

Exploring Pedagogies

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A critical reflection on the implementation of an innovative teaching intervention with evidence of effectiveness and impact

Introduction

When preparing Year 11 students for GCSE English Language Unit One Individual Research Presentations, I noticed that, while students could find and include relevant evidence in relation to their chosen topic, many of them were not analysing this evidence in any particular depth. This posed two potential problems. Firstly, possible underachievement - evaluating and analysing research is one of the skills included in band five of the WJEC mark scheme. Therefore, not having this skill, or indeed, me not teaching them this skill could potentially limit progress. Secondly, critical thinking skills form a fundamental part of the new curriculum, and it seemed that this was a skill that was weaker in my Year 11 students. Donaldson's Successful Futures report (2015) outlines within his four purposes that the curriculum should create 'ambitious capable learners' who 'are questioning' and who 'undertake research and critically evaluate what they find' (Donaldson, 2015) - these skills are directly linked to the WJEC Unit One Speaking and Listening mark scheme. Furthermore, the report states that as part of the four purposes, students should be 'ethical, informed citizens' who 'find, evaluate and use evidence in forming views' and 'engage with contemporary issues based upon knowledge and values' (Donaldson, 2015). The premise of the GCSE Individual Research Presentation is that students research an issue they are interested in and present a persuasive presentation on that topic. Many of my Year 11 students have picked contemporary issues that they are interested or concerned with – from women's safety, teenage mental health, women's rights, and racial equality - students are clearly engaged with a wide range of contemporary issues. While it is encouraging to see such a clear link between a GCSE exam task and the new curriculum, it was concerning to me that I had only realised this gap in my students' skill sets in Year 11. This then raised questions that I wanted to explore: how could I develop critical thinking, and specifically, critical analysis of research in my classroom? How might critical thinking be embedded lower down in the curriculum, to effectively fulfill the four purposes?

Critical Review of Relevant Literature

One thing that struck me when I began my reading was the debate around defining education and pedagogy. I had always assumed that pedagogy was linked to the decisions that I made for my students in my classroom. However, I discovered that in fact pedagogy has in part to do with the way we train students to contribute to the social and economic health of society (Hinchcliffe, 2001, pg. 34). When reading Hinchcliffe's 'Education or Pedagogy', I was interested in the different ways education and pedagogy can be defined, particularly the idea of education being a 'endeavour in which teacher and pupil engage in a form of enquiry' (Hinchcliffe, 2001, pg. 31). It struck me that I had come across a similar contradiction: arguably the GCSE Researched Individual Presentation is a form of enquiry for students and is therefore what Hinchcliffe would consider to be education. However, surely, for students to access this type of education, they need to be trained how to think to access and use this information, which is arguably pedagogy. Perhaps then, Hinchcliffe's suggestion that the two are complementary to each other is true (Hinchcliffe, 2001, pg. 35). Hinchcliffe states that 'pedagogy views learning instrumentally whereas education views learning for its own sake' (Hinchcliffe, 2001, pg. 35). Therefore, it could be argued that teaching thinking skills is instrumental and therefore a pedagogical decision and that giving students a choice over the topic they research is an educational decision,

encouraging learning for its own sake. Choosing this as my focus for my innovative teaching strategy could therefore strike the balance between education and pedagogy.

To begin, I wondered about the science behind thinking and how thought develops in young people. Piaget argues that thinking can be separated into two principal aspects: 'The formal viewpoint which deals with the configuration of the state of things to know,' and 'the dynamic aspect, which deals with transformations.' (Piaget, 1961, p. 36) To my mind, the formal viewpoint, in my case, refers to the research, facts or statistics that students gather in relation to their presentations and the 'dynamic aspect' being the transformation of that knowledge – how they use it in their presentations. I realised that I was asking students to transform this knowledge in a very complex manner. If, as asserted in Piaget's essay, 'to think means, above all to understand' (Piaget, 1961, p. 36), then I was first asking students to understand the research that they had found. Further to this, I was asking students to understand, which Piaget suggests is to 'arrive at transformations' (Piaget, 1961, p. 37). In this case, I was asking students to take the research that they had found and analyse and evaluate the importance and significance of it, in relation to their own argument about the topic. Furthermore, I was asking them to present this in a persuasive manner. I realised then, that I had not explicitly taught my students how to 'transform' their research into a relevant and persuasive format.

