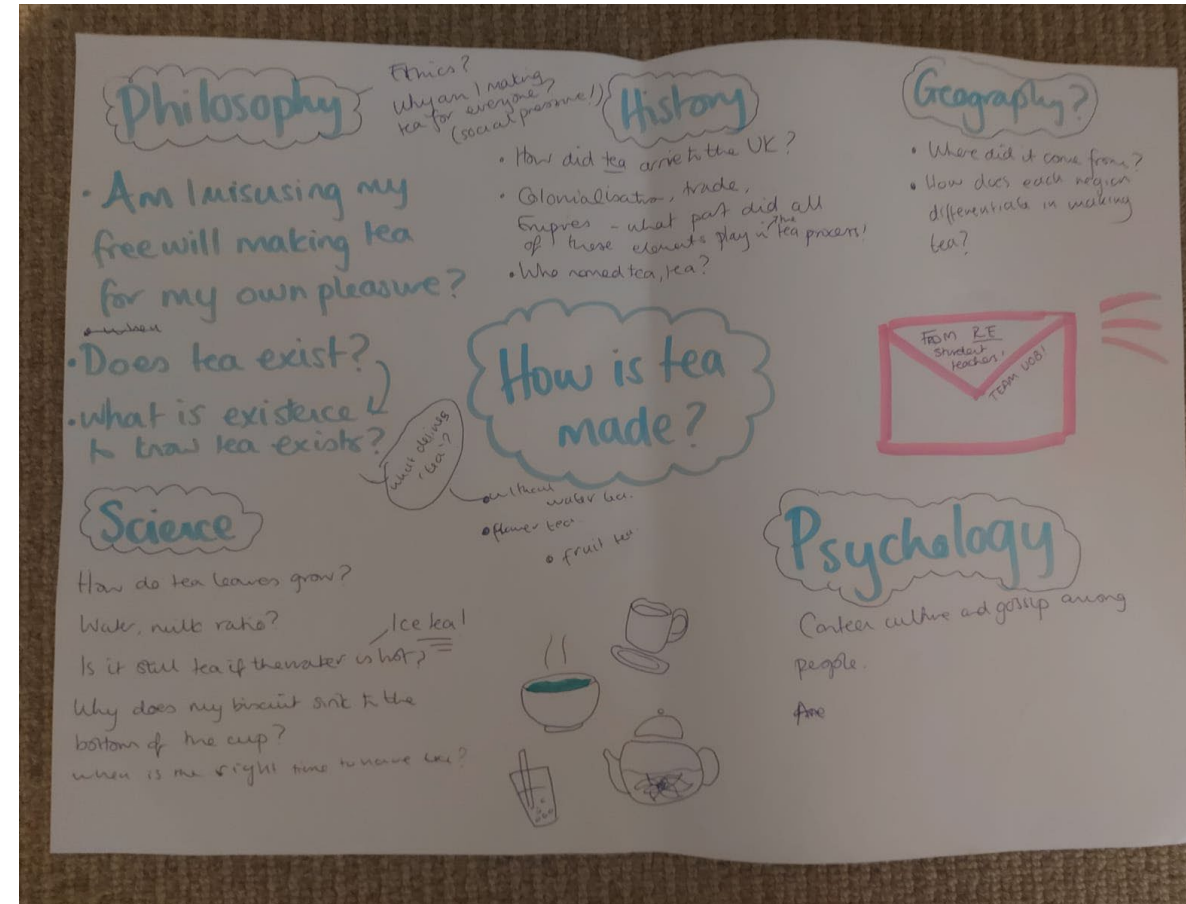
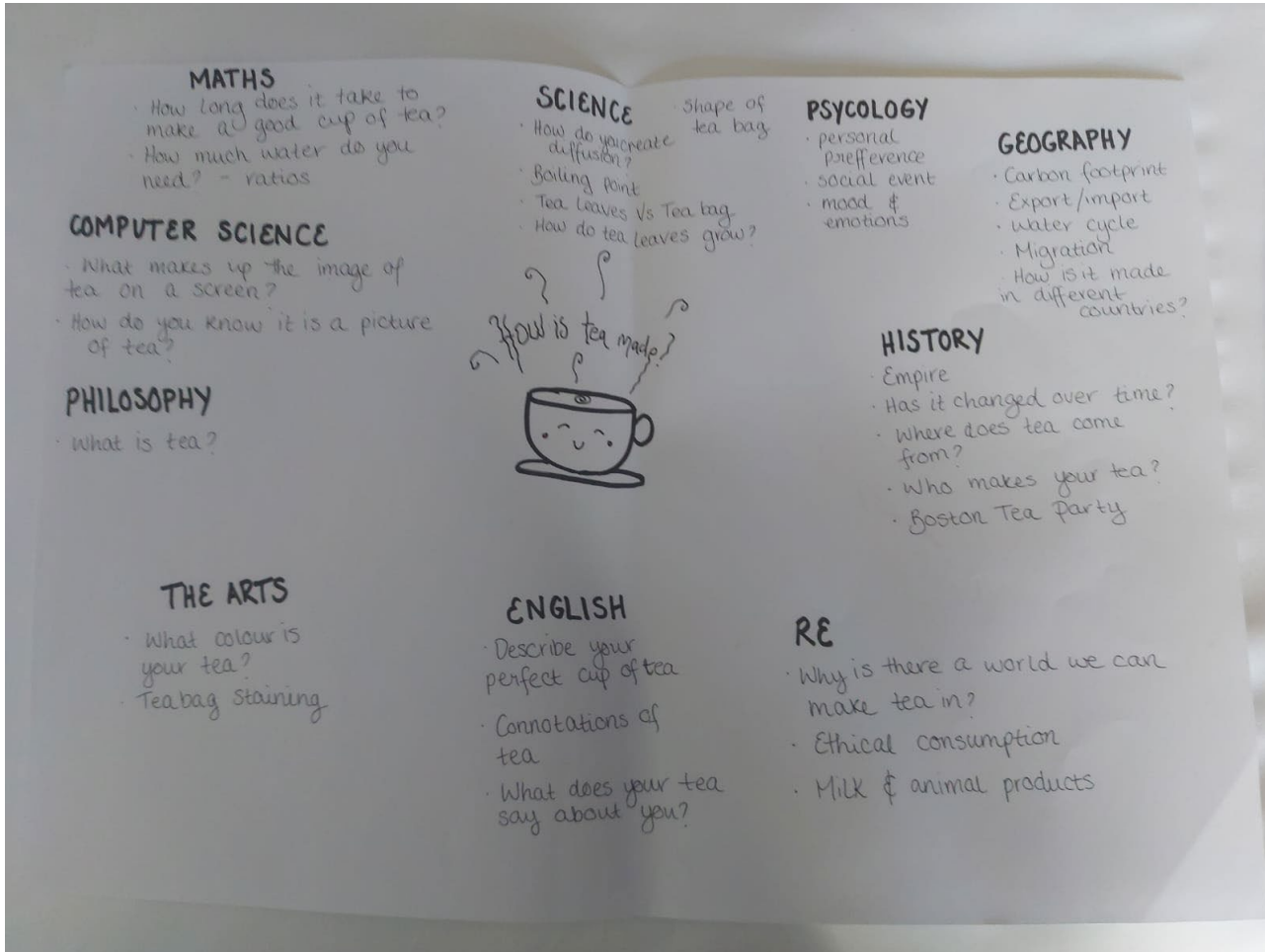
University of Birmingham– co-created and co-delivered with Josh and Sarah to a group of secondary PGCE, specialisms included – history, geography, physics, chemistry, biology and RE

