

# A return to enquiry: creating the 'need to know' using initial stimulus material

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## Context

Geographical enquiry has long been identified as a key subject pedagogy among geography educators (DfE, 2021). It is an approach which actively engages students 'in the practice of geography, investigating questions and issues and learning to think geographically' (Roberts, 2023, p. 4). A key component of enquiry-based learning is to inspire curiosity: for example, launching a lesson in such a way that students are encouraged to ask questions and are motivated to know more about a geographical issue.

An enquiry-based approach can enable students to enhance their existing geographical knowledge and develop new ways of understanding the world (Roberts, 2023). Given that classrooms are an emotional place (Pekrun, 2015), enquiry-based learning is also an important pedagogical tool for piquing students' attention and improving their motivation to learn.

It is concerning, then, that the recent geography subject report (Ofsted, 2023) reveals that most schools ignore or misunderstand the process of geographical enquiry, with most lessons starting with retrieval practice. It is hardly surprising that retrieval activities are so commonplace given the current government's focus on curriculum knowledge (Ofsted, 2019) and the promotion of retrieval practice through the requirements of the Early Career Framework (DfE, 2019). The retrieval starter clearly has a value, with evidence that it is a powerful memory aid which supports long-term retention of knowledge (Roediger and Butler, 2011). However, they can miss out on the crucial element of creating a 'need to know' in lessons (Roberts, 2023, p. 44): that is, a sense of genuine curiosity. It is important for teachers to incorporate geographical enquiry into their pedagogical repertoire and encourage students to pose and investigate their own questions.

The start of a lesson is particularly important, and there is a risk that teachers may neglect to 'generate interest and curiosity' (Davidson, 2006, p. 106). One approach is to select curriculum resources, or initial stimulus material (ISM), with the purpose of sparking intrigue and debate (Phillips, 2001). This ISM is more than *just* a starter activity: whereas a starter activity could be a retrieval exercise, or simply a review of a previous lesson, ISM has a more unique purpose as a springboard for enquiry.

## Theory into practice

In October 2023, a group of 13 PGCE humanities trainees from Middlesex University participated in the pilot of an intensive training and practice programme (ITAP), to develop their

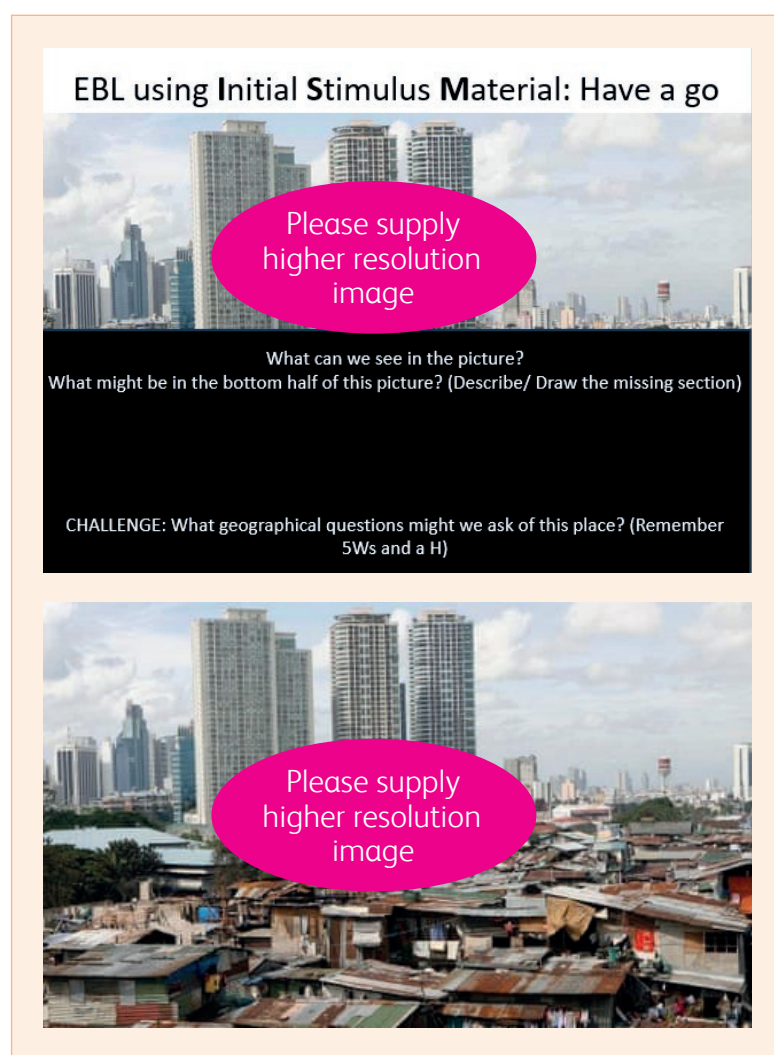
understanding of geographical enquiry techniques using ISM. The training covered taught sessions at university with practical observations of teaching practice at Highgate School. The trainees used five key aims (Baker, 2024) for identifying and using ISM, based on Roberts' key elements of classroom enquiry (2023, p. 9):

