

**Research Space**

Conference paper

**Insightful teaching – what role is there for research co-creation as professional development?**

**Lawson, F. and Lawson, M.**

# Insightful teaching – what role is there for research co-creation as professional development?

**Authors:**

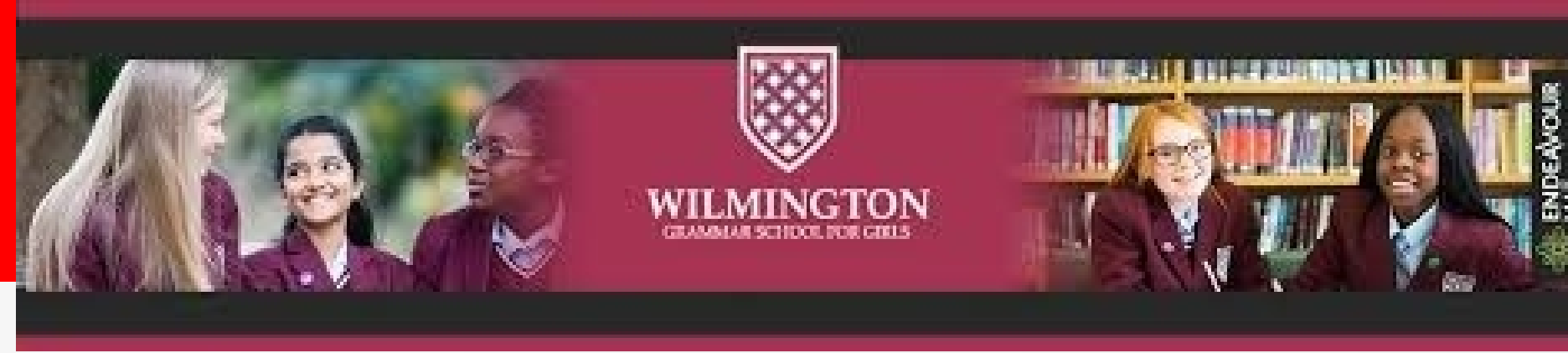
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# Developing a co-creation research partnership





- Responding to Ofsted and OECD for students to be equipped in understanding knowledge formation within and across disciplines
- How do you know what you know?
- What do you do with the knowledge you have?
- What ensures that students learn more and remember more?



# Co-Creation Partnership Process

University  
Research Centre

- Research evidences systematic challenges to students' ability to navigate compartmentalised curriculum
- Hypothesis testing approach – explicit teaching into gaps will lead to shifts in students' knowledge and/or attitudes

URC Research  
Recruitment

- Started recruitment process for schools to participate in in URC-led CPD then deliver interventions
- Alongside DBIR model seeking case study schools
- Shared vision/ investment in tackling the research-identified challenge

School  
Implementation

- SLT “buy in”
- Core team (10 teachers) receive URC-led CPD then co-design curriculum (implementation); Curriculum delivered by 7 SLT
- School level student data shared back to school
- School staff supported through partnership with URC to take the research questions further



# Developing a Curriculum



**ep-i-ste-mic in-sight** (əp'ɪ-stē'mɪk ɪn'saɪt')

Epistemic insight refers to 'knowledge about knowledge', and particularly knowledge about disciplines and how they interact.

Gaining epistemic insight is about developing an appreciation of the strengths and limitations of individual disciplines. One way to do this is to explore how two disciplines each investigate a cross-disciplinary question. Consider for example how science and history can each investigate 'Why did the Fire of London spread so quickly?'

**BIG QUESTIONS**

Today's Big Questions include:

- Can a robot be a good companion?
- Can and should genetic engineering be used to make better people?
- Why do life and the universe exist?
- What is human "personhood"?

It can feel like there isn't a place to explore these big questions in school because they don't neatly fit in one (or two) subjects. They are often questions that ask us to consider the places where science, religion and other areas of knowledge interact.

