

March 2019 Erasmus Trip Frankfurt Germany Purpose of the Trip, Goals and Expectations



The aim of producing this document is to enable us to reflect effectively on the teaching practices observed in Frankfurt Germany. We want to have an open mind, look for ideas which we think will be relevant for teaching and learning at West Kirby Grammar School, WKGS. It is also a great opportunity to see other systems of school life and the curriculum on offer at a different school.

For our two accompanying students we hope that they will benefit from the cultural experience and the independence they experience while living with their host families and attending school and work placements.

Observations and Comparisons

Monday First impressions and tour around the Science rooms



On our arrival at the school we noticed that the school was very insecure in comparison to British schools. The school building was very grand with wide corridors and high ceilings. Although it was very spacious, the walls were bare due to strict fire safety regulations. We were shown around the science rooms which are very similar to our own in that they have gas, water and electricity but a striking difference was the space available in the teacher areas. All the labs were left very tidy, sinks were available that can be used for washing up and there were racks for drying glassware. Each member of staff is responsible for preparation and packing away of all equipment. Some of the older

students in school with an interest in science help with this. There was no work displayed on the walls. During lessons the school was very quiet and the only light coming through was from the windows. During break many students sat in groups in the corridors. The students wear their own clothes. None of the doors have windows and there is no way to see into a classroom from the corridor. In the majority of rooms the teachers only use chalk boards. This is a consequence of teachers moving from room to room. To eliminate the troubles with technology while moving, some teachers avoid using the computer all together. Some teachers plug in their own laptops. Another

first impression is that there are no bells, each room has a flashing light to indicate lesson changes. KS really liked the flashing light system as it reduces the level of noise in the school

Storage of practical materials in Science

KS wanted to note the impressive science rooms and preparation areas available to science teachers;

Materials stored by topic and easy to access and see what is available

Floor to ceiling cupboards

Glass fronted cupboards (all items clearly displayed)

Sets made up for basic requirements (eg. Acids and Alkalis)

Fire proof storage

Ventilated storage

All items are left tidy, clean and have sufficient space

Plenty of bench space for practical preparations



Lesson observations and reflections

We observed a Mathematics lesson on Factorisation with 14 year olds. Students were first given a revision self assessment list with links to the textbook. They were preparing for an upcoming assessment. The chalk board was very small. Students had 6 questions to complete on Factorisation and after a short time the teacher asked several students to explain their answers verbally. At one point a student made a mistake and the teacher wrote the incorrect answer on the board and then used it to ask the students if they could correct the mistake. The questions were then used for further discussion. The students were then set further textbook work. When prompted by the teacher, the students moved their desks from pointing towards the front in rows into ability set groups of four facing each other. This was a good shift in the lesson from teacher led time into independent work where the students are able to effectively help each other. Halfway through the lesson the students were given a short break to get up and move around the room or talk loudly with their classmates. The students were talkative at times during teacher commands and it was clear that German teachers often have the same problems of students trying to talk over them and low level disruption. Students gave their answers verbally and upon getting the answer correct were able to chose another student to give the next answer. The students were used to putting their hand up. I noticed students were using the same new advanced CASIO calculators as we do too at WKGS. At the end of the lesson the students were shown which part on the revision list they had completed and the next steps for them to complete independently. From a Mathematics prospective it is interesting to see the different conventions and notations used in German Mathematics. For example, the students use a comma in the place of our decimal point. They use a dot for multiplication as do we but they also use a double dot for division (which we use for ratio).