Sessions:

- ✓ El intro, tools and strategies
- ✓ interactive sessions exploring Big questions – how is tea made, titanic
- ✓ sustainability workshop – exploring marine population decline

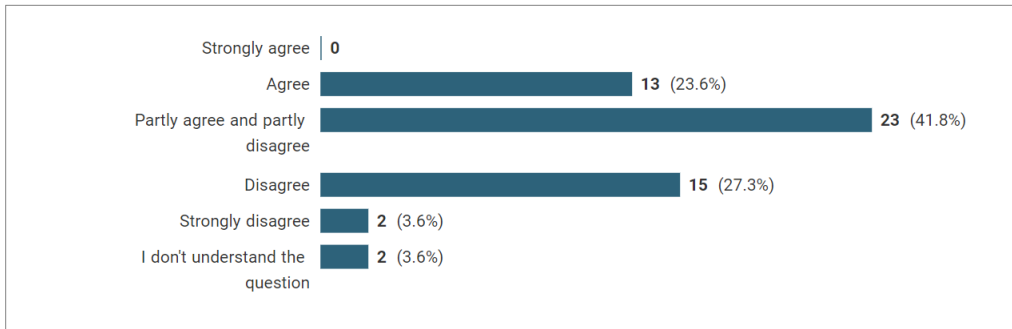


University of Birmingham



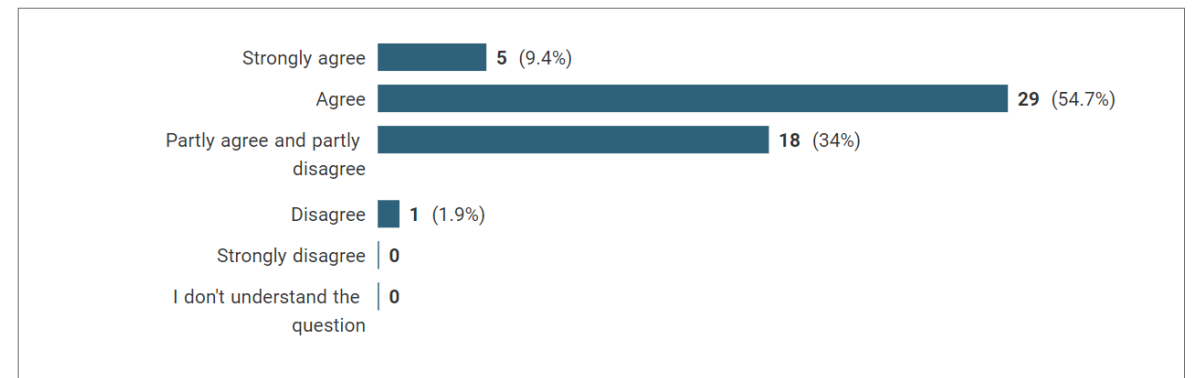
I can explain the distinctive strengths and limitations of a range of disciplines

21 I can explain the distinctive strengths and limitations of a range of disciplines.



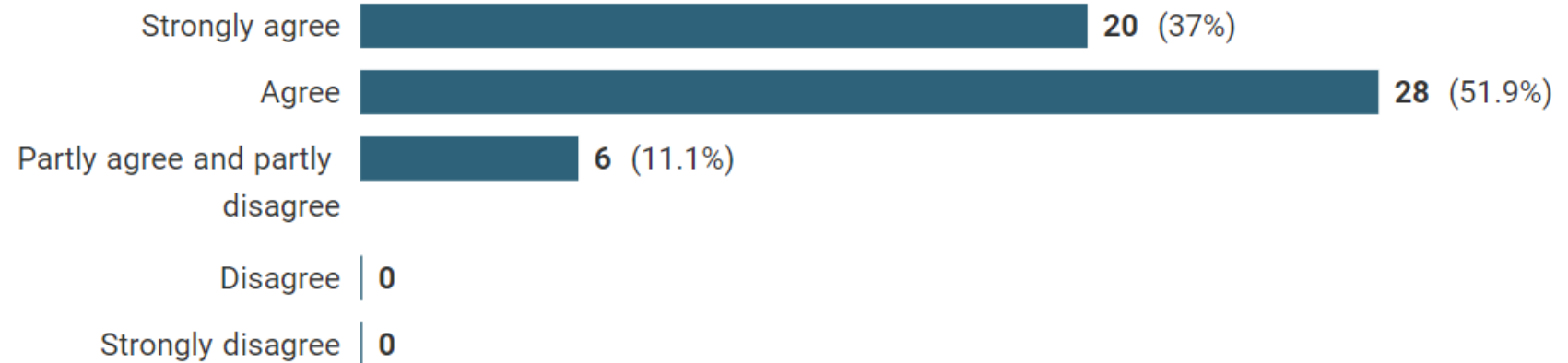
Change in trainee teachers understanding of strength and limitations of disciplines