And yet these are questions where great advances are being made and where outputs affect the lives of individuals and society.

**WHY?**

In this course you will compare how different disciplines ask and investigate questions

How do you think different disciplines will inform your thinking about this question?



**LEARNING REVIEW**

I am confident 😊 I'd like further support 😐 I don't understand 😞

**I am being epistemically insightful when:**

I can sort small questions that can be answered by science from bigger questions that require one or more other disciplines..... 😊 😐 😞

I can explain how science and theology help me to investigate a Big question about the nature of human personhood..... 😊 😐 😞

I understand that some questions are more amenable to science than others..... 😊 😐 😞

I can explain that science and theology have different methods and norms of thought..... 😊 😐 😞

**Homework Task**

The natural sciences (biology, physics, chemistry, geology) and theology aim to interpret our world and our experiences of it. They differ in their methods of investigation, their interpretation of the question and (sometimes) the questions they ask.

Read the abridged article written by two physicists. Based on what you have learnt in this lesson and the two articles (you can do more research if you wish) answer the following question.

**"Science can provide all the answers needed to explain the origins of life and the universe" To what extent do you agree with this statement?**

Remember to refer to the preferred methods, questions and norms of thought (values) for science and theology in your answer.



# Developing a research-engaged school (in partnership)



# From 17 staff to a Whole school



PLC- Professional Learning Community  
URC – University Research Centre



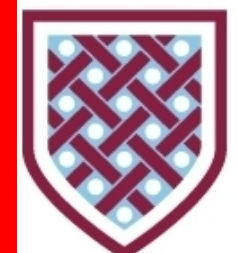


# But What About the Original Project?

- 2<sup>nd</sup> year of delivery on the original project – still informing URC research (through implementation research, data evidence and staff suggestions)
- Year 8 development project led by NEW planning team
- Year 12 elective exploring the same curriculum for comparable data set (delivery by original planning team teacher)
- Exploring independent Year 9 accredited qualification delivered by school scholarship lead

## Reality?

- Transformational learning and ethos in school (in 2 years)
- Led by teachers with shared (enthusiastic) vision
- New challenge – embedding the original vision and not scattering to the four corners!



# Interim evidence of impact, & next steps



What has surprised you regarding student engagement?

**“the level of thinking and complexity that young children can access”**

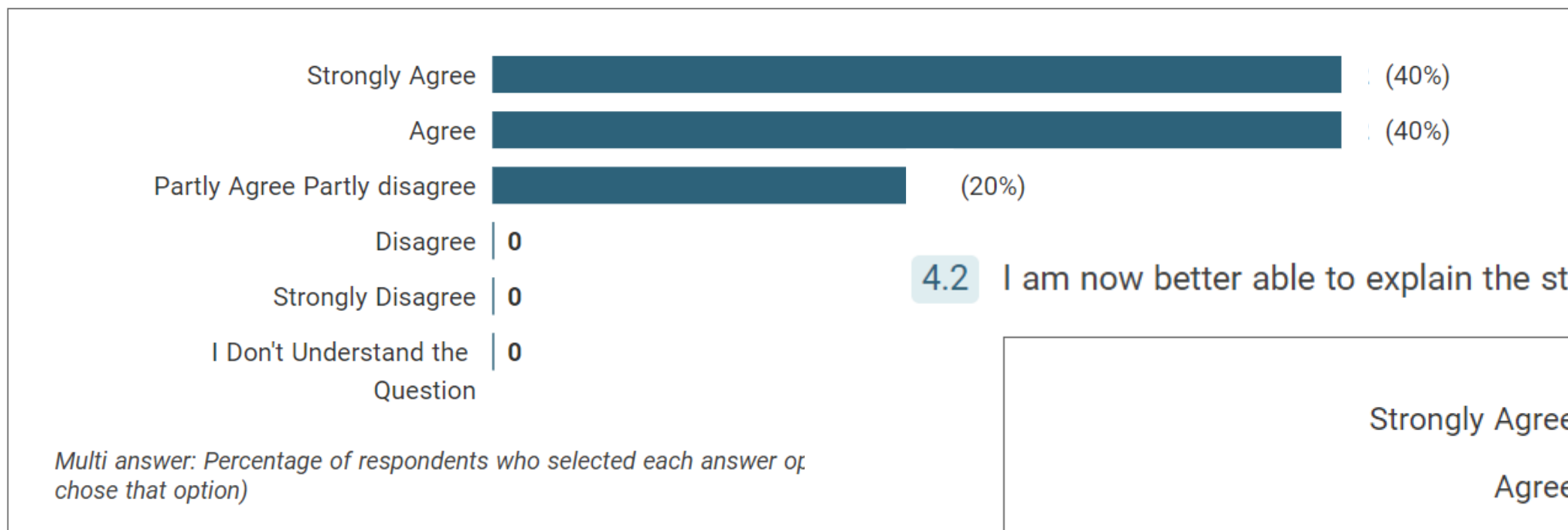
**Students are becoming more confident in seeking answers from a multi-disciplinary approach** - they have been able to make connections between disciplines and understand contrasting viewpoints as a result of the EI work.