JK observed a Mathematics lesson on shapes with 10 and 11 year olds. The room was large and students sat in a U shape with some in the middle, there was plenty of white board space, back board space and a projector area in the classroom. The teacher used Geobra to draw shapes on the display in response to previous work. He used the whiteboard to write down notes for the students. The students in this class were much better at listening to the teacher and each other. The atmosphere was fun and inviting. This teacher had a good sense of humour. Even when the teacher had to leave the classroom to check in on a neighbouring class the students were very well behaved. Interestingly when other students became a little bit chatty they were soon shushed by their classmates. The focus for this age group was on self organisation and ways to work in the classroom. The students are shown different ways they can work and learn. For example in pairs, groups, independent research and sharing ideas. They also talk about what they expect from the teacher and also each other and this appears to be why the students in this class are more respectful of each other and the teacher. The students had a dial on the wall with three settings. They could turn the arrow to green, amber or red depending on how they want to work. If a student feels like the room is too loud they can put the arrow on red to show that they would like the other students to work more quietly. The focus on classroom management and how to learn was very clear. I really liked the layout of the room and how the teacher was able to use different walls to display the work on either the white board, projector or black board. Not only was there plenty of white board space, the room also benefited from cork boards where students were able to display work. I wish that I had a larger classroom with space for whiteboards, chalk boards, projector space and the ability for 360 degree teaching. This has been the highlight of my day so far.

JK and KS also observed a Mathematics lesson in the gymnasium. It was an experimental lesson in which students had to find a quadratic function which enabled them to score a basketball point. They could see the real world application of mathematical functions. Students worked in self selected teams, it was interesting to see the interaction between the students and their approach to solving the problem. Some groups were fully engaged and others did not attempt the problem and required encouragement to make any progress. The teacher gave students the independence to decide whether or not they put in effort however she explained to them the consequences of not working.

KS observed ages 17 in a Biology on evolution, classic examples used for this e.g;

- Peppered moth
- Hardy Weinberg (some struggled with this but all had a go)
- Counting moths on trees (good application)
- Lamarck and Darwin were compared as a starting point.

This was very similar to the approach to those used in the UK on this topic. It was interesting to note that although the lesson was taught in German, there were subject specific words which were used in common throughout (eg. allele, mutation, crossing over, punnett square and survival of the fittest, haploid and diploid).

KS and JK had a discussion about the various teaching methods and school culture in comparison to our own at WKGS.

Tuesday Lesson Observations and Reflections

JK and KS observed 11 and 12 year olds in a Mathematics lesson on rotational symmetry. Students helped set up the black board by wiping it and unfolding it out. Students often quietly mutter "no" when they hear an incorrect answer. It is clear students attempt to answer questions even if they are not sure. The teacher bounces discussion around the room. It seems to me that students spend a longer time on less questions than I do at WKGS. Clapping method to combat low level disruption. In many classes there are a small number of students who put in very little

effort, it seems that these students are not confronted in the way we confront our students who are putting in little effort.

JK and KS then followed the same teacher observed a Mathematics support lesson for struggling students aged 10 and 11. The topic was the number base system, specifically in base 2. He has a good routine of greeting his students and does a standing start at the beginning of the lesson. There is no internet readily at the school. When I showed him a useful mathematics website he had to turn on his mobile phone as a wifi hotspot. In the classroom they had a cork board strip which seemed to be a cheap way of having a cork board for displaying work in the classroom. The students played a Kahoot in groups.

JK observed a computer science lesson with 17 and 18 year olds. They had finished some examinations but had to remain in school and prepare for the final examinations. They were working on a computing project. They had to use something similar to a RaspberryPi to program a car with sensors to perform tasks. JK had a good discussion with students in this lesson about general school life. It is clear that the school lacks IT equipment due to local politics. The school has no support staff for IT or in science. This is very different to WKGS where we have support staff in many areas such as IT support and science technicians. None of the teachers wear identification and the doors to the school are always open. The school doesn't have a wellbeing manager and so form teachers have to deal with issues such as bullying with less support than we have at WKGS. If issues continue then the head teacher becomes responsible for dealing with such issues. Punishments must be constructive and they have to do something productive. Collective punishment is forbidden and they don't have detentions. Punishment is often tailored to each child, for example, a student caught littering may be required to clean an area. However, cleaning is also mandatory for lower classes on a rota. Which we saw evidence of at lunchtimes. It seems students get the choice to work hard or not, but the consequences of not working hard are explained to them. It appears as though the few lazy students or weak students get a little forgotten about. Civil servants apparently can not be fired for incompetence and young teachers in Germany are very well paid in comparison to the UK.