1. to capture students' interest and 'hook' them into the lesson
2. to link the ISM to a relevant geographical enquiry question
3. to place geographical thinking at the forefront of students' minds
4. to encourage a questioning approach
5. to draw upon students' existing schema and ensure the ISM is accessible to all.<sup>F1</sup>

*Tremaine and Tessa argue that the current emphasis on curriculum knowledge neglects the importance of the 'need to know' and suggest initial stimulus material (ISM) might provide a way forward.*



Accompanying online materials



**Figure 1:** ISM – uneven development in Manila, the Philippines.  
**Source:** Information used from [www.theguardian.com/global-development-professionals-network/2015/apr/02/inequality-debate-rich-poor-gap-sdgs](http://www.theguardian.com/global-development-professionals-network/2015/apr/02/inequality-debate-rich-poor-gap-sdgs)

First, trainees explored the concept of enquiry through their own engagement with ISM. For example, they were asked to look at a partially obscured image of Manila's high-rise buildings and suggest what the rest of the image might show (Figure 1a). Most of the trainees decided that the remainder of the image would show further infrastructure, like roads or a port. The shock was audible when the image was revealed to show urban poverty (Figure 1b). This generated a discussion about how ISM could be used to prompt enquiry questions about uneven development and how, why and where it occurs. These images also prompted a discussion about how we can form incorrect assumptions or stereotypes about a place – and the importance of critiquing where our knowledge comes from and how it has been constructed.

The trainees also explored how teachers might use other types of ISM, including graphs, physical objects, audio clips and articles. For example, they reviewed a news excerpt about a migrant entering the UK (see Figure 2) and thought about the enquiry questions that it might trigger:

*What does it feel like to migrate?  
Why do some people have no choice but to migrate?  
Are all migrations like this one?  
Where do migrants move from and to?  
Have I got any migrations like this one in my family?*

The trainees were able to see how different ISM can be used to create question 'hooks' and encourage geographical thinking about place and scale (Roberts, 2023).**F2**

Next, the trainees visited Highgate School to observe how more experienced teachers use ISM at the start of a lesson. They observed geography classes at key stages 3, 4 and 5 and completed a lesson observation form, looking for evidence of the five key aims of ISM above (see Download 1: lesson observation form). Figure 3 shows an ISM from a lesson observed and critiqued by the trainees. The image was used by the teacher to launch an enquiry about the impacts of ageing populations, as part of a series of lessons on population.

In this year 8 lesson, the trainees observed how the ISM, alongside teacher questioning, encouraged students to consider what they already know about population issues. The students reflected on their prior learning about China's One Child Policy and the '4-2-1' problem (where one child must be responsible for two parents and four grandparents) before formulating new questions. These included:

*What will happen if we add more elderly people to the scales?  
Is this happening somewhere other than China?  
What will happen if we don't have enough doctors?  
Could this be me one day?*

As the lesson progressed, the students explored data to answer their own questions; for example, studying current and projected population pyramids for different countries and analysing a graph showing income tax gains and pension costs.