**Colleagues have commented on students use of knowledge and application from other subjects** and students themselves commented on how they are using an EI approach to their work.



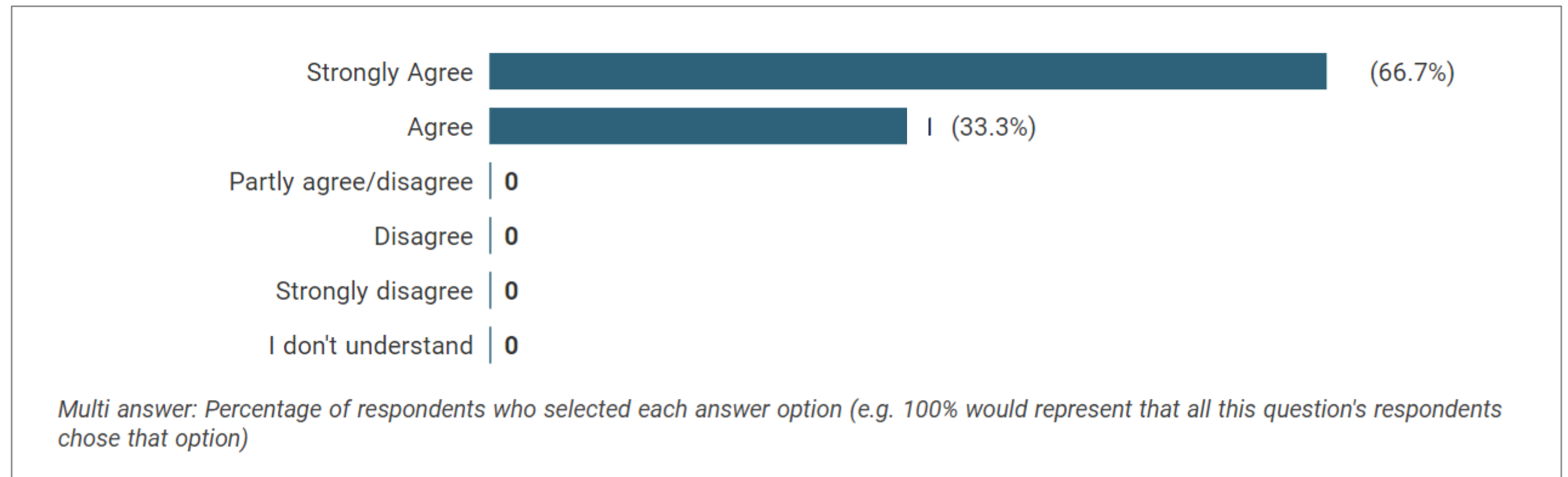
As a result of delivering sessions using the Epistemic Insight pedagogy (Oct 20)

5.3 I now have a better understanding of the preferred questions in my discipline and the preferred questions in another discipline.