School management

JK and KS had further discussions with a teacher about how the school works. The teachers don't seem to collaborate very much. Like at WKGS teachers are not allowed to collect money from students but here the school does not seem to have its own bank accounts or financial team for buying books or paying for school trips (apparently teachers sometimes collect money anyway in

order to arrange school trips etc). It is surprising to hear that they don't have a resources assistant and are required to manage the school photocopier etc. themselves. If they have a problem they have to contact the local authority.



Further Lesson observations

JK observed a Physics lesson with 16 and 17 year olds on resonant frequency and driving frequency. The teacher used some equipment he wheeled in from the prep room to question students on a topic. He then used the black board to write down key words and notes/questions for the students. There seems to be a pattern in lessons of students focusing on small problems or examples for a much longer time than we do at WKGS. The students watched a well known video on resonant frequency which involved a bridge collapse.

KS observed a very traditional biology lesson on birds. They read from information sheets and answered textbook questions. The teacher then asked students to check their answers from a previous lesson. There was no dating or ticking of the work to say this had been done. There was no evidence of any marking of work in their files or exercise books. However, students seemed well motivated to keep them tidy. There was some poster work in the room on animal adaptation but nothing else to indicate it was a Biology room. The students then worked in groups on a similar exercise, read the textbook and answer questions. There was no IT used in this lesson and only the black board was used. The textbook was very traditional in its style but different in the content in comparison to the UK. There was no lesson objectives that were made clear to the students.

KS observed ages 17-18 in a Chemistry lesson. A powerpoint was used to deliver the content. It was interesting to note that the students did not make any notes during the lesson. During the majority of the lesson, students listened in silence and asked no questions. The member of staff clearly had a very good relationship with the students and did ask the students questions during a class discussion. The teacher had made an effort to make the material relevant. After 30 mins KS thought the students had become tired. The students in this lesson have finished their final exams already.

Students have a lot of freedom in the wide corridors such as eat, sit in groups without any hassle.

We have not yet seen any good examples of differentiation despite the wide range of ability in classes. In further lessons we plan to look for this. We have been quick to discuss a lot of negative differences and so we want to now focus on the more positive things which we have seen. Students are on the whole appear to be relatively polite and quiet although like in any school there are a few characters.

Wednesday Doctors Surgery Work Placement

JK and KS attended the doctors surgery work placement to check in on WKGS students. The students are sat with the doctor as he sees and deals with patients. JK and KS had a discussion with TM about healthcare in Germany and were shown around the local area.

Observations and Discussions



JK and KS observed a good chemistry lesson with 15 and 16 year olds on the topic of naming molecules. The students had been given equipment to build model molecules and answer questions about them. The students have to work out for themselves the rules on how they name the molecules. The students should then be able to interpret the structure of molecules from their names. Students are working well in mixed groups. KS commented on how this lesson activity is very similar to the sort of lessons she has seen in England. The classroom wall has a steel plating under the paint and so magnetic pins can display work without the need of bluetac. All the desks have hooks for students to hang their bags. The teacher creates all her own resources and uploads the lessons to a website and students then have to take their work home and check it online. The teacher asked students to come up to the front and draw their molecules on the board. They discuss what they have learnt and homework is set. This teacher also runs a first aid course for students so that they can help in the school

JK and KS had a discussion about our day and the differences between WKGS and the school in Frankfurt. We have felt as though we have written down largely critical thoughts in previous days and having spent a bit longer here we have seen much more positive aspects of school life. It was good to see today how hard some teachers worked for their students whether this be in teaching and learning or in extra curricular ways. It is clear the school has good links with local businesses and attractions such as the botanical gardens, the zoo and doctors practice. We have heard about the projects that students are involved with in these places. There are some really lovely staff who have chatted to us. JK had a discussion with a christian teacher who teaches Economics, Politics and Protestant Christianity.

Thursday Doctors Work Placement

Our students are continuing their work placement with the doctor and will be attending a local political meeting with private businesses and politicians on the topic of Britain exiting the EU.

