The Ogden Trust
Teach Physics 2018

Hetton School

Reflective Diary

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Introduction

I applied to this internship due to my interest in tutoring and helping others learn. Before starting, I was afraid of students possibly being antagonistic or otherwise turning me away from my interest in teaching. However, I quickly discovered that both the teachers and students were welcoming and well-meaning. Working mainly in the science department, I was assigned a flexible timetable which included science classes with diverse teachers, classes and performance levels, so that I got a good overview of what teaching is.

Near the middle of my internship, I also prepared two workshops for work with students, and took charge of teaching a physics module to a Y7 class.

1 Classroom Observations

Classroom Atmosphere

Though I came into the internship used to a standard classroom set up in rows, I found that teachers rearranged their classrooms depending on the type of atmosphere they wished to cultivate in class.

The first classroom I saw was set up in four semi-circles of desks, so that the teacher could stand in the middle of every semi-circle and talk to several students at once. He also cultivated a relaxed atmosphere: though he asked for students' attention while he talked, they were also able to openly ask questions and occasionally talk between themselves. Two other classes were set up in rows of desks, and both teachers expected students to work quietly, paying full attention to the teacher. One engaged pupils and allowed them to ask question semi-openly, while the other was stricter and asked for silence. This created a more formal atmosphere, but I noticed that if pupils were predisposed to acting out, they would do so in any classroom. The fourth teacher had a semi-open desk layout in the shape of two elongated C-shapes; this allowed the class to face her during lessons, while also permitting flexibility to approach multiple desks at once.

No matter the layout and general atmosphere, I found that the teacher's personality still played a large role; teachers adapt the layout to suit their needs, and the layout cannot instil discipline by itself. The layout helped teachers run lessons their own way; I personally preferred a formal atmosphere for the lessons I taught, and a relaxed atmosphere for my workshops.

Pedagogy

I found that all teachers had a base set of "good practices": asking leading questions, structuring lessons from basic concepts up to trickier ones, and testing pupils' understanding with frequent tasks. Each teacher had their own approach to match their classroom climate.

The teacher with the most relaxed atmosphere also had a more hands-on, improvised approach to teaching. He favoured showing videos to his class and presenting activities as a follow-up; I found this proved effective for lower-performing kids. They

responded really well to having an activity to do that was both clearly applicable and exemplified, even if it was as simple as cutting out and gluing in definitions and diagrams of lab equipment. The other teachers I worked with always prepared slides and followed them thoroughly; these always included intermittent tasks for pupils, such as writing down definitions in their own words or completing short worksheets. I found this approach easier to plan for, but also more time sensitive: it was often hard to finish all prepared slides in a lesson if pupils misbehaved.

I paid special attention to how teachers posed questions to pupils. Ideally, the students could reach answers with minimal teacher input, without being fed the answers. I tried that myself during pupil work time and found that most pupils had good thinking skills, but needed some guidance to start/finish their work. Occasionally, I couldn't guide them to the correct answer and had to reflect on easier ways to explain concepts that seemed simple to me.

Dealing with Behavioural Issues

Without exception, top-set and lower-year classes were easier to manage and hold the attention of than older and/or lower-set classes. A pair of teacher assistants moved class-to-class to help teachers with special-needs or poor-behaviour pupils, and I had many opportunities to observe how teachers dealt with students' behavioural issues.

When students were being inattentive, talking over the teacher or otherwise misbehaving, teachers would often stop talking and "stare down" the pupil; the misbehaving pupil(s) would quickly realise they were disrupting and simmer down. I was myself surprised at how well that worked in my own workshops.
Sometimes, children would be sent outside the classroom, usually after several verbal warnings. I found this disheartening at times; I believe the pupil's behaviour could have been modified to be less disruptive. For example, one Y7 student repeatedly got in trouble for, among other things, tapping his pen on his desk loud enough to disrupt lessons. As someone with similar focus problems, I thought getting him to tap on a thick notebook to minimise noise could have been a better solution. In most cases, however, removing pupils was the only possible short-term solution, such as when they repeatedly shouted out over other students.

Some pupils seemed to be more troubled. Although I never witnessed any extremely inappropriate conduct, I was witness to a few tantrums, such as throwing their phone on the ground or kicking over a rubbish bin after being scolded. In those cases, students would be removed from class and sent to detention, but I was happy to learn that, in cases of severe tantrums, staff always tried to understand the source of pupils' emotions instead of blindly punishing them.

Overall, I received a sense of inspiration after working with difficult student one-on-one during their classes. Most if not all of them showed curiosity and some level of ability after appropriate help, so I believe they are all capable of something. Many students seem to adopt a fatalistic attitude to their own learning and future, however, and abandon all confidence in themselves. Though I was frustrated and sometimes shocked at their behaviour in class, I also wanted to work even harder

for their sake. I also gained a new-found respect for the teachers, who look beyond pupils' behaviour and continue working hard for their sake.

Leading Classes

For two weeks of my internship, I was allowed to take charge of the top-set Y7 class science lessons on forces and speed. Though I hoped it would be simple enough, it proved a rather challenging experience.