24 I can explain the distinctive strengths and limitations of a range of disciplines.



Students express confidence in using interdisciplinary approach to address BQ

20.4 My teaching will explain how disciplines can work together to address a Big Question



Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

Transforming students' learning and the way they teach

Has learning about epistemic insight changed your understanding of teaching - if so, how?

Yes, I am now more aware of how disciplines interconnect and its important to not use a separate way of thinking to address each discipline

Yes, it has made me understand how it links to practice and how it supports other areas when thinking of big questions.

Yes, clearer understanding of the term epistemic and how this relates to primary teaching. Especially enjoyed considering 'big questions'.



It has given an insight as to how to tackle the 'big questions' and we don't always know the answer to everything.

Yes, that never limit a child's understanding of one topic. Instead, allow them to correlate more than one topic together.

Yes, as it has shown how certain inquiries can be linked to multiple subjects and how wider knowledge is fundamental.

Photo: Paul Hopkins



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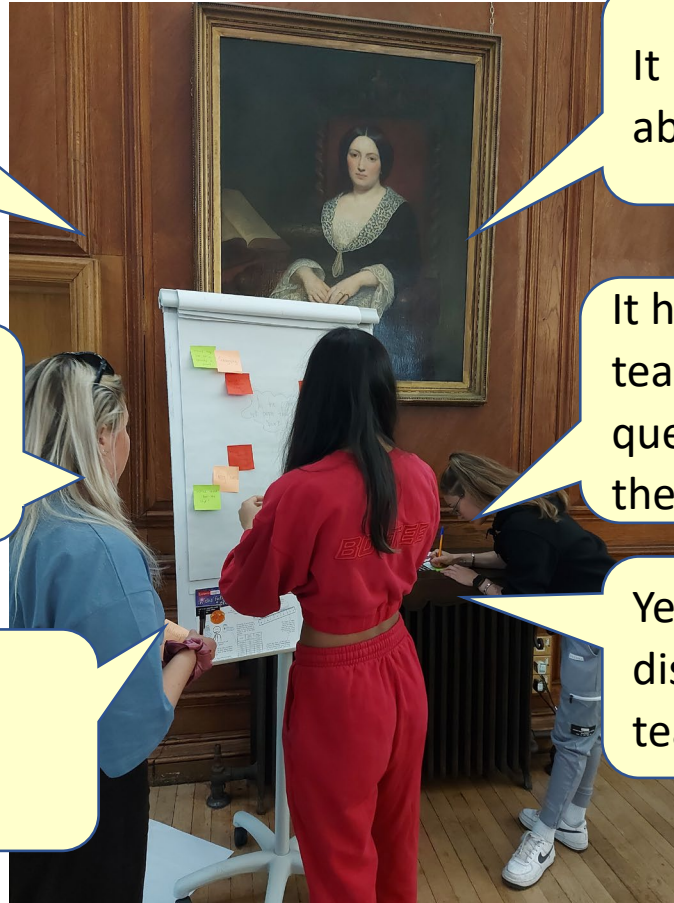
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Has learning about epistemic insight changed your understanding of teaching - if so, how?

Learning how to encourage children to make links with other disciplines

Yes it has shown me how different disciplines can be linked and used in the classroom as activities to encourage broad

Yes! Epistemic insight can encourage cross-curricular + I know what discipline means



It is important to link subjects and talk about and engage with bigger questions

It has changed my understanding of teaching by understanding what types of questions can link to multiple subjects in the curriculum

Yes it has shown me how different disciplines interlink and can connect when teaching



Feedback from students (science specialism)

Has learning about epistemic insight changed your understanding of teaching - if so, how?