Hattie's 'Visible Learning – A synthesis' goes a step further and references Bereiter's (2002) application of Popper's three worlds theory: 'the physical world, the subjective or mental world, and the world of ideas.' (quoted in Hattie, 2009, p.26) Hattie uses Bereiter's ideas about the three worlds to suggest that the most effective teaching will allow students to access a balance of the three worlds: knowledge, the thinking skills to analyse and critique knowledge, and the ability to generate their own ideas (Hattie, 2009). This made me realise that this was what I was trying to engender in my own classroom – an ability to critically think about information and then access the 'third world', bringing their own ideas about the topics together with the information they had found, to create something original. Furthermore, Hattie points out that often, we as teachers claim to value a deeper view of learning, while promoting surface level strategies with our students, and that in fact, we are looking for a balance (Hattie, 2009, p.28). This is an uncomfortable truth that I recognised in my own pedagogy. If a gap in my students' skill set was critical thinking, to what extent was that because I have made pedagogical decisions that have focused on the surface level learning of writing a persuasive speech that meets the demands of the mark scheme, simply because of external pressures?

This then led me to think about the importance of teaching thinking skills in school and Fisher's essay on 'Why thinking should be taught' (2013). He begins by acknowledging that thinking skills is a 'generic' (Fisher, 2013, p. 54) term that is used to describe the way students actively think about something for a certain purpose. In the case of my Year 11s, the type of thinking I was trying to encourage them to do was analysing and evaluating. This type of thinking, as Fisher suggests, cannot happen without knowledge. (Fisher, 2013, p.54) Therefore, students researching effectively around the topic and finding quality information, would be key to students' success. Furthermore, Fisher suggests that for students to become effective thinkers, they must practise these skills: 'Good thinking requires that cognitive skills become habits of intelligent behaviour learned through practise' (Fisher, 2013, p.54). If good thinking is therefore a habit, how could I get my students to practise quality thinking skills in the same way that I would get them to practise effective reading or writing skills?

Another aspect of Fisher's writing that I found pertinent to this project was the idea 'that teaching students to be better thinkers is...a moral enterprise' (Fisher, 2013, p. 55). Fisher suggests that in our ever – changing world, teaching students to be better thinkers better equips them for the challenges of the modern world, as well as making them more functioning and effective members of society. This is particularly pertinent because of the nature of the topics that students had picked: global warming, plastic pollution, women's safety, and mental health, arguably reflecting the concerns and issues that we are currently grappling with as a society. Our perceived 'adult' concerns are clearly not just ours, but theirs as well. It then seems that teaching students to think critically about these topics, and to evaluate information effectively will help them to form their own world views on issues – a moral purpose behind the teaching of thinking skills.

The work of Bransford, Brown and Cocking – 'How people learn' (2000) supported other reading I had done, as they too noted the challenges of the wealth of information available in our modern world. One part of their work that was particularly pertinent was the assertion that thinking skills should not be taught generically, but specifically as part of a particular subject (Bransford et al, 2000, p. 26). I had found this to be true in my classroom – the gap in my students' skill set was a thinking skill, that while eventually transferrable to other subjects, needed to be taught explicitly in the context of English first. Furthermore, their research argues that 'a misconception of 'constructivist' theories of knowing is that teachers should never tell students anything directly but, instead should always allow them to construct knowledge for themselves' (Bransford, et al 2000, p. 23). I realised that I had that misconception in my own teaching – I had assumed students were able to construct knowledge from their research for themselves. In reality, it would appear, as argued by Bransford, Brown and Cocking (2000), that I would still need to provide guidance for my students thinking when necessary.