After observing classes for two weeks, I chose to prepare slides and go through them with the kids, paying special attention to different examples of forces and how they balanced. The first few lessons, I had to get used to time management: pupils were slower to pick up concepts than I had anticipated, so I could not finish topics on time. I consequently rushed some of my explanations or examples, and I think that really hurt how well the pupils understood me and the topic. I later tried to slow down and pay more attention to the pupils than to my agenda, so that I felt more confident in their understanding before moving on.

The class was quieter than others, so even if students were confused I did not receive feedback during class time. I particularly struggled to get them shouting out answers, as I did not know their names and hence had to rely on them raising their hands. To get a feel for how well the class understood the topic, I gave them more time to work through short questions so that I could walk around and talk to pupils who seemed to be struggling. Some misunderstandings seemed common; I tried to address those to the whole class to try and get everyone to the same level.

By the fourth lesson, I had a much better feel for how to walk pupils through new concepts using simple examples and leading questions. I tried to have them think of core concepts over and over by means of repeated questions, and I felt quite confident in the delivery of my last lessons.

My final lesson was the day before school finished for summer, so I booked the computer lab and took my class in so everyone could play around with an online forces simulation. I was incredibly satisfied to find kids thinking about more complex ideas on their own, and the interactivity really helped to encourage them to think and explore.

My Workshops

Eager to work with pupils, I prepared two different workshops: one on STEM skills and careers, and one on university life.

I had four sessions of the STEM workshop, with top and bottom set Y10 classes, a top-set Y8 class and a bottom set Y7 class. I wanted to get pupils thinking about the type of skills they could learn in science classes and how those skills apply both to STEM careers and outside. An initial run with the year 10s showed students needed more intermittent activities to help focus, so I printed out blank activity sheets and had students list STEM skills, careers, and famous scientists between open discussions. I also asked pupils to fill out an activity sheet which had them list what they were good at, no matter how minor, what they were interested in, and

then jobs they could use both in.

I initially had trouble getting pupils involved in discussion and quickly learned to improvise and call on them to read out things they had listed to encourage participation. I worked with most of them in small groups to help them think about what scientists do, what kind of scientists they had heard of, why women were often disenfranchised in STEM, and finally, what they were good at. They really had difficulty recognizing their own abilities, but I think having them write down silly things like 'playing video games' and 'talking', then linking them to e.g. software design and presentation skills, helped at least some of them think about their own potential.

I only had two sessions of the university workshop, with the top set Y10 and Y9 classes. I mainly wanted to get kids ranking universities and thinking about what university would suit them best based on reputation, location, etc., and then I tried to introduce them to what a day in the life of a student was like. Though I was not confident with the success of the workshop, my supervisor praised me on getting them talking about uni, and I think my experience doing previous workshops really helped. Though they needed a lot of coaxing to think about what university was like, I believe talking honestly about the amount of work and play in university opened their eyes to the possibility that they could do uni without extremely good grades or interest in science. The timetable designing activity I made did not seem to work well, but I think they were interested to find out that, depending on the degree you did, you would only have one to three lectures per day as opposed to 6-8 lessons they expected.

Visiting Another School

On the last week of my internship, I spent a day swapping schools with another intern. The school I visited was more urban and had a lot more staff and students. After four weeks getting used to my school, I was shocked at how different the two schools were. The teachers I met used similar teaching methods as I had seen before, but they were much more lenient in regards to pupils' behaviour and seemed to pay less attention to their kids even though the classes were smaller.

The impression I got was that, because there were a lot more science teachers and many more classes, the teachers did not have the same type of mentor relationship with pupils as I was used to. I was also forced to reflect on how I had come to view discipline during my internship; while I still believe a teacher has to guide and mentor their students, seeing how disrespectful some of these students were made me realise the importance of stricter discipline in keeping students behaving better.

2 Science Department Events

Science Club

During my five weeks, I helped run the Science Club - a small group of Y8 students who would meet on Wednesday afternoons after school to do additional science pseudo-lessons.

When I first started, we began preparing for the local Ogden Trust Science Competition. The pupils had decided to prepare a project on maglev trains, so for one session we encouraged them to collect their own info on magnetism and maglev technology. The week after, I took charge, as the usual teacher was busy, and guided the kids through building a set-up of magnets which would another magnet float. Both times, I found that they were very interested in talking and playing but needed a guiding hand to complete their work. They presented our finished project in the competition, and I felt an immense amount of pride in seeing them perform well.

For one of the remaining sessions, I prepared a small practical exploring the shape of magnetic fields using magnetic dust. I was a bit dissatisfied with the pupils' tendency to play around instead of learning about experiments, but I suppose that is why science staff are there to guide them.

STEM and Transition Days

A big chunk of my first two weeks went to designing a physics-related activity for Y5 classes visiting the school for STEM Day. My supervisor wanted the kids to think about the physics of air resistance, so I helped design an activity where kids had to think about a sail-propelled car design and then cut out their own sails out of card, starting with only a bare wooden car.
STEM Day was exhausting but incredibly interesting: we worked with rotating classes of about thirty children for the entire day. I found that the children were much more excitable and eager to share their thoughts and ideas, but I had to adapt my explanations of physics to a much simpler level. While older pupils were more reserved, especially if they were struggling with a lesson, these children had much more energy to ask questions. I got the impression that teaching junior school requires a lot more energy and patience than teaching older pupils.