As a result of delivering sessions using the Epistemic Insight pedagogy to what extent do you agree with the following (Jan 21)

4.2 I am now better able to explain the strengths and limitations of a range of disciplines



# Shift in Pedagogical practice

Has teaching using epistemic insight pedagogy changed your attitude to students wanting to examine “off topic” questions within your lessons? Apr 21 & Apr 22

Yes, i have changed my approach and used EI pedagogy in my teaching - allowing them to explore other viewpoints to a **question outside of the subject area**. An example, in Law we discussed the issues with sentencing and students brought in sociological knowledge regarding ethnicity and gender bias. [...]. **Although not completely off topic, it was outside of spec which then allowed for deeper analysis and evaluation in their work.**

I have been **much more comfortable relating topics to subjects outside History**. Especially when relating to topics students don't study in the lower school such as psychology and sociology. I am also much **better at signposting where these links are for students**.

Yes, in particular when teaching the philosophy and ethics unit to year 8 - **understanding the impact of EI pedagogy has allowed my teaching to be flexible** in addressing other **areas which are not in my lesson plan but provide another answer** to the moral dilemmas being analysed. (Apr 22)



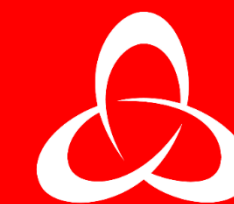
# Shift in Pedagogical practice (2)

What impact has delivering the EI programme had on your approach to addressing questions from a multidisciplinary perspective within your "subject teaching" this academic year? Jan '22

As a result of your involvement in the Epistemic Insight Initiative has your experience of working with staff from other departments to deliver learning changed. Jan '22

It has supporting me to ensure that I **plan for opportunities within my lessons to go beyond the specification** and enable students to develop their analytical and evaluative skills further using a multi disciplinary approach

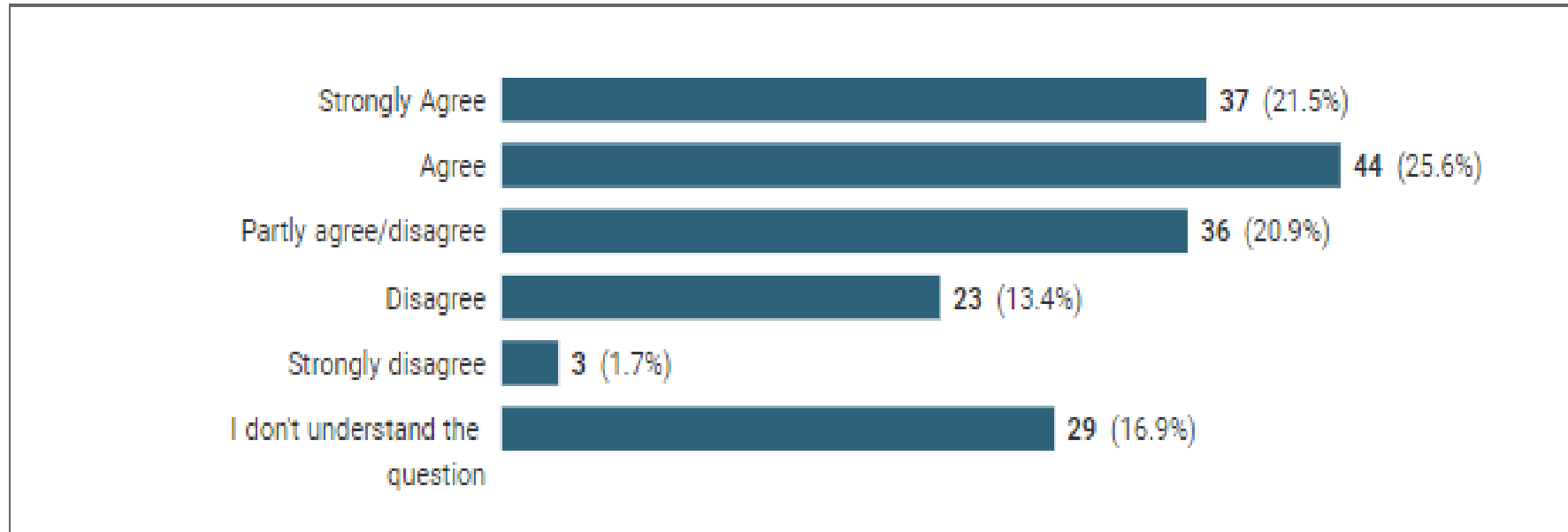
Working collaboratively **in planning the project** has enabled me to develop my understanding of the norms of thoughts of other disciplines and how these are delivered and embedded within students' learning and **how other departments cross over in their approaches and opportunities for further discussion** on permeable walls approach to planning.