Observations

JK observed an Art lesson with ages 10 and 11. The class teacher used a bicycle bell as a behaviour management strategy. In this classroom they have floor to ceiling cupboards and the students use a ladder to climb up relatively high retrieve their work. They have a short break in their double lesson. The teacher wrote names on the board. I asked her what the consequences of having their name on the board was and was told that those students would not be aloud to listen to music while they did art work. The teacher had a very good relationship with the students. The teacher commented that she didn't like the students having a break in the lesson as it was then difficult to get them to settle down again but it was required in this school. I found out later that I went to the wrong lesson but the teacher was lovely and welcoming anyway.

KS observed a Biology lesson, topic Ecology. She noticed that the students spent an a good part of the lesson discussing and interpreting one graph. The students were invited to describe the data in detail and were obviously used to voicing their ideas. They corrected themselves when they used the wrong units. We have both noticed a pattern of teachers spending a lot more time on fewer questions than we do at WKGS. This has its strengths for the weaker students but we have seen less extension work for the more able students. The older students are in much smaller classes and are very much encouraged to contribute to the teacher led discussion but only when when invited by the staff. They raise their hands if they want to contribute and wait their turn. They respect each others ideas and develop them as a group.

JK and KS observed a Biology lesson with 11 and 12 year olds on the topic of bird egg development. The teacher had not seen the students for a couple of weeks. In this school almost all the lessons are doubles. There was a class discussion and students then attempted a worksheet. The worksheet had an explanation of the development of the bird egg embryo but it had gaps which needed to be filled in with key words which had been provided (students had prior knowledge). Students worked very quietly and then watched a video about the development of the chicken embryo with a little bit of awe and wonder when the chick hatched. This teacher had plugged in her own laptop and had a good set of resources. The teacher writes down notes on the black board. We agree that we like the mobility of the blackboard. It is the type which slides up and down. KS noticed a test which had been marked with detailed feedback. After a short break the number of students are now performing presentations based on a previous assignment. The teacher leads a class discussion on the presentation and students give feedback on their peers. KS commented on the students good work ethic, they write down concise notes without prompt. The building has external blinds which the teacher can control with a key. The students were shown another video of a bird feeding its chicks and questions and discussion held. The lesson is fragmented into distinct sections on many aspects of a chicks development. Further presentations are held, one where students played an audio recording of a bird call and students responded to the presentation by writing notes on what they have been taught by the students presentation. KS noted that the presentations were not all at once and had been held between different activities. This was a very good lesson. KS noted that students are good at listening to each other. The teacher had a formal standing start and formal end.

Parents Evening

JK asked about parents evening. In this school the parents have two opportunities to speak with parents but apparently the parents organise the parents evening and invite teachers to attend. Sometimes they might not ask teachers to attend if they have no concerns.

Other Lesson Observations

The science lessons have finished for the week and so JK and KS attended an English lesson with 13 and 14 year olds and spoke to students. The students are only allowed to speak in English and despite this manage to joke in English.

Zoo

KS and JK attended the Zoo on an educational visit. We then went on a trip with the school director into the eastern areas of Frankfurt.

Meal with the Head Teacher

JK and KS went for a meal with the Head Teacher and his partner. JK asked about the school structure and the vision he has for the future of the school. It is interesting that the management of school teachers is separate to the management of the building and office staff. The head teachers'

secretary is not under his authority. The head teacher has less control over the school building than he would in England and as a result he is unable to set up wifi and has difficulty making certain school improvements. He said that next year he wants to introduce school clothing with the school logo that the students should be encouraged to wear. Apparently uniforms are forbidden in German schools because of the history associated with the country. He spoke of the many school improvements he has been able to make over the last 6 years. After visiting WKGS some time ago and seeing how good it was that we had a school nurse he managed to get a nurse in his school through a pilot project.