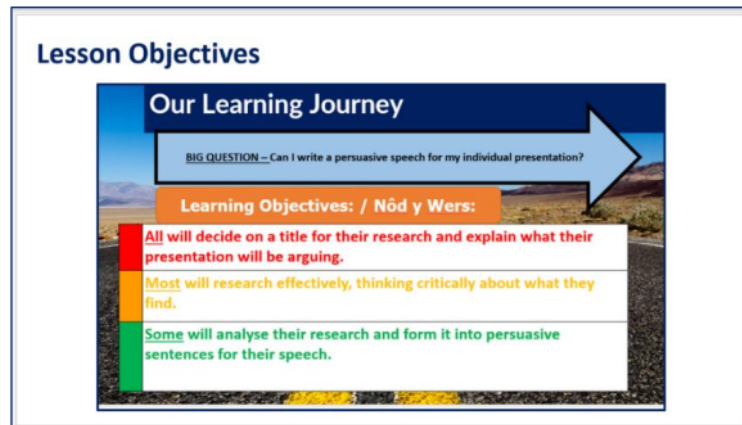
I wondered if any of the pedagogical approaches that have been proven in evidence could support me in the teaching of critical thinking. Firstly, I read Coe et al's report: 'What makes great teaching' (2014). Within this, I found one pedagogical approach, that, while being embedded in my practise to teach other skills, I had not utilised explicitly when teaching critical thinking skills: quality instruction (Coe et al, 2014). I realised that I frequently modeled my thinking when analysing Literature texts such as novels and poems, but that I did not consistently model my thinking when evaluating and analysing research to support persuasive arguments. Furthermore, while students were regularly provided with scaffolding to support their persuasive writing, they were not provided with any scaffolding to support their thought process behind transforming their research into a persuasive argument. This argument for focusing on quality instruction was also supported by wider international perspectives. The McKinsey article: 'How the world's best performing school systems come out on top' (2007), states that 'The only way to improve outcomes is to improve instruction' (McKinsey, 2007, p. 19). Therefore, in theory, I could improve the outcomes of my students in their individual presentations, by improving the quality of my instruction when getting my students to think critically about research.

Looking at Rosenshine's Principles of Instruction (2012) also proved useful. Two of Rosenshine's ten principles seemed an appropriate place to start when designing my innovative teaching strategy: number four: provide models and number five: guide student practise (Renshine, 2012, p. 14-15). Rosenshine asserts that research findings suggest 'students need cognitive support to help them to learn to solve problems.' (Renshine, 2012, p. 14). Therefore, I would need to provide students with a model of how to think when researching. Secondly, Rosenshine's research suggests that 'students need to spend additional time rephrasing, elaborating, and summarizing new material' (Renshine, 2012,

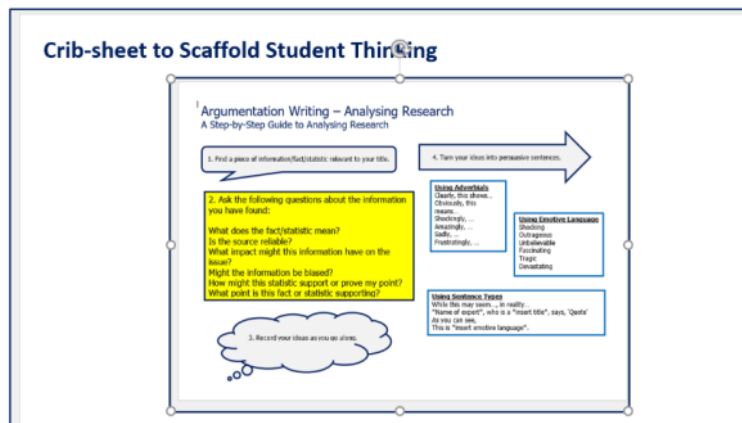
p.15). This idea of guided practise seemed to me to support both Piaget (1961) and Fisher's (2013) assertions that thinking skills need to be scaffolded and practised. As part of my approach then, I decided to design a strategy that explicitly modelled and provided guided practise for the specific thinking skill of analysing research.