# Change in Students' Understanding of Disciplinary Knowledge

Start of Year 7

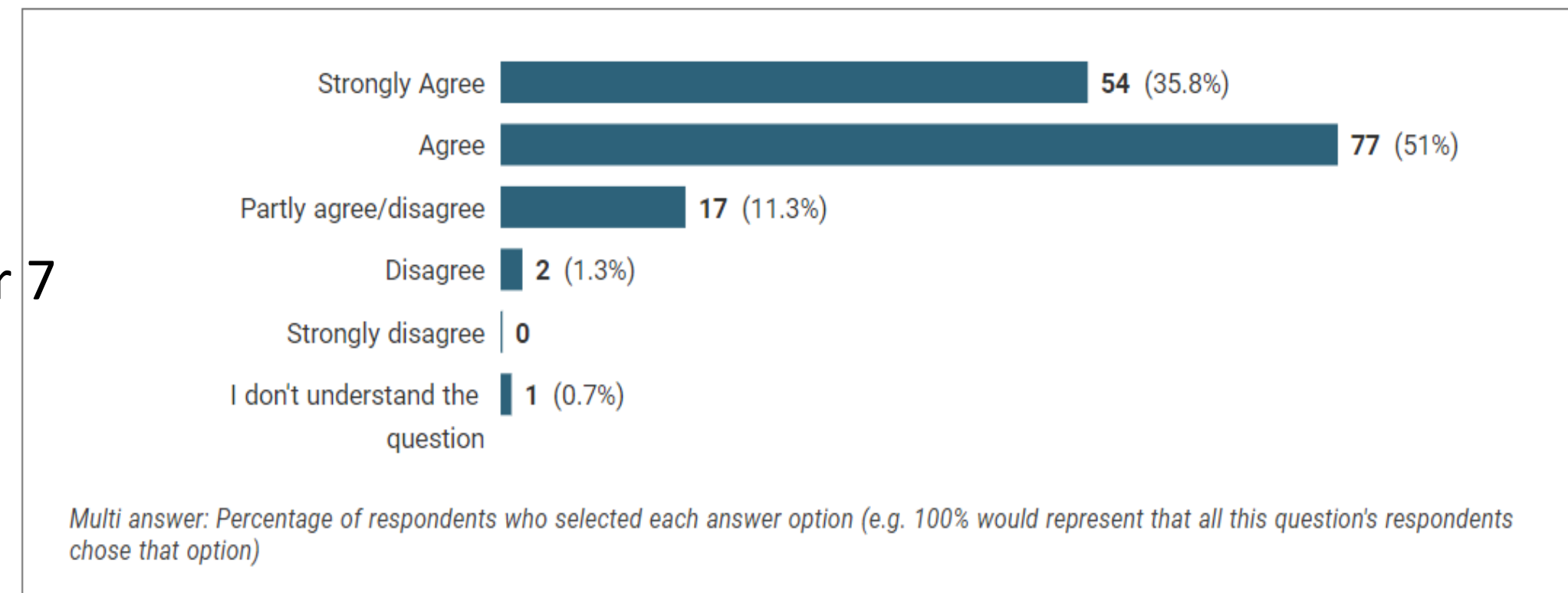
7.1 I understand what a discipline is



