



The initiative started with S6 running lunchtime clubs for S1. Opportunities for STEM leadership have grown and now S3 lead activities for S1 whilst S6 lead activities in the associated primary schools.

With the introduction of the YSL Programme, pupils can now gain qualifications which recognise and reward their delivery of STEM opportunities.

“It’s been a headache securing staffing and covering classes and having to manage timetables to enable students to visit the primary schools in years gone by; but, I think now there’s a qualification for it, the school is more likely to put it in the timetable - the Sports Leaders have several periods a week and it would be great to have something like that for Young STEM Leaders too.”

Iain Goodart, Teacher

LUNCH CLUBS

The Design Technology Department run daily lunch clubs in Maths, a Traditional Games Workshop, Robotics and a Science Club. These clubs are supervised by staff but led by S3 YSLs. The 7 pupils involved are excited by the prospect of inspiring and passing their knowledge to others and are working towards their SCQF Level 6 YSL Award.

The Robotics Club is led by S3 YSLs Jack and Aiden, who have been involved in the club since S1. Jack has competed in a national robotics competition for the past two years. He is keen for his group to build a robot they can enter into the competition. His experience with this club has taught him that teamwork is important; he is keen to develop this with YSL participants: “Even though they should always work as a team, they need to give each other set jobs. There needs to be a programmer, someone else needs to build, someone needs to manage. Having Individual roles means that they can learn more about what they prefer and focus on the things they like best.”

ABOUT

All Saints Secondary School, Glasgow, works with their young people to ensure that individual potential is fulfilled and that, through high expectations and a positive learning environment, everyone achieves the success to which they are entitled.

Staff are fully dedicated to ensuring that their school is a place of learning for all young people and for many years they have been running a variety of clubs and activities with STEM being a particular area of focus.

Since 2015, All Saints has been encouraging pupils to lead STEM activities.

The Traditional Games Workshop is led by S3 YSLs Ronald and Kevin. They wanted to create a club which was fun but helped S1 pupils to discover aspects of engineering they didn't already know. Their first project was to make small mazes using wood.

Kevin has been impressed with the S1 pupils who have attended the club and has been surprised by how smart they are. When he started the club, he expected the younger pupils to need more help but has found them to be independent with many working faster than others.

Kevin and Ronald are currently researching the best ways to ensure that their activities will suit the different levels pupils are working at and planning to make sure their group understand how traditional games link to engineering.

The Science Club is led by S3 YSLs Emma, Julia and Stephanie. Every week they focus on a different area of Science (Biology, Chemistry and Physics) and keep activities short, so they can be completed in one lunchtime. Their first activity was the creation of tin foil boats that were strong enough to float while carrying coins.

Emma has been intrigued by the different interpretation of the S1 pupils: "When the S1 pupils were doing the boats, every group had different ideas about what type of boat would float and hold coins. One group designed something really big, another group had a really small boat and the last group had a boat that was really tall. It was really interesting to see all their ideas work even though they were completely different."

VISITING PRIMARIES

All Saints S6 pupils deliver lessons to P7 learners within the associated primary cluster and are currently focusing on Physics, Biology and engineering. There are 7 pupils involved and all are working towards their SCQF Level 6 YSL Award.

Lewis, Lucy and Michael are S6 YSLs leading a series of Engineering lessons in St. Philomena's Primary School. The first thing the YSLs wanted P7s to discover was the challenges involved when working with different materials. They started with a task to make balloon chairs to inspire the P7s to think differently about how they could use balloons.



In their planning they had forgotten to take account of potential latex allergies and realised that when selecting materials to use for activities, they have to be more cautious. Following SWOT (strengths, weaknesses, opportunities and threats) analysis, they recognised that they made a mistake by giving the pupils the opportunity to choose their own groups and discovered that in one group the "boys were more immature and having them all together just created havoc." For future lessons, they researched methods to support them to arrange groups in more effective ways.

In the second lesson, the YSLs wanted P7 participants to learn about structures and provided them with spaghetti and Jelly Babies. The YSLs recognised that the P7s didn't fully understand how to create structures from these materials and instead, "they broke all the spaghetti and the Jelly Babies and were left with no equipment to build." The YSLs also recognised positive aspects of the lesson: the P7s worked well with classmates they didn't usually work with; shared ideas; and communicated effectively with each other. This is an activity they want to return to.

The P7 class teacher, Claire Sharkey, is impressed with the impact the S6 YSLs have made, finding that the Primary 7 pupils have fully engaged with the secondary students. She admits that her approaches would normally be more traditional, focusing on the Sciences typically taught: Space, Forces, Electricity, Planet Earth. Now that she's seen how engaged the pupils are with a more practical approach, she is keen to explore activities which can be used to teach the topics with which she is more familiar.



Aleshia, Lucy and Naima are S6 YSLs leading a series of Physics lessons in St. Catherine's Primary School. In their first lesson, they used a slinky to teach the P7s how to make waves; and in their second lesson they introduced cymatics, showing pupils a range of wave patterns using sound and salt crystals. They found that all of the P7s were interacting with the activities and were in awe of the salt being affected with the different wave frequencies.

They identified that they spent too much time with one group and are seeking ways to learn to spread their time more equally with every group.

Casey and Kieran, also S6 YSLs, have been exploring plant biology with P7s at St. Martha's Primary School. In their first lesson they linked different flora and fauna to each of the biomes then used this to explore the parts of a plant in more detail. They also explored how clouds are formed and are working to help P7s build their own self-sustaining biomes using local soil and flowers.

During their lessons, they found that the participants enjoyed learning about biomes as they will do similar things when they join secondary



school. All participants were very enthusiastic and were happy to both answer and ask questions. However, the YSLs identified that they did not allocate enough time for the activities.



The YSL Programme offers a progressive structure to STEM activities, events and initiatives in All Saints. With the new levels becoming available in the near future all year groups will soon be able to gain recognition for their contribution to the STEM agenda.

