YOUNG STEM leader led by sserc

Case Study

SOUTH LANARKSHIRE COUNCIL



The Young STEM Leader Programme (YSLP) led by SSERC, partners with many other organisations and Award programmes to ensure that young people already engaged in excellent STEM learning and leadership can gain additional recognition through an 'Auto-Award' for the Young STEM Leader programme. The YSLP team works closely with partners to align the outcomes and criteria of the partner programmes to the YSLP frameworks.

Introduction

Dr Sharon Macnab
Young STEM Leader Programme Manager

Partnering with other STEM Learning providers to build the Young STEM Leader Awards community, ensures that learners pathways are enriched. Through the Young STEM Leader Award, learners are encouraged to reflect, take ownership and communicate their learning gaining valuable leadership skills.

Foundation Apprenticeship (FA) in Scientific Technologies is one of the frameworks offered by East Lothian Works to secondary students across the region. It has been a pleasure for SSERC to work closely with David Dickson (Education Support Officer, STEM) on an Auto-Award agreement. The FA programme aligns fantastically with the Young STEM Leader Award at Level 6 (YSL6). YSL6 carries SCQF credit and is levelled via the SQA. It is a valued award for young people and their delivering centre.

STEM Leader 7
Supporting Nursery Practitioners

Last year the YSLP Team worked with South Lanarkshire Council and Education Scotland to pilot a programme that encouraged Nursery Workers to complete the SCQF Level 6 YSLP award. Evaluation strongly showed that due to YSL6 participation confidence, leadership skills and pedagogy grew in practitioners whilst their early years learners showed greater curiosity, problem solving and independence and enjoyment of STEM. However, the programme could not continue without additional funding.

The same early years practitioners extended their learning this academic year by undertaking the STEM Leader Level 7 qualification. This approach has further developed their leadership and STEM skills. The reflections on the next page summarise the experience of the STEM Leaders, their Tutor Assessors and the authority leads as a whole.

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Next we hear from three SL7 candidates, with comments from the Tutor Assessor and the Locality Manager.

My project title:

How we can reduce paper wastage

I really enjoyed taking part in the STEM SL7 course. I found the course engaging and informative. The course has helped me to incorporate more data analysis and has also given me more/new ways to display information to make it more engaging and interactive. Also, with the research question: "How can we reduce paper wastage?"

I feel this helped me to identify the amount of paper being wasted within our setting which was something I wasn't aware of. Therefore, this allowed me to reflect on our current practice and as a staff team have put measures in place to reduce this. Overall, I feel more confident using STEM to identify real life problems and work together to find solutions.

Chloe Carmichael

SL7 candidate



My project title:

To what extent does junk modelling improve creativity in children



My aim was to find out how children used their problem-solving skills, creative thinking and imagination when using the junk modelling resources in the nursery setting.

I observed children before, during and after each junk modelling session and I found that children could be seen working collaboratively by helping one another to make things. They were sharing their ideas with one another of what they were going to make when choosing their own items from our junk modelling supplies. My biggest observation was the use of masking tape and how much children love to use it when making their masterpieces. I also found that there wasn't much literature about junk modelling for 3-5 year-olds when researching for my project. This has encouraged me to write my own book which I am currently illustrating for.

Overall, I found that junk modelling within the playroom is greatly beneficial to children's creativity. All-important skills could be seen such as turn taking, sharing, social skills as they would share their ideas with one another, using their imagination whilst being creative and most importantly having lots of fun.
I have thoroughly enjoyed working on my project and can see many benefits that STEM Leader 7 can bring to the nursery setting such as helping young children develop early skills and positive attitudes towards Science, Technology, Engineering and Mathematics (STEM) through play and everyday experiences.
It creates a nursery environment where children are encouraged to be curious, investigate, experiment, solve problems and develop a love of learning from an early age.

Samantha Whitelaw

SL7 candidate

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Claire Reilly – Tutor Assessor, Head of Establishment

"The Level 7 STEM Leadership Programme provided Chloe with an excellent opportunity to strengthen her leadership capacity and refine her data analysis skills while leading a meaningful sustainability initiative within our establishment. By engaging children and guiding her peers through targeted STEM experiences focused on paper waste reduction, Chloe gathered and analysed key baseline and post-project data. This evidence clearly demonstrated the positive environmental impact of her project, providing valuable momentum to our ongoing Eco-Schools journey and wider sustainability goals."

My project title:

Paper recycling and sustainability in an Early Years setting



As part of my Young STEM Leader Level 7 project, I explored how effective paper recycling bags were at measuring paper waste in a nursery before and after raising awareness over two weeks. I used practical activities, video clips, sticker charts, recycling badges and certificates to make recycling fun and engaging, with support from our school sustainability group.

I found that the amount of paper recycled increased after the awareness activities were introduced. The project showed how making sustainability fun and age appropriate can help children develop important life skills and understand how they can care for their environment from an early age.

Completing Young STEM Leader Level 7 helped me develop my leadership, planning, organisation, communication, and STEM skills, while giving me greater confidence to bring STEM into early years learning. It inspired me to continue developing my STEM practice and further my learning, leading me to extend my project and achieve a Gold CREST Award.

Amanda Steven
SL7 candidate

Mairead Maxwell – ELC Locality Manager

"The completion of the STEM Leader Programme has had a significant impact on practice, increasing practitioner confidence, knowledge, and leadership in delivering high-quality STEM experiences. Practitioners have developed a deeper understanding of how STEM learning can be embedded through play, inquiry and real-life problem-solving, fostering children's curiosity, creativity and critical thinking skills. This enhanced capacity has strengthened our learning environments, promoted greater collaboration among practitioners, and ensured more intentional planning of STEM opportunities that support children's early development and lifelong learning skills. As STEM leaders, staff are now well placed to champion innovative practice, mentor colleagues, and drive continuous improvement across our settings. Practitioners were very well supported by their Tutor Assessors and also by SSERC."

Get involved

It's easy to get involved and deliver the programme by attending a FREE (up to 2 hour) training session (usually online).

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Riaghaltas na h-Alba
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OCEAN WINDS

scqf scottish credit and qualifications framework

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youngstemleader@sserc.scot
@YoungSTEMLeader
www.youngstemleader.scot