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

Easter of Year 7

6.1 I understand what a discipline is



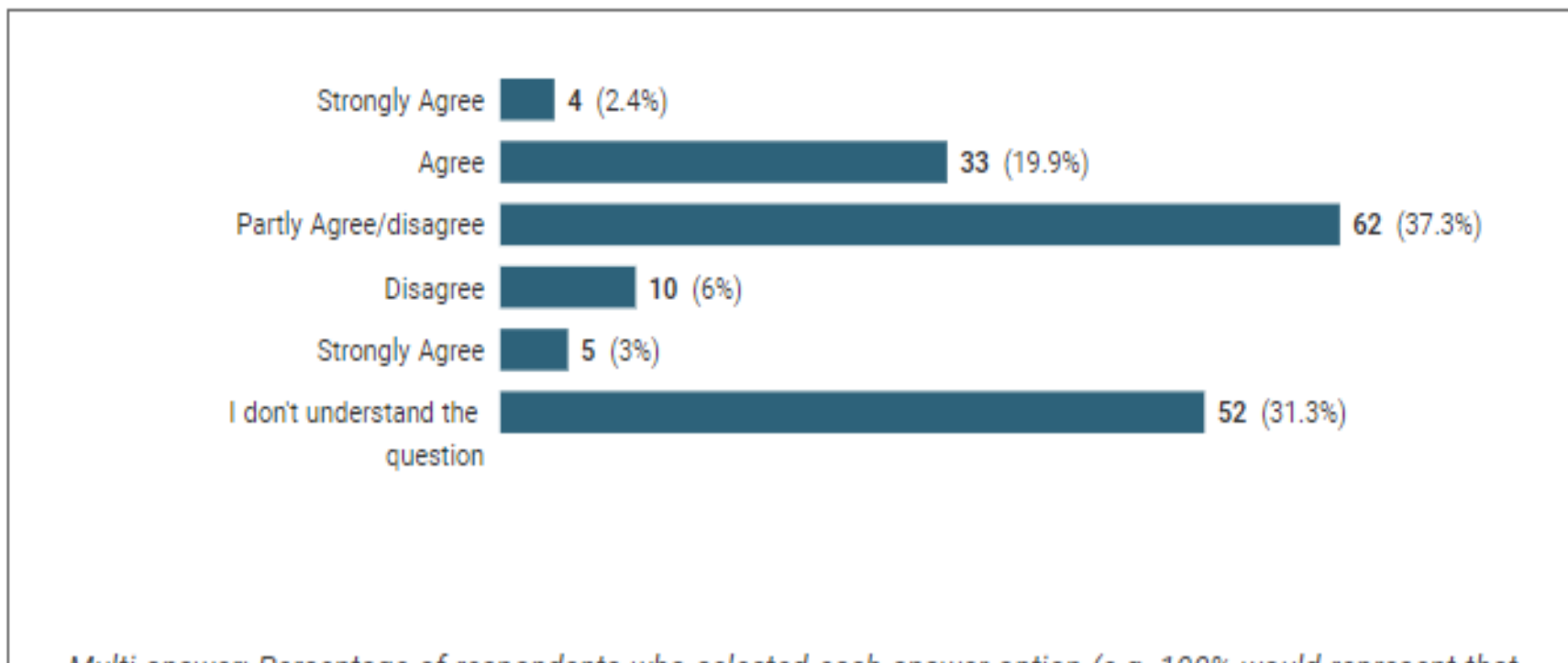
Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)