Friday Lesson Observations

JK observed a Mathematics lesson with ages 14 and 15 on quadratic functions. The students were cheerful and had a good sense of humour. They started with a discussion of previous knowledge and then started a worksheet. The teacher has his own computer equipment and corrected a mistake on the sheet by connecting his touch screen laptop to the projector and drawing from the tablet onto the board. The students have the same misconceptions with negative numbers and plotting graphs. The teacher addresses these misconceptions throughout the lesson and uses them as points of interest. He was able to use his tablet to take a photograph of a student's work which he then displayed instantly on the projector. The student had made a classic mistake which the teacher could quickly correct and show the whole class at the same time (the classic mistake was connecting the coordinates with a straight line and not a curved one). The students are again working on less content than we usually do in lessons and mistakes are used for discussion and promoting learning. The teacher is patient and gives time for students to think of their answers. He challenged them to think about where the minima of a quadratic would be on a difficult quadratic function. Some of the staff using technology have been very creative. The younger staff seem to have more interesting lessons on average.

Lesson at the Local Park



JK and KS attended a lesson activity at a local park with students aged 10 and 11. The kids were very well behaved and had a brilliant sense of humour. They also were excited to try and speak in English and had a lot of confidence. Students went around the public park with freedom and collected natural items to arrange and take photos of. This is the first time I have seen students use their phones. All students are in their own clothes and it is difficult to identify them running around. However, it is refreshing to see 10 and 11 year olds given so much independence without being overly concerned about safeguarding risks. A different school backs on to the public park and students from that school have their break unsupervised in the park. KS noted that the students started being more creative with the materials after some time. One student made cupcakes for her peers and her mother brought them along as she helped supervise. The students took photographs to take back to the classroom. We then walked further into the park to play and then walked with the students back to school. One student tried to teach me German words.

Things to Try

There are a few ideas I think would be easy to quickly try in my own classroom.

I want to try explicitly teaching my year 7s (especially if I have a new form next year) methods for learning, the purpose of rules, what happens if we don't follow rules, what we should expect from each other and what we should do when people are distracting us etc. I was very impressed with the attitudes developed in the 10 year olds in Germany as the students self regulated their behaviour and work ethic.

I want to have a chart (green - good noise level, amber - a little bit loud, red - too loud) so that students can come up and change the arrow to indicate to the class to be quieter. Young students in Germany are taught to respect each other.

If I was responsible for buying furniture in school I would buy desks with hooks for bags.

If I was responsible for designing a classroom I would have white boards, green chalkboards and a smart board using the walls all around the classroom. I would have the sort which slide up and down for easy of writing.

I would like to try and vary and diversify the activities which I prepare for my lessons and perhaps think more carefully about when I should go through examples more slowly and prompt more group discussions.

If I ever have a room which is big enough I would like to try getting the students to move the desks into different arrangements based on whether they are doing group work or independent study. I think this helps to let the students know what is expected of them and clearly makes a transition from one activity to another.

I liked how a number of students had to prepare presentations using information and then had to teach the other students. This is something I could try but might be better suited to teaching science.

If possible it would be good if I could find a way to take photographs of student work which I could show on the board instantly in order to prompt discussion.

I should give students more time for thinking during class discussion.

Summary

The focus of this trip was STEM subjects. Most of our observations were on these subjects. We have had a very insightful trip and have concluded with a table of the most striking similarities and differences between our schools.

| Similarities | Differences |
|---|--|
| Teachers use similar behaviour management strategies. | Students spend much more time on solving problems and discussing ideas. |
| Similar experiments and examples in Science lessons are used | The register is on paper. |
| Homework diary used (students take responsibility to record their independent work accurately). | The teachers have a much better Science preparation area for setting up practical demonstrations and storing equipment. |
| Similar mental health problems for students. | The education structure does not give teachers any support staff for Science, IT, etc. |
| The same misconceptions in Mathematics. | Students in this school always get a break in their double lessons. They can eat and drink. |
| In Biology students are not so confident using Mathematics in lessons. | In Biology, students study distinct organisms in more detail (e.g. all aspects of birds) whereas we focus on more human biology. Differences in SoW. |
| | Students have a more active role in cleaning up the canteen. |
| | When students do group work they often reorganise the tables. |
| | Less support for SEND students. |
| | More informal (non-uniform). |
| | Students are given more independence. |
| | The school is less scrutinised (no OFSTED) and so is not so evidence driven. |
| | Teachers plan their own assessments and so there is less consistency between classes. |
| | There is no house or points reward system. |
| | The school buildings are managed differently giving head teachers less authority over their school. |