**Figure 2:** ISM – the narrative of one migrant's journey.

**Source:** Adapted from [www.theguardian.com/uk-news/2019/jun/09/teenage-refugee-tells-of-channel-crossing](http://www.theguardian.com/uk-news/2019/jun/09/teenage-refugee-tells-of-channel-crossing)

The journey from France began shortly before midnight on Christmas Eve. Their boat was one of several making the journey across the Channel that day, heading out from a quiet beach south of Calais. Ameena's inflatable boat was just 12 feet long and powered by an outboard motor. She was packed in to the dinghy with seven other strangers, who were merely directed to head straight for the lights on the horizon.

Although the English Channel is the world's busiest shipping lane, the date meant less

maritime traffic than usual, while conditions were, for the time of year, only mildly choppy. However, the crossing took three hours and although the wind was not strong, the swell soon turned Ameena's stomach.

When they did eventually reach land, Ameena and the dinghy's other occupants had no idea where in the UK they had landed. Ameena stumbled around in the dark for hours being sick before a passing dog walker found her at dawn.

**Figure 3:** ISM – an enquiry into the impacts of an ageing population. **Source:** [www.bolton.ac.uk/blogs/how-does-the-ageing-population-affect-social-care](http://www.bolton.ac.uk/blogs/how-does-the-ageing-population-affect-social-care) (annotations by teacher).

- What is happening in this image?
- How does it link to our population topic?
- What might happen next?

*Extension: Can you explain your ideas referring to the **dependency ratio**? (We have discussed this term before – think back a few lessons!)*

Total Dependency Ratio = 0–14 Years + 65 Years And Above  
15 To 65 Years

After watching a series of lessons, the trainees worked in small groups to debrief what they had seen. They critiqued the ISM they had observed, considering whether the resources had stimulated geographical thinking and curiosity, or what else might have been effective. They then had time to identify and plan for an ISM they might use during their first teaching placements. The trainees piloted these ISM on each other as a form of 'micro teaching', before using them with actual classes in their first teaching placements.

## Evaluation and next steps

One challenge of this ITAP was ensuring that all participants understood what 'enquiry-based learning' means. While there is bountiful literature discussing its meaning (see, for example, Roberts, 2023; Phillips, 2001; Ferretti, 2018), this needed to be translated into a 'shared language' to avoid any misunderstandings between teachers and trainees. The five key aims above were used as a framework for teachers and trainees to refer to; this enabled the teachers being observed to focus on the aims – to 'model' best practice for enquiry-based learning in their lessons – and for the trainees to come by ideas about how this pedagogy could be applied. Subsequently the trainee teachers were able to experiment with ISM in their first teaching placements, using ideas developed during their training (see Figure 4). They were confident in delivering ISM as a route to enquiry, although they encountered challenges: classes which didn't respond to the stimulus as hoped, or the lesson time required to fully explore lines of enquiry (Figure 5).

Initially, the trainees struggled to decide which resources to select as ISM. Although they understood the need to select an interesting image or object, they needed guidance as to what might *make* a particular resource interesting. This led to further discussions about the use of different types of resources. The trainees discussed how a 'moving' image – for example, a photo where something is about to change, or where there is an obvious hidden element to reveal (like that in Figure 1a) – are particularly effective in stimulating students' curiosity, as they lead to the immediate question of 'what happens next?'

The trainees noted that to use ISM effectively, they needed to know the students in their class well – something which can be difficult when teaching new groups. They also found that if students are overly familiar with the content or themes, this can inhibit curiosity. They discovered there is a balance to be struck when using emotive images, so that they trigger curiosity rather than overwhelm. In addition, the trainees fed back that some classes, particularly younger year groups, needed more scaffolding to help formulate their questions, such as an example enquiry question modelled by the teacher or a question grid (see Download 2: enquiry question grid sheet).

