

Year of RAiSE 2021/22

RAiSE is a programme of The Wood Foundation, Scottish Government, Education Scotland, and participating local authorities to empower primary practitioners with the skills, confidence, and networks to develop and deliver motivating and exciting STEM learning experiences. Primary Science Development Officers (PSDOs) are funded for a period of two years.

In 2021/22, Dundee, South Lanarkshire, Renfrewshire, and Aberdeenshire joined the RAiSE network appointing Primary Science Development Officers (PSDOs) to lead upon the development and delivery of local STEM action plans.

North Lanarkshire, West Lothian, and Clackmannanshire are exiting the formal RAiSE funding period in 2022. All will retain a central STEM officer role to build upon the vital foundations built during the two years.

Laura McCafferty was appointed as National Education Officer in 2021, taking on the role from Gayle Duffus who has moved into the Education Director role within The Wood Foundation. She remains engaged with the programme at a strategic level.

Laura said:

"Covid-19 has continued to pose challenge in 2021/22. In-person professional learning only resumed in the final months of the academic year, but the PSDO team has learned so much from the past two years. Online delivery has been a huge asset in enhancing and

increasing our engagement. It has meant that we have been able to continue to support practitioners as and when they need it. It was great to see the continued success of STEM leadership courses, delivered remotely, which built confidence, capacity, leadership, and collaboration, empowering practitioners and partners nationwide. It is testament to our PSDOs' ability to be flexible and adapt the structure of the course, as well as to the practitioners for their commitment.

"However, it is great to be able to return to some in-person events and engage in rich professional dialogue and discussion around STEM.

"Our partnerships with those who commit time, ambition, and support to ensure pupils are receiving exciting, motivating, context-driven STEM experiences are having an impact.

"Our newest cohort of authorities are already having a measurable impact in schools. We are proud of the work done by our recently exited authorities in laying the foundations for strategically changing the face of STEM learning in their areas. And we are delighted to continue engaging our legacy authorities and seeing what they have continued to embed and grow regionally and nationally."

A programme of:

This academic year

4455

professional learning
hours have been delivered

372

professional learning
opportunities

20

local authorities
engaged

Figures as of July 2022

Key activities and partnerships

RAiSE is underpinned by local and national partnerships which bring STEM learning to life, engaging partners to ensure opportunities align with curricular drivers and that practitioners have the training and resources to give pupils impactful opportunities to learn.

The PSDO network, anchored by the National Education Officer, collaborates, shares best practice, and takes part in joint professional learning opportunities to cascade to their authorities.

These are responsive to national drivers and local contexts, covering areas including technology and engineering; minerals and rocks; and stories through STEM.

Following these sessions, PSDOs have created toolkits, resources, and planners to share with their authorities.

In 2021/22, effective partnerships and initiatives included:

Global Underwater Hub (GUH)

102 practitioners trained in the Subsea Channel which highlighted how subsea technologies can be used to demonstrate real-life application of scientific principles.

The GUH funded kits and training for each of our RAiSE authorities aligned to five high-quality lesson plans.

Energy Skills Partnership – First Lego League

The growth of this partnership has enabled more than 1000 children from 50 schools to take part in the Cargo Connect project, focussing on coding and programming.

Scottish Book Trust

PSDOs created resources to go with the titles shared in the bags which are distributed to pupils nationally.

This relationship has now developed, and RAiSE will be providing planners and professional learning in 2022/23.

Key activities and partnerships (continued)

Dundee & Angus College and Dundee Science Centre – STEMovation

Dundee & Angus College students have set STEM challenges for primary pupils in Dundee.

The work is then displayed in the local science centre. This partnership is empowering college students to develop their skills and learning, and exciting younger pupils to take part in challenges which they can then view publicly. 150 children are being engaged monthly and the initiative is set to engage additional schools in 2022/23.

Orkney Builders

A local building company working on the expansion of the nursery within a school campus was engaged to bring tools learning to life for primary pupils.

This was supported by professional learning and resource planning with the PSDO.

STEM through Stories

Professional learