Head Teacher’s Update

Since our last newsletter we have moved into our fabulous new building, and have finally settled down after what has been one of the busiest terms I can remember in my teaching career. The range of outreach and extra-curricular activities that have taken place, which you will see reflected in the reports in this newsletter – is a real credit to a school this size.

Highlights for me include the inaugural u-Maths CPD day held here in Preston and the student presentations for the LUSoM Award group projects. These events really show what is special about the Maths School network; opportunities for students which aren’t available at normal sixth form colleges and a desire to share best practice to make maths teaching and learning the best it can possibly be.

For the LUSoM Award group projects, students were given a brief from an academic from Lancaster University who then mentored them through their assignment. The students had to present in front of their peers, their parents, and the academics, as well as design a research poster (which will soon be put up around college!). The projects ranged from Geometry investigations to interpreting medical statistics and designing parts for an F1 car. One of the academics commented that some of the posters are easily good enough to adorn the walls of Lancaster University alongside their undergraduate projects. Next up for the students will be an individual project which they can convert into an EPQ should they wish.

Students have had lots of opportunities outside of their studies as well. Trips to the Lake District and the UCAS Fair in Manchester, as well as the formation of a chess club in the weekly enrichment time.

It is exciting to think about next year, as we expand and welcome our new students. Currently the Y11 applicants have sat their aptitude test and are now being interviewed. We wish them all well in their GCSEs and look forward to seeing them in September. We have great plans for the year ahead.
U-Maths Staff Development Day

On 27th January, we were proud to host the first U-Maths Staff Development day. U-Maths is the University Maths Schools Network, bringing together the four Maths Schools currently in operation and the other schools in their opening stages. The aim was to share best practice, build connections, and develop ideas together to support each other in achieving shared goals.

We welcomed 92 members of staff from within the different Maths Schools with external speakers joining us to deliver talks across the mathematical landscape.

Throughout the day staff from shared job roles grouped together and discussed a variety of topics in workshops designed to explore how each school can learn from one another. From curriculum, pastoral, business management, finance and leadership, each department was given opportunity to meet peers across the network, establishing processes and offering support.

We were fortunate to have Robert Wilne, CEO of Mesme, in attendance to deliver an informative talk about how this nationwide enrichment programme can be integral to the Maths School Network. Our students also gave a presentation in their LUSoM Award Projects and were on hand to showcase our new building – the first purpose-built Maths School in the UK.

The day was a fantastic success with each school building connections, sharing resources, and aligning the Maths School agenda to provide world class education to our students. We are very much looking forward to working with our peers across the network and strengthening the many opportunities available to Maths School students.

Statistical Shockers with Zoe Griffiths

We finally managed to ‘break in’ the new building by welcoming maths classes from Hutton Grammar Sixth Form and Cardinal Newman College to join us for a brilliant lecture delivered by Zoe Griffiths.

Griffiths’ “Numbers in the News” opened many eyes to some of the truths behind how statistics can be manipulated to cause bias by the media. From debunking the myths behind the perfect lottery numbers to learning of the almost paradoxical survey on the reliability of surveys, the lecture was delivered engagingly and made sure to encourage interactivity.

She introduced the secret (perhaps not so secret now) power of statistics in persuading the public that is frequently used in the modern day. It was shocking to many of us when she revealed the narratives data creates when not properly evaluated.

After “Numbers in the News”, LUSoM students enjoyed picking apart a scene from “The Simpsons”, spotting as many mathematical problems/theorems found within the clip and listening to what Zoe had to say about them. We then had the opportunity for a question-and-answer session, where we were able to enquire about her experiences within fields of mathematics and philosophy. Megan, who with Amaan led the questions and answer session, said: “I found it really inspirational to listen to what she had to say as a woman in STEM.”

The day was rounded off with a final talk given by Zoe in the evening, where LUSoM opened its doors to more visitors, prospective students, teachers from local schools and members of the public for “Hidden Mathematics in Technology”. This was LUSoM’s first Talk Maths event in the new building and was received extremely well.

By Niamh and Alfie
LUSoM’s Weekend Adventure in the Lake District

We really enjoy our recent trip to Derwentwater, where we had the opportunity to explore the natural beauty of the Lake District, and also enjoy a variety of games and activities in the company of students from University of Liverpool Maths School and Kings College London Maths School.

We arrived at the youth hostel on the Friday evening, which mostly consisted of attempts to learn the names of our counterparts from Liverpool and London. After eating and engaging in some casual board game competition, we headed to bed in preparation for the next day’s expedition.

Day two began with a four-hour long hike, where we were met by the stunning views of Derwentwater. We split off into groups – with a mixture of people from each school – and travelled around the lake and towards Keswick. We spent some time exploring the town individually, before everyone on the trip hiked back to the hostel in one large group.

On the third day, the excitement among everyone was palpable as we set off to catch a ferry across the lake and engage in our hike up Catbells, where we reached a height of 451 metres. It was challenging, but the view from the top was great, and we were thrilled to have conquered the ascent. After both hikes, we returned to the hostel, where the evening was spent on some pool, karaoke, movies and (of course) the ever-popular chess!

The next day, some were exhausted, and others were left with a ravenous thirst that could only be satiated by a treacherous peregrination of the precipitous local land. For this reason, we split into two groups: one completed art-based activities and the other raced up a nearby crag. Both groups returned to the hostel to collect our bags and say final goodbyes.

We had a great time, and we hope that this trip is the first of many LUSoM adventure trips. It was made all the more exciting by the participation of two of the other maths schools – we look forward to nurturing these new-found links and joining with the other schools on further collaborations.

By Jack and Oscar
After moving into our new building, a noticeable downside was the lack of an easily accessible, well-stocked library close by. Though we are incredibly lucky to have full access to the Cardinal Newman library and, due to our special connection, to Lancaster University’s huge library, books in our own school collection were scant; the large open learning area seemed to mock with its single full shelf of predominantly textbooks.

Clearly, our first task as student librarians was to provide the school with quality reading material. Arming ourselves with the intention of making a very maths-focused library, we had a trip to Oxfam in town, where we filled up a whole crate full of interesting finds: high-level mathematical theory, popular science, philosophy, economics, even some classical fiction — all now on the shelves and available for members of our college to indulge in. With additional requests for new books, we are certainly starting to develop an enviable collection.

Looking forward, our next task is to put together a system to manage these books — who has them on loan, how long left until they need to be renewed, which books are reserved — all issues that we hope to sort in the near future. There isn’t anyone at our college who isn’t hyper-aware of the importance of super-curricular reading, both to achieve better understanding of our subjects, and to present a more competitive application for higher education; some oddballs even love to read for the fun of it!

In summary, we are really pleased the progress we have made so far and have high hopes that our library will continue to develop into a great learning resource for all us students.

By Megan and George (Student Librarians)

Chess Invades LUSoM

A glimpse at the Google Trends history for the word “chess” shows the sharp uptick in interest in chess in recent times, which has proved to be no different throughout the halls of LUSoM.

Within the first week of moving into the new building, eager to start, we founded the LUSoM chess club. Despite starting with just two home brought chess boards and a mere five members, on Wednesday afternoons, chess club in the library quickly became the ‘place to be’.

After a few weeks, the school bought us 6 chess sets and 3 professional chess clocks. From then on, our club exploded in popularity to the point where we have now captivated over half of the college with this most ancient of strategy games.

Initially, we played primarily Bughouse Chess, which is a variation played in pairs. Any pieces you take are passed to your teammate, who can place them down on any empty square instead of a standard move.

This leads to extremely sharp, dynamic games, as a vulnerable king can swiftly be assaulted with several perfectly coordinated pieces, seemingly out of nowhere. It also gives rise to interesting strategies, such as deploying pawns on the seventh rank (8th rank is not allowed) to push for immediate promotion. Forks, skewers and pins are vastly easier to engineer, and complex positions can often give rise to forced mate after a long chain of sacrifices. All of the above pressures are amplified by the use of a timer — usually set to just 3 minutes per player per game — which becomes the frequent victim of frenzied fists, as opponents desperately try to stave off timing out, on balance with maintaining the game.

Chess, the game so universally recognisable, has a deceptive depth. Having only 64 squares, yet more permutations than atoms in the observable universe, this game is infamous for being simple to learn but impossible to master, making it appeal to beginners whilst being a never-ending challenge for the sharp of mind.

Whatever their level of play, we welcome all players to the LUSoM chess club, running during enrichment on Wednesdays.

by Tom and James