

Physical Diagrams: Maps, Tables and Family Trees

Introducing Physical Maps

For all the satisfaction I've got out of creating and using many 'bigger' activities such as structured role-plays, I've had just as much enjoyment out of developing much simpler but extremely effective activities which target specific problems students have with topics. I'll start with a favourite example of turning your room into a map, in this case with the aim of helping A level students realise that Henry VIII was not the effortlessly powerful figure in Europe they assumed he was.

The problem that students had was their preconception of Henry VIII as all-powerful king in England was carrying this into how they saw England and Henry's power in Europe – that he could do much as he liked and that it would be easy for him to achieve his aim of glorious successes. This of course meant students were very much under-estimating the comparative strengths of other nations. The solution was to create a map of Europe in the classroom as follows (this is a brief summary – there's more detail in the activity description listed at the end of this article):

The first step was to set up the room as a map of western Europe by arranging the students into countries. Single students represented England and Scotland, France, Spain, the Holy Roman Empire, the Pope etc and were placed in geographical relation to each other. Next I added additional students to represent the military and financial strengths of the countries. There was still one Scot but three English – and eight for France and so on. It rapidly became clear that England was a relatively low-level power.

Thirdly, we identified the religion of each state and used coloured tabards to identify Catholic and Protestant states, again giving a strong visual sense of England being a minority state amongst much more powerful Catholic nations. Finally I explained that the focus of many events was in northern Italy and we represented this by turning everyone to face Italy – so suddenly nearly everyone had turned their backs on England. With England on the fringe of events and less powerful than expected how hard would it be for Henry to achieve the glory he was seeking?

This physical representation got this point across much more effectively than any amount of reading or exposition and students had built up their understandings of the geography of early modern Europe, the relative strengths of individual countries and the problems Henry VIII faced in having

an impact on European events – and rethought their preconceptions about Henry VIII's power in the context of Europe as a whole.

Where do some of the ideas come from?

Turning diagrams and tables in books into physical activities

That example of Henry VIII in Europe, along with quite a few other activities in this article (and yet more on ThinkingHistory) were developed from diagrams and tables I'd designed for textbooks – and then realised that the diagrams would work even better if turned into 3D activities using students and the space of the classroom. The whole point of a diagram or table containing statistics is to distil the essence of a topic or concept in order to achieve real clarity – but making the table or diagram physical adds extra dimensions of physicality and involvement which has far more impact on students' understandings.

So, if you see a diagram or table of statistics in a book it's worth thinking 'would that work physically and would doing it physically (before students see it on paper) boost their understanding?'

Now for some more variations on the ways in which you can use space and students to create physical maps, tables and family trees that identify patterns and relationships as clearly as possible, and overcome specific problems that students have with topics. There's lots more on the website but for now I'll just enthuse joyfully about a handful of variations!

Physical Maps – all kinds of possibilities!

It can be dangerous to assume that students know their way round maps of Britain, Europe and the world at large and it's even harder for them if dealing with places which were on maps in the past but are no longer there! For example, I always struggle with the Crusades – the terms, places and names of groups that crop up as soon as I start reading. Where was Anatolia and how did it relate to the Byzantine Empire? Was I completely certain that the Byzantine Empire and the Greek Christian empire were the same thing? Could I tell my Fatimids from my Abbasids? Hence I created a physical activity (Getting started with the Crusades) based around a map to help A level students get over these hurdles.

As this suggests, physical maps can be used in a host of contexts – the spread of the Roman empire, England, Normandy and the Angevin empire, Crusader states, changing urbanisation and wealth in

Britain across the centuries, Italian Unification (which one is Piedmont, sir, I keep forgetting?), alliances before 1815 and 1914, Hitler's acquisitions of territory in the 1930s – all kinds of topics which have a geographical element. To repeat myself – the aim is to reduce students' misunderstandings and so boost their confidence that they're on top of the topic. Without that, they learn little.

Who's Who? Creating a map of people

This is a different kind of map – a simple idea again but a very, very valuable one because one of the fastest ways for students to lose confidence and under-perform when studying a period in depth is to feel uncertain about 'who's who'. Feeling that you don't know why x is important or who's on whose side niggles away at students' confidence, undermining their efforts to learn. (Just think about how you worry about your own grasp of the details of a new topic you're teaching!) Therefore getting a rapid grip on Who's Who is vital for students, whether it's at A level or GCSE and it can help at KS3, for example if you want to link people across time such as protesters and rebels. This activity does help students get to know Who's Who faster and with more certainty.

The core idea is to create a human map or diagram in which each student wears a tabard bearing the name of one of the people they're studying. It's the layout of the individuals that's important, placing students/people in relation to a central individual such as Elizabeth I. Near her would be her family and also her advisers, further away on one side would be seafarers (Drake etc) while on the other side are a group of Catholic plotters and near to them are the Pope and Philip II of Spain and all revolving around the central character of Queen Elizabeth I. Similar layouts work for any topic – for the Norman Conquest you might create a map with Edward the Confessor in one half of the room surrounded by Saxons and William of Normandy in the other half – which also helps show that some people straddled both societies – and a few Vikings in the far corner.