Account of the Intervention

I started by embedding the thinking skill that I wanted students to practice into my lesson objectives. I deliberately separated the critical analysis of the research from the turning their research into their own persuasive sentences, following Piaget's (1961) ideas about thinking being about transformation. As much of my research had pointed to the idea that thinking skills need to be taught and practiced, including this in the objectives seemed a useful way of making sure that thinking skills were explicit and central to the focus of the lesson.



Secondly, I implemented one of Rosenshine's (2012) Principles of Instruction – guiding student practice by designing a crib-sheet to scaffold students' critical thinking. The key element of the crib-sheet were the questions I suggested students asked themselves while reading a piece of relevant research. The aim was to give students a step-by-step



approach to their thinking. This approach was also supported by Deans for Impact – The Science of Learning (2015), which argues while students understand new ideas by being given examples, they find it difficult to see how different examples are linked by concepts (Deans for Impact, 2015, p.6). Therefore, they suggest that teachers 'encourage students to identify and label the sub-steps required for solving a problem' (Deans for Impact, 2015, p.6).

Thirdly, I used a second of Rosenshine's Principles of Instruction (2012) and provided a live model for students. Using a Gavin Williamson quote from a BBC article to model my thinking, I followed the crib-sheet step by step, and live modeled my thinking, asking the students questions at key points. The model formed a crucial part of the strategy, as students needed to see a live demonstration of the thinking skill I was asking them to use before they could meaningfully practice.

Teacher Modeling of Critical Thinking using crib-sheet

Thinking Critically and Analysing your Research

In the summer, the main area for improvement for your speeches was the depth of your analysis. This comes from critically thinking and analysing your research.

Using the worksheet, let's practise thinking critically about the following piece of information:

"Mobile phones are not just distracting, but when misused or overused, they can have a damaging effect on a pupil's mental health and well-being. I want to put an end to this, making the school day mobile-free."

Gavin Williamson (former Secretary for Education) Taken from a BBC article.
Mobile phone ban plan to improve school behaviour - BBC News

Ask the following questions about the information you have found:

What does the fact/statistic mean?
Is the source reliable?
What impact might this information have on the issue?
Might the information be biased?
How might this statistic support or prove my point?
What point is this fact or statistic supporting?

I then asked them to apply this knowledge to their own research. To do this, I employed a second strategy from Rosenshine's Principles for Instruction (2012) – guiding student practice. Students completed a worksheet, which worked in tandem with the crib-sheet to give them time practicing the skill of analysing their research. While students completed the worksheet, I circulated to support students and then selected some examples of excellent work to talk through under the visualizer.

Worksheet to scaffold student analysis of research

Individual Presentation – Analysing Research

1. A piece of information, fact or statistic and where you found it.

2/3. Ask the key questions about the information you have found – think critically. Record your ideas.

4. Turn your ideas into persuasive sentences.

Super Challenge

What are the implications of this information (e.g. Your? Your friend's? School? Make? The UK? The wider world?)

Analysis of Pupil Outcomes

Overall, pupil outcomes supported Fisher's (2013) assertion that thinking skills need to be practised and Hattie's use of the three-world theory (2009). The students were able to select a fact or piece of information that was relevant to their speech – accessing the first world of knowledge or information. What some of them found challenging was then knowing how to transform that information, as Piaget (1961) suggests that they should do when thinking critically. Many of them got stuck after selecting their information and had to be prompted to ask themselves the questions, suggesting that their ability to access their 'second world' (Hattie, 2009) or critical thinking skills were if not limited, then perhaps less practiced. While they recognised what I was doing when I modeled my own thinking, they found asking the critical thinking questions themselves quite challenging. They certainly benefitted from the guided practise time – my lower attaining students needed both the crib sheet, worksheet, and my verbal feedback to support them to analyse their research. As shown in example one, lower attaining students were able to select relevant information from what they had read, and they were able to critically evaluate it in isolation – considering its reliability and recognizing potential bias. Using the crib-sheet also enabled them to make a simple link between the information and why it was relevant to their

argument. However, they still found it difficult to transform this information into effective persuasive sentences. Using the crib-sheet with students certainly highlighted to me that when it came to thinking skills that I had been teaching surface level strategies geared towards the fulfilling of an external assessment mark scheme as suggested by Hattie (2009). Furthermore, I had assumed that students were constructing knowledge by using their thinking skills rather than signposting how they should do this, as suggested by Bransford et al (2000). This then potentially accounted for the gap in students' ability to think critically about research and is arguably the reason why some of my lower attaining students found this lesson particularly challenging.