# Change in Students' Ability to Apply Their Understanding

Start of Year 7

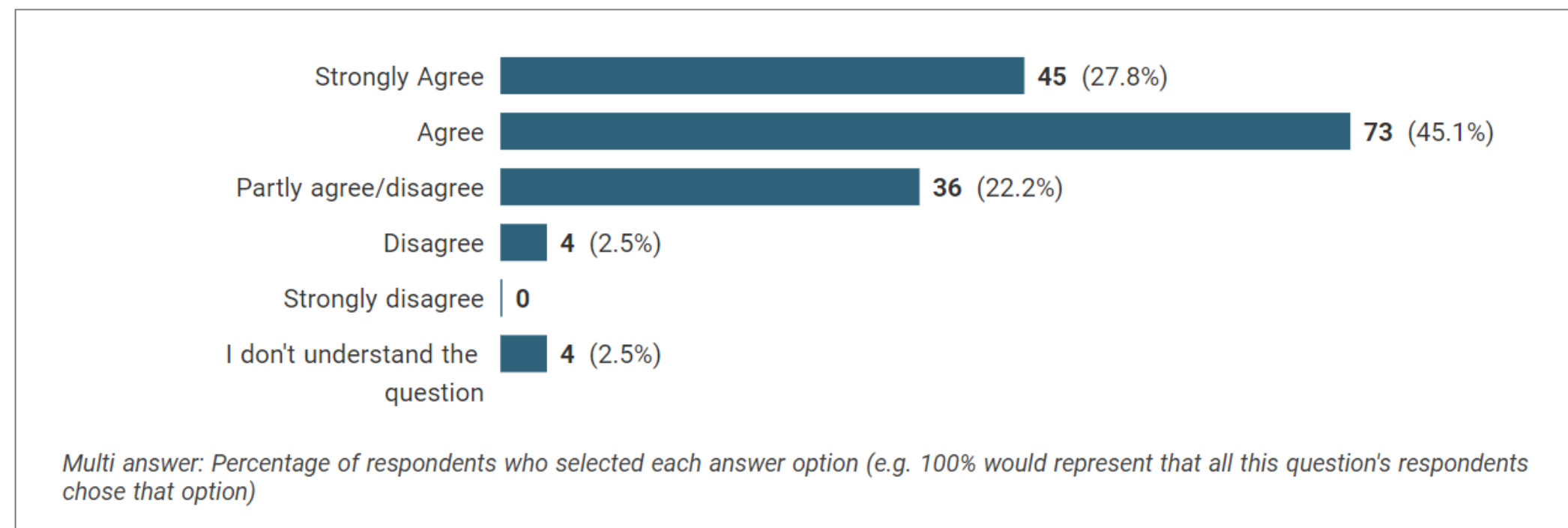
10.2 I can name two disciplines that use similar methods to answer their preferred questions



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

February Half term of Year 7

7.1 I can give an example of two disciplines that use similar methods to answer their preferred questions



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





# Comments from student survey

helps me view things in different perspectives and helps me have a larger viewpoint. it has been helpful for **understanding questions with an open mind**

What has a multidisciplinary approach added to their understanding of the Big Question?

I now know **different ways to answer the question** and **can sort the answers with different disciplines**. I can view the question through many different disciplines

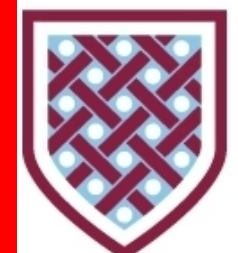
what surprised me is that there are many answers and thought processes and that in most cases it's about how you think about something, **if you're thinking scientifically you would get a completely different answer than if you're thinking another way.**

What has surprised them about exploring through a multidisciplinary perspective?

**I'm surprised that different disciplines can answer the same** question and word the question in a completely different way.



- Create a learning network between partnership schools, and between partnership schools and ITE provision.
- Support partners to apply for practitioner-research funding (including teacher release) if wanted/appropriate
- Develop processes for feeding the continued in-school research into the “academic” community and practice



# Work funded by TWCF's Big Questions in Classrooms Initiative



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