Yes – it is clear the linking of subjects together

The importance of cross-curricular thinking in developing critical thinking

Teaching can be more through different lenses



Yes, allows me to be able to consider other perspectives in a metacognitive way

Many concepts in my subject have links to other subjects/disciplines

Yes it has made me to see the importance of remembering that other subjects exist and are just as important as science

Which disciplines can inform your thinking about the big or bridging question?
How would the discipline(s) you have chosen:
• Interpret the question?



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Has learning about EI encouraged you to think about including multidisciplinary teaching in your practice?

97 % answered YES to the question

- ✓ Yes it has. It has opened up the ideas for open-ended tasks that are multidisciplinary and have no right or wrong answer. I would like to use these in the classroom.
- ✓ Yes engaging children to think about various questions, explore big ideas
- ✓ Yes it showed me the value of linking subjects and allowing children to look at questions from different lenses
- ✓ Yes I can see the benefit of using more than a subject to answer a question
- ✓ Yes cross-curricular learning is important and can engage children in different ways
- ✓ Yes encourages me to think about how big questions can expand a child's learning
- ✓ Yes – how can I enable children to think 'bigger' Yes – how cross-curricular learning can lead to more enriched ideas



Has learning about EI encouraged you to think about including multidisciplinary teaching in your practice?

- ✓ Yes it has because it is interesting and thought provoking
- ✓ it has, where possible in curriculum I will try to include EI
- ✓ yes I believe that multidisciplinary teaching can help of teaching and understanding of both disciplines
- ✓ yes all knowledge cannot be considered in a vacuum. It is considered from a viewpoint through various lens.
- ✓ I really enjoyed talking about the philosophical ideas so I think my students would enjoy it too.
- ✓ Yes helps to view teaching from other perspectives
- ✓ Yes because there are some questions that can only be explored using other disciplines



Students' feedback from the sessions

- ✓ I really enjoyed today's session and found it very insightful
- ✓ Great engaging session, good range of activities
- ✓ Curiosity about asking big questions
- ✓ Very insightful , it was very engaging
- ✓ It was beneficial. If the same/similar language was used that was in the taught course (ie cross-curricular links) it would have aided my understanding initially.
- ✓ It was fun to explore large questions with a freedom of a child
- ✓ Enjoyed
- ✓ Interesting! Good examples to bring in class
- ✓ It was enjoyable and surprising
- ✓ Very informative and useful



- ✓ Hull – useful for those without scientific background to practice, get resources and get confidence in scientific enquiry, also explore Big Questions and learn how to link knowledge across disciplines, what questions to ask, how to explore via particular disciplinary lens
- ✓ Leicester – beneficial to show science specialists that humanities and social sciences are useful to include to get a richer answer. Initially dubious how it could fit the curriculum
- ✓ Roehampton – working with epistemic insight tools in a multidisciplinary way. Students' found the session 'beneficial and insightful'
- ✓ Birmingham – unique experience for students to work with other disciplinary specialists to explore BQ , developing appreciation of interdisciplinary work and unique way disciplines work (questions, methods, norms od thought), linking knowledge and teaching students that way.
- ✓ More 'usual' way of working for RE specialists, but still useful to show them how science works and how adding it to the mix can enrich the answer



- ✓ Epistemic Insight sessions enrich and transform ITE curriculum
- ✓ Epistemic insight tools help to bring multidisciplinary perspective and enrich answers to Big Questions
- ✓ Epistemic insight inspires students to explore big questions and problems in a more holistic way
- ✓ Epistemic insight sessions have impact on students' thinking, creativity, inspires curiosity and transforms the way they learn and teach



- ✓ Expand research and teaching partnerships within ITE and HE
- ✓ Involve 'consortium' students into research projects
- ✓ Seek funding for further joint projects

The consortium partners will share their insights from the practitioner point of view in the next session.

Over to Adrian 😊



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The LASAR team