I also helped at a similar event for Y6 classes who were starting Y7 in September; during this Transition Day, they went around to 'taster' Y7 lessons. For the science lesson, they tested the pH levels of different household products using a universal indicator. The main impression I got from this activity, especially after STEM Day, was that younger children are more receptive to new information and are much more excited for experiments. At some point between then and Y10, they settle down and grow quieter and a bit more resentful of education. I think that, though teachers do their very best to instruct and encourage older pupils, students lose confidence and start giving up as the material taught becomes more difficult.

3 Faculty Duties

Y10 Mock Exams

My first week coincided with Y10 GSCE mocks, and I had the opportunity to invigilate one of the mocks. I also marked quite a lot of the foundation level science papers.

In the exam, I noticed many students struggled with the work. Luckily, there was a feedback system to support students and record which ones needed additional help: if teachers saw a student struggling or acting out for some time (e.g. head on desk),

they would record it in a form and then go over to gently encourage the student to continue working.

After exams, I was shocked to see that, though I was in with a class observing a teacher walk them through a question that appeared almost unchanged in their mock the next morning, virtually none of the pupils had got any marks for it. I got the impression that most of them, while genuinely clever and capable, do not put in the effort to reach their full potential. The science teachers confirmed this, as they were equally frustrated with their pupils who failed to retain any lesson material. I completely understand how a new teacher might become disillusioned; I think that teachers who continue doing their best, such as the teachers I worked with, have an admirable amount of drive and dedication.

Teacher Responsibilities

As I observed the staff outside of lessons, I was shocked by the amount of perpetually changing information and never ending amounts of work teachers have.

While more experienced teachers could basically make up lessons as they go, barring printing out worksheets and planning for agendas, newer teachers have to plan and prepare every lesson. I also found out that in some schools, teachers teach outside their area of expertise, e.g. one of the teachers I worked with had studied Chemistry, but was always working with other teachers to prepare for her Physics lessons. I think this presents an interesting challenge to teachers, as they have to become very well-rounded for their students, and this type of versatility would definitely attract me to teaching.

Outside of contact hours, teachers had lots of work marking tests, preparing lessons, organising/participating in events, and keeping up with new teaching methodology. For example, as part of a yearly audit, the students class notebooks were examined and the teachers were asked to adjust their marking so that both auditors and students themselves could understand what learning objectives had or had not been achieved. This seemed to be never-ending, as the requirements change at least yearly. So much information seems difficult to take in and even understand, especially when it seems counter-intuitive. Teachers also had to have a great understanding of the general education system, which includes so many things outside of ones individual experience. Changes such as the recent reforms to GCSE grading, as well as the evolving educational options for students after their GCSEs, mean that a teacher always has to keep learning.

Y7 Parents Evening

Parents evenings are done differently in each school; this school had designated evenings for specific year groups and spread evenings out across the year. The one I participated in was for Y7s. It started soon after the school finished, and all available teachers sat behind small desks in the main hall; parents would then come talk to them after collecting their childs report card. I learned quite a lot about the complex way children are prepared for stage 3 of their education. Mainly, I found out Y6 exams sort pupils into grade bands based on predicted GSCE grades; their exam grades are used to essentially chart a 'flight path' for the next five years,

and teachers check students progress towards target through regular assessments. I was surprised but saw it really worked to help teachers, who can tell immediately whether pupils are underachieving based on each student's individual 'flight path'.

Sports and Activities Days

During sports and activities days, I got to see a different side of the pupils and teachers than I usually did in lessons. On sports day, the children were willing to cheer on their house in the races, and were eager to see teachers join the teacher race. On activities day, they were excited whenever teachers agreed to participate in the funfair-style activities. I think that, although teachers often reprimand certain students for misbehaving or goofing off, there is still a strong mentor-pupil bond. Both days were held outside, on the sports field, but the kids were rather cooperative and listened to teachers when asked to clean up rubbish or behave. I think that, to a student population which usually struggled with studies, having an opportunity to relax, unwind and strengthen school bonds is incredibly beneficial.

4 Conclusion

The five weeks I spent in Hetton School have been some of the most enjoyable weeks of my life. I learned a lot about what school life is like from the perspective of teaching staff, and, more importantly, I got the chance to experience tutoring and teaching first hand. Though I often struggled to find the right ways to explain or present key concepts to confused pupils, I believe it is a skill one builds up over time, and I was only encouraged to become more creative in my explanations as I realised what concepts pupils struggled with the most. Though my core ideas about teaching have not changed much, I have come to appreciate the challenges that teachers deal with in schools.

I remain impressed by the dedication teachers show in persevering even when pupils are difficult and uncooperative, and I now know that being a teacher myself is something I would find incredibly rewarding and interesting.

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