My higher-attaining students were able to analyse the information they had found and turn it into persuasive sentences using the crib-sheet and worksheet as scaffolding. The quality of the persuasive sentences that they were able to produce was of better quality, suggesting that they were more able to think critically to transform information, supporting my reading. This made me wonder about the link between thinking skills and attainment – do these students achieve better because their thinking skills are more developed? If so, then embedding thinking skills more explicitly across the curriculum could potentially lead to better outcomes for all students. An idea that is potentially supported by the E.E.F (Education Endowment Fund Teacher Toolkit) which suggests that metacognition has an impact of +7 months on student progress. Certainly, the students who were most successful in this lesson were the students who had a better awareness of the way they were thinking and were able to adapt their thinking skills to the task of researching for a persuasive speech.

Evaluation of the Intervention

Overall, I would say that the intervention had a largely positive impact, and that the benefits and limitations of the strategy were borne out by reading that I had done. The reason for the intervention was to try and improve students' individual presentations, by getting students to include more analysis and evaluation of their research in their speeches. Overall, most of the students achieved this – using the sentence starters I had given them to analyse and evaluate their examples.

Students Outcomes – Example One

Individual Presentation – Analysing Research

1. A piece of information, fact or statistic and where you found it.
 > Easier than 40 percent of women who suffer from violence speak out about it – UN WOMEN.

2/3. Ask the key questions about the information you have found – think critically. Record your ideas.
 I found this statistic from UN Women on gender. It's relevant because it is a global campaign for gender equality. It's working to educate and it has standards. United Nations Entry for gender equality.

4. Turn your ideas into persuasive sentences. Clearly this shows that women who suffer from violence don't feel safe enough to talk about it or they feel that it is not important.

Super Challenge
 What are the implications of this information on:
 You? Your friends? School?
 Wales? The UK?
 The wider world?

Students Outcomes – Example Two

Individual Presentation – Analysing Research

1. A piece of information, fact or statistic and where you found it.
 I in 3 women around the world experience violence.

2/3. Ask the key questions about the information you have found – think critically. Record your ideas.
 From a woman's charity website as it is a proper charity. It shows how women's safety is an issue. It might be bad as it's trying to persuade people. It proves that it's women's rights. It will impact positively on support my point.

4. Turn your ideas into persuasive sentences. The shocking statistic that 1 in 3 women around the world experience violence that leaves on a woman's physical safety is and how it needs to be improved. We give women the right to work at night without this devastating risk, then it will impact society positively and women will be more safe and feel more safe.

Super Challenge
 What are the implications of this information on:
 You? Your friends? School?
 Wales? The UK?
 The wider world?

The limitation of the strategy was a practical one: time for practise. Rosenshine's (2012) principle of guiding student practise had an impact in so far as students were able to use the crib-sheet to analyse their research for this persuasive speech. However, as Fisher (2013) suggests, students need to practise their thinking skills to develop them. I think it would be accurate to say that this thinking skill is not yet fully embedded by all my students, which is to say that it is not yet automatic – many of them would still need further models, further practise time and continued scaffolding while they practise. As a department, we regularly use crib-sheets to support and challenge reading and writing tasks. Moving forward, I would aim to build in the use of the analysing research crib sheet into my lessons, to give students more time to explicitly practise and develop their thinking skills. Furthermore, I think it would be useful to see how I could embed this strategy in KS3, as I think that for this to have the most impact, thinking skills need to be taught much more explicitly, at a much earlier stage, thus fulfilling the skills-based elements of the new curriculum and meeting the four purposes.

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