# CASE STUDY 5 English Martyrs School

# Using EtherPad and Corkboard.It to support methods of metal ore extraction in a Year 9 Science lesson

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## BACKGROUND AND RATIONALE

This case study focussed on a Year 9 science module. Two PGCE secondary trainees; one Applied ICT one ICT were partnered with an experienced science teacher who was keen to introduce new technologies into the classroom to enhance the subject and engage students in learning. This project took place at English Martyrs Catholic school in Leicester. The school is a specialist performing arts school with a catchment that extends beyond the city into Leicestershire. The proportion of students from ethnic minorities is higher than the national average as is the proportion who have English as an additional language. However, the proportion with SEND is in line with national averages as is the proportion with a special needs statement. A smaller proportion than nationally is eligible for free school meals.

The group who took part in the project were a year 9 Btec Applied Science group; mixed gender, level 5-7 with 7 SEND learners. The class was divided into groups which were set to ensure a good spread of abilities in each, for peer support. Some students were on report for their behaviour.  These boys often go off task during lesson and have to be reminded to focus.  One student works very slowly and needs support from the teacher.  One student writes very little in his book on occasion.  Students tend to enjoy using the computers in lessons.  For this project they had their own computer to encourage participation.

Focus group: 7 Students (2 girls + 5 boys), 5 Low literacy, 2 High ability (disengagement)

## INFORMATION ON WHAT HAPPENED

The class were working on a topic from the Btec syllabus which focussed on methods of metal ore extraction. The project took place during two lessons lasting 60 minutes each. The lesson plan for the second lesson can be found in Appendix A. The key learning outcomes for this lesson were:

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| All/level 4-5will be able to match extraction methods to the metals. |
| Most/levels 5-6 will be able to link the metals' reactivity with the  extraction method. |
| Some/ levels 6-7 will be able to compare and contrast extraction methods. |

The first lesson involved a practical experiment followed by a write up. During the lesson the learners worked in groups to complete an experiment which was followed by the individual write up. The class teacher wrote the outline of what she expected the write up to contain. Certain sections involved students copying from the board (the method), while other sections involved them in “free writing” (the conclusion). During this latter section some students became disengaged, finding it difficult to express what they had learned from the experiment saying “*we’ll wait for miss to write it on the board*”. The second lesson (see lesson plan, Appendix A) used an etherpad to encourage collaborative group work and an online cork board as a plenary for individual assessment. The resources for the lesson were placed on a website. This included lesson outcomes, links to resources to be used during the lesson eg methods of metal extraction from different metal ores, links to etherpad and corkboard.it and finally some key questions they needed to answer (Appendix B).

The lesson began with the students accessing this website and reading the objectives, after which they were put into groups to research their given extraction method for their metal ore. Their findings were shared on their group etherpad. This episode was followed by the learners using this new information to create flow charts to represent the process. They were given freedom of choice in how this episode was to be achieved. During episode three the learners use the etherpad, their flowcharts and that of others to answer the questions on the website. Finally, during the plenary the learners were introduced to corkboard in order to share one idea they had learned during the lesson. The Plenary enabled all the learners and the teacher see each other’s comments, providing a supportive environment and also enabling all to judge learning progression during the lesson and particularly important to identifying next steps. Throughout the teacher circulated and addressed issues with learning, misconceptions and probed understanding, she was supported in this by two PGCE trainee teachers.

## BENEFITS

### IMPACT IN THE CLASSROOM

#### Impact on pupils:

* Students worked collaboratively within their groups but were able to work at their own individual pace
* Little input required from teacher as all questions were provided to the students on the website as were all of the resources
* Some students asked each other for help through the etherpad
* The majority of students were fully engaged in the activities and remained on task. The etherpad encouraged all to write something and encouraged real time collaboration and support

Positive comments from the focus group of pupils

*“Using an Etherpad is much better than typing in Word because I can see what everyone is putting”*

*“Doing this work on the computer is more fun than writing in our books”*

*“It is good to work in groups but be able to sit on my own”*

*“Being allowed to chat to people is distracting”*

**There were some negative impacts which included:**

* Some students became frustrated as they lost their work due to other students deleting it/ messing it up in corkboard. Others took the opportunity to write silly comments in “text speak”
* Some students also abused the chat feature to have general conversations instead of focusing on the work set.

However, both of these could have been addressed with clearer rule setting by the teacher at the beginning of the activity, perhaps involving the learners in setting up the rules in the first place. Also greater experience in using these technologies helps in anticipating these glitches during the planning process which is often difficult if it is the teacher’s first experience of the technology. It is important to embed this technology into practice so that it becomes common place in order to fully gain from the improvements in learning it can offer.

#### Impact on the school

* As a result of the project there was a CPD meeting on using web 2.0 technologies to disseminate the findings and lessons learned.
* The teacher reflected positively on the lesson outcomes and believed that it helped students to learn and improve their literacy skills. The way the learning was structured and supported through the use of technology made the learning more student-led and encouraged students to collaborate on their learning
* The teacher also felt it help move her professional practice forward by taking her first steps into using Web 2.0 technologies (see points above relating to negative impacts). It has made her reflect on how the process of learning might change and what lessons might look like through the use of technology.

#### Impact on trainee teacher

The trainee teacher commented;

*“It was clear literacy had been affected for the focus group though not through writing as some students copied and pasted from the web without reading the text or having a clear understanding of what it was about. It was through the collaborative nature of the task and discussing the work, making small comments on the chat pages and attempting the questions with the help of their group”*

She also reflected that;

*“Before incorporating web 2.0 technologies into your lessons it is essential that the teacher knows how to use web 2.0 and how to effectively incorporate it into the lesson so that it enhances the learning. The main challenge that I have concluded from this lesson is that using technology provides a challenge to continue developing learner literacy skills while simultaneously learning new technologies yourself and instructing students in those technologies”*

## FINAL COMMENTS

### Lessons learnt

It is critically important to get support from schools management team; this would give the project a higher profile within school. Perhaps during the project evaluation with the learners.

Rules for appropriate use need to be in place (agreed with the learners) and clearly communicated with the students

* Some students used the chat facility and became disengaged the task.
* Some students started writing inappropriate comments and deleting other students post-it-notes.

‘One off’ use isn’t going to benefit students. Web 2.0 technologies need to be embedded into a scheme of work

Students can work collaboratively and use each other as a support network

Generally, students were more engaged with essentially a writing task using an Etherpad than an exercise book

Differentiation is still vital in order for **all** students to progress

* Not all students attempted to answer the questions as they relied on others in the group.
* 2 of the low literacy students copied and pasted answers from websites as they didn’t understand the text.

Appendix A

**Session Sequence**

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| Time and duration  **(mins)** | **Teacher’s activity** | **Learner’s activity**  Please highlight the episodes in which the project focus points are being addressed |  |
| 8.45-8.50  5 mins  8.50 – 9.00  10 mins | **Settler:**Ask students to enter quietly, sit in boy-girl order and log on to the computer.  Write the website URL on the board and ask the students to access it.  Tell them to look through the site for what they are going to be doing and write the objective in their planner.    **Starter**  Give each one a number.  Describe the objective of the lesson and ask students to open their group’s EtherPad.  Ask students to find out about their extraction method using the hyperlinks.  Key questions to ask:  What metal are you researching?  What extraction technique are you finding out about?  Why is it used?  How does it work?  What are the advantages and disadvantages about using this technique? | [Starter](http://9sherwin.yolasite.com/etherpads.php)  Students log on to the computer and access[9sherwin.yolasite.com](http://www.9sherwin.yolasite.com/) and familiarise themselves with the site.  They write the objective into their planner.  Students are given a group number and begin to look through the links for info about the extraction technique. |  |
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| 9.00 – 9.12  12 mins | **Episode 1:**  Tell the students that having now found out about the different methods of extracting metals, they can share ideas by filling in the EtherPad questions.  Tell students that everybody must contribute something to their EtherPad, and they must put their initials in the box. | Students use the 9Sherwin website and Etherpads to research and discuss the extraction methods with other people in their group and the whole class.  They fill in the EtherPads with what they have found out about the extraction methods and use the chat bar to collaborate with each other e.g. which link/source they used to find out each piece of information. |  |
|  |
| 9.12 – 9.24  12 mins | **Episode 2:**  Tell the students they can now use their own EtherPad and others’ EtherPads to fill in some flow charts to describe the processes.  They may download a template from the website to fill in or may draw their own.  Tell them to save their work in their science folder.  Tell students to write the steps for their extraction methods in order.  They must put any reactants and conditions on the arrows. | [Main activities](http://9sherwin.yolasite.com/flowcharts.php) – Students now draw some flow charts to show how the metals are extracted.  They start with the method they researched.  Students download the template, copy and paste the template or make their own.  They could copy it into PowerPoint or Paint to fill it in and paste it into Word.  If they want to use Word exclusively then they need to create their own flow chart or download the template from the website.  Students then can use the other Etherpads to help them to draw more than one flow chart. |  |
|  |
| 9.24 – 9.31  7 mins  9.31 – 9.34  3 mins | **Episode 3:**    Ask students to view the questions in the tab on the website and answer them.  They may start with whichever they feel is appropriate to their level.    **Mini plenary:**  Discuss the answers to the questions with the whole group. | [Questions](http://9sherwin.yolasite.com/questions.php) –  Students answer the questions from the next tab.  They can compare the flow chart they have drawn with what their neighbours have drawn to see how the methods differ.  They then compare their flow charts and show how much they now know in a full group discussion. |  |
|  |
| 9.34 – 9.39  5 mins | **Plenary task:**  Ask students to access the corkboard and post something they have learned about each metal/extraction method.  Call the class to order and highlight some good comments. | [Plenary](http://9sherwin.yolasite.com/corkboard.php)  Students write a post it note on the corkboard to show what they have learnt in the lesson.  They post their comments under the correct headings and use the correct colours for each metal. |  |
|  |
| 9.39 – 9.44  5 mins | Questionnaire  Ask SM and RH to hand out and collect in questionnaires. | Students complete questionnaires as they are logging off. |  |

**Resources**

[http://9sherwin.yolasite.com](http://9sherwin.yolasite.com/)

Appendix B

<http://9sherwin.yolasite.com/>