To help trainees and teachers select appropriate ISM, it could be beneficial to discuss the concept of a 'curriculum artefact' (Bustin *et al.*, 2017). A curriculum artefact is a carefully identified



**Figure 4:** ISM – the Chi-Chi earthquake, Taiwan, September 1999. **Source:** [www.businessinsider.com/earthquake-taiwan-east-coast-2018-2?r=US&IR=T](http://www.businessinsider.com/earthquake-taiwan-east-coast-2018-2?r=US&IR=T)

**Figure 5:** Feedback from trainee teachers.

### Trainee 1

I used an ISM – a video and a picture – with the aim of exploring globalisation in a unique context (the first interaction between the Soviet Union and Western fast-food brands). The aim was for students to explore links between the brands they are aware of, in a context they may not be aware of .... This helped to build links with their previous learning while developing a new and deeper understanding of the topic.

### Trainee 2

I try to use ISM with all my classes, even my lower ability year 8, but I have found I have to adapt the ISM so that it is completely accessible. For example, I had a picture of a house for sale, and they had to work out why the house was so cheap. With my year 9, I could have left the picture on the board for discussion, but with year 8 it was too overwhelming, so scaffolding was needed. I added questions to the picture to help prompt and aid students, such as 'what could make it so cheap?' and 'why would you want to live here?'. This worked really well.

### Trainee 3

A consideration of timings has enabled me to effectively use ISM in any given lesson period, since they [ISM] ... require ample time for discussions.

resource which 'extends students' existing knowledge and challenges their minds to understand geographical theoretical content and concepts' (Bustin *et al.*, 2017, p. 20). While a curriculum artefact has a slightly different purpose to ISM – it is a resource for unpacking 'powerful knowledge' – the method of selecting a resource with a specific focus can also be applied to ISM. Indeed, many of the evaluative questions required to select a curriculum artefact (see Figure 6) would be relevant to selecting ISM for enquiry-based learning; for example, questioning what students know already, whether the resource will stretch them beyond their current understanding and whether the resource creates a 'need to know'.<sup>F6</sup>

**Figure 6:** Questions for curriculum planning (Bustin *et al.*, 2017).

## Subject

- Which specific place(s) are to be studied?
- Where is the contextual geographical 'core knowledge'?
- Where is the powerful geographical knowledge?
- What are the ways in which geographical thinking deepens or extends understanding of the theme, issue or place?

## Students

- In what ways are the students' prior experiences/knowledge accessed and taken into account?
- In what ways are the theme, issue or place made accessible to the students?
- In what ways are students challenged to think beyond their current (or everyday) understandings?
- Is it possible to say how students' learning progresses?
- How does this theme, issue or place study contribute to the wider curriculum aims (in the UK, the 'big picture')?

## Teacher

- What has the teacher done to generate a 'need to know', enthusiasm or motivation?
- In what ways has the teacher supplied data for students to assimilate, process, transform and communicate?
- How is the content sequenced – and how is this justified?
- How does the teacher lead the learning (including exposition) and how is this balanced by more 'student-centred' learning activity?

## Conclusion

While this ITAP was designed for trainee teachers, similar activities could be used in geography departments to promote enquiry-based learning among *all* teachers and to establish a clear understanding of what it is. For example, a departmental meeting might involve brainstorming the possible questions prompted by an interesting photo, like that in Figure 1. This could create a 'model' example of how to use ISM, providing a starting point for further discussions about how to select and use resources to promote geographical enquiry.

Teachers might use the questions from Figure 6 to select new resources, referring to the five key aims for guidance. Or, it might be effective for a department to create their own checklist of questions, specifically tailored to choosing ISM for enquiry. As the trainees did, teachers could then select ISM to pilot with their classes, reflecting on what worked well with a particular class and sharing best practice with colleagues through discussions and peer observations.

Although geographical enquiry is not a new pedagogy, there is a strong argument for teachers to reintroduce it to their classrooms. The immediate benefits that come with enquiry-based learning are higher levels of engagement and motivation. The longer-term benefits are that students engage deeply with geographical issues and start to ask and answer their own questions; they take ownership over their own learning and learn to 'think geographically'. It is up to teachers to create the opportunities for enquiry in lessons, and using ISM can help create a 'need to know'.

## Acknowledgement

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### Online resources

The downloads that accompany this article can be accessed at <https://portal.geography.org.uk/journal/index/tg>. Select Summer 2024.

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