Having created the map of the people you have to follow it up to consolidate knowledge – give students a semi-complete diagram to finish, ask them to draw it from scratch at home, to reassemble in the right places when the next lesson begins then explain their links to Elizabeth. If you don't feel there's time, think about this from the students' perspective – if this can build their confidence by helping them get to grips with lots of names very quickly then you couldn't be doing anything more useful

Family Trees – with real people in them!

Family trees are a bit like timelines – they make sense when you already (at least halfway) understand what's in them. But if this is completely new material then looking at a family tree in a book can undermine confidence because it just looks to have too much information in it and so looks confusing. Just think about the panic induced in even experienced teachers when they see a family tree of the Lancastrian and Yorkist families! So it helps to begin with a physical family tree with your students standing in place in the tree, able to explore their relationships with others in the family.

Once again, these activities only make a real impact when they're solving a problem of understanding. So what do some or many students get wrong every year? If you do the Tudors a fair proportion confuse Mary Tudor and Mary, Queen of Scots. Lots of students think they were the same person, a bit like James VI and I (who was only one person). You can reduce this problem very obviously by creating a Tudor family tree (or a section of it so it's not overwhelming) with your students – and if you don't have enough students use some stuffed toys instead). Once students are standing in the tree it's very obvious that there's two Marys but you need to ask them to explain their relationships with each other so they consolidate what they're learning – they have to use their brains to explain as well as standing in the right places! And you can use that memory as a reminder throughout the course ('which one was Mary Tudor, miss?' 'Remember when we made the family tree? – it was Richard who was Mary Tudor and Sharon who was Mary Queen of Scots').

You can adapt this approach to family trees to help students understand groups such as members of governments and cabinets or alliances – the activity *Who's round the table?* helps develop this idea.

Creating Physical Charts and Tables – how fast did the population grow?

Charts and tables full of information can send some students to sleep – no matter how significant the information in them may be. Raw numbers just may not make an impact on students' understanding. However, representing those numbers physically can solve this problem, as these two examples demonstrate:

How do you help students see the pattern of population change – long-term or within short periods? Here's how to do it over a long period, starting in 1000 AD. Clear a space in your classroom and get one student to stand in the space – he or she represents the 2 million people in England in 1000. So how many students would you put into this space for the year 1100? Answer – one and a half so

bring in another student who kneels down to be the half – and so on and so on for each century interval. By the time you reach 1800, then 1900, then 2000 the numbers of students in the once empty space has climbed dramatically and memorably. As Professor Mark Ormrod has commented, if we went back in time to the Middle Ages one of the most notable differences was that England was very empty!

My second example is the growth of the numbers eligible to vote from the 1820s onwards. Begin with 20 students to represent the adult population of Britain and ask students what percentage of adults they think could vote in the early 1800s. The answer is 5% of the population so ask 1 student out of 20 to stand up – he is the voter! Then work through each of the major reforms and ask more students to stand up each time – it'll be 2 (just another 1 student) after 1832, just 3 after 1867 and a massive 6 out of 20 in 1884! After 1918 the number jumps to 17 and only reaches 20 after 1928, This slow pace of change is much more visible as a result of the balance of students standing up and sitting down than in a chart or table of statistics.

Those are just two of many sets of statistics which appear in charts and tables but which, with a little imagination, can make far more impact on students if represented physically.

Factors Diagrams

Causal explanation can be problematic for some students because they can't visualize the process of identifying causes and attaching relative significance to them. This doesn't mean they can't develop a sophisticated understanding of why an event happened when it did – just that their route to understanding will be speedier via physical organization of causes. Factors diagrams therefore help students develop their ability to think effectively about causation.

This example deals with why Ambroise Pare was able to improve surgery in the 1500s. To begin place one student as Pare in a chair in the centre of the room. Then give factor tabards – representing war, government, communications, , science and technology etc to other students and place these human factors in a circle equidistant from Pare.

Now begin telling the story of Pare. Each time anyone in the class identifies a factor affecting Pare's work then move that human factor one step closer to Pare (two if a factor is very important). Continue like this, building up a human spider diagram. As the story progresses, other students should keep a diagrammatic plan of the moves, annotating it with details to explain the movements.

Once you have completed the story, some factors are closer to Pare than others – these were the most significant factors in explaining his breakthrough. Asking the students playing each factor to explain their role or ask others in the class for their explanations. Not all may have moved – in which case the question is "why hasn't this factor moved at all?" Now move onto discussing how factors were interlinked in bringing about change. Ask students to suggest links and make them physical by connecting the factors involved using a ball of string or coloured wool.

This human spider diagram then needs recording, perhaps using a digital camera or phone camera to record the scene and put onto the school network for annotating.

Some examples of physical diagrams:

Maps, tables and family trees, on ThinkingHistory

I've got excited summarising these simple but deeply effective activities. There's so many other possibilities too. Here's a list of the activities I've described plus a few more I haven't!

Who's round the table?

Population – continuity and change

Physical family trees

Which one if Piedmont again, sir?

Henry VIII, Wolsey and europe

Elizabeth I and Europe in 1558

Getting started with the Crusades

Pare – why did it happen then?

Bringing Medicine factors to life

Making sense of Hadrian's Wall

See the activities [HERE ...](#)