# Reflective Log – Tommy Woodley – St. Benedict’s School

## Week 2 – Wednesday 18th January

I began the day with a short meeting with the headmaster of the school and finalisation of HR work receiving an ID Badge.

First period was free for Richard, so we took the time to look through the Year 13 mocks that they had just done. Richard noted to me that some of the main topics that Year 13 struggled with during their recent exams were Assembly Language, Boolean Algebra and Databases. Since Year 13 were already done with the course content this term was available for revision so we decided that I could cover and lead the lessons with them on these topics over the next few weeks up until half term and observe and act as a teaching assistant for the remaining year groups. Boolean Algebra was a topic that Richard had already mentioned was challenging for the students, he noted that many of them didn’t seem to understand the purpose and often didn’t memorise or have a good system for applying the rules. We discussed the prospect of covering this topic in a more practical way when the Year 12’s and 13’s visited Imperial on the 1st of February. Then we discussed his plans for the next 2 lessons.

Second period was a Year 10 class looking at Assembly Language in the form of Little Man Computer (<https://peterhigginson.co.uk/lmc/>). This was a particularly interesting lesson as Richard has asked me to lead a lesson next week on the same concept to a Year 13 class so this gave me the opportunity to understand how he went about teaching it and gave me an idea of how to cover it for the Year 13’s. Richard led the class, and I acted as an observer to the lesson. The lesson began with a recap of how to convert Binary number into Denary. This was a topic the students had covered recently, and a student volunteered their answer to this question. Then Richard went on to discuss how they might build a program to do this in Python. This part of the lesson felt quite rushed as one student answered almost all the questions. And later it was clear that not all the students had quite understood the ideas of the python program which I believe then made the Assembly more challenging for them. Then Richard set them the challenge of building the same program in the LMC in Assembly. The students had only about 10mins or so to do this, so no students managed to complete it in the time available. Richard mentioned that it was his plan to continue this in the next lesson. The gender balance in the classroom shocked me slightly, it was a class of roughly 20 students and only had 2 girls. They appeared to be close friends and the 2 of them sat separately to a lot of the rest of the class. One of the things I felt was missing on the lesson was the purpose of assembly language, I overheard one student say, “why are we even doing this when we just did it in python”. This may have been covered in a previous lesson that I was not in when they were first introduced to the topic, but I felt they needed a little reminder. The first part of the lesson took longer than the teacher had originally planned which limited the time spent available for students to actually complete and write the assembly code. Many students also spent time distracted in the classroom, during the time when they were supposed to be doing the Assembly Language Program, a small group seemed to be completing homework for another lesson and due to the arrangement of the classroom the teacher could not see this. I felt many of the students got distracted after long periods of discussion or too long on an individual activity. My main takeaways One of my biggest takeaways will be the importance of splitting the lesson up and giving time for students to complete activities and then come back to class discussion to help ensure a smoother flow.

Then for the 3rd Period of the day it was a Year 13 class. During this they took part in the Oxford University Computing Challenge. They all sat on Computers, I sat at the main desk and used a system that allowed me to watch their screens as they completed it. Which allowed me to get a little bit of a sense of their abilities. From observing it was clear there was a strong disparity in the class. With one pupil, Gabe, managing to finish all bar 2 questions while other pupils struggled to complete 1 or 2.

## Week 3 – Wednesday 25th January

This week consisted of 3 lessons, a Year 11 lesson going through their recent mock exam, a Year 10 revision lesson on CPU Architecture, Performance and Assembly Language and Year 13 lesson that I led on Assembly Language.

The first lesson was Year 11’s. The teacher began by giving back their marked exam papers as students were entering the class. Then the students were asked to fill in a form on Microsoft Teams involving a reflection on their exam paper. During this all the students were well focussed and on task. The teacher wrote the estimated grade boundaries on the board, as well as the highest and lowest marks. This caused quite a bit of commotion as students could then figure out who got the lowest and highest in the class. I felt that this was not the best idea as I believe it could easily discourage some of the lower performing pupils. The teacher moved the class on quickly and the students back on task to filling out their form. The teacher was quick to notice when the class got louder again which signalled that the students were done with the form. Then using Replit the students were asked to repeat the algorithm-based questions from their recent mock. While they were working the teacher and I went around helping students and giving suggestions when they got stuck. I had an interesting discussion with a student over the use of And/Or in conditions. I suggested the tactic that in the exam he works through the algorithm after he’s written it with actual examples to check that his algorithm is right. The reflection worked very well in this lesson as it gave the students the opportunity to find out where they had gone wrong and where they can improve.

Next was a Year 10 revision lesson for a tracking test that they had at the end of the next week on CPU Architecture, Performance and Assembly Language. The lesson began with a class discussion led by the teacher on the best ways to revise. Each pupil was asked to come up with something different they could do to revise creating a mind map of methods of revision on the whiteboard. I felt this worked well for pupils of that year group as they were likely not as used to doing revision. Then students were asked to complete a quiz on SmartRevise on the same topic. It was a multiple-choice style quiz which I think was good for engagement as it added a game style element to the lesson. Then Pupils were given a sheet of practice questions to complete. Something that became more apparent to me this week was the reliance on online tasks and exercises for learning.

For the 3rd Lesson of the day, I led a revision lesson on Assembly Language. Based on their Mock exams that I had looked through the previous week I noted that they struggled with their ability to use some of the higher concepts such as If Statements and While Loops in Assembly Programs. Additionally, the AQA past exam questions almost always seemed to consist of one of those 2 constructs so that’s what I decided to focus the lesson on. All resources for this can be seen in the Teaching Materials submission. The lesson ended with the pupils being asked to fill in a short survey which helped me collect some information on how they found it. APPENDIX. All students increased their confidence rating on Assembly Language after the lesson and I believe the content went down well with pupils noting “I enjoyed the comparison between the pythonic syntax that I am used to, and how that would be implemented in Assembly”. Unfortunately, the main part of the lesson took roughly 10mins longer than I had planned for which didn’t give the pupils very much time for translating a bubble sort algorithm from python to assembly. This limited what they were able to produce. And this was largely due to not accounting enough time for exercises earlier on in the lesson. Time management and planning is something I want to focus on for the next lesson. Several of the pupils answered the majority of the questions I asked them whereas 2 of the pupils didn’t answer many. Which meant I was likely not engaging with them enough. Something that I would do next time is ask specific pupils questions directly to help keep everyone engaged. Richard provided me with some feedback and things to think about for the next lesson APPENDIX. One of the main points in his feedback was that I could have suggested Pair Programming for the bubble sort assembly as it could have helped pupils progress further through the questions. I agree and thought that was a valuable insight that I could take into the next week.

## Week 4 – Wednesday 1st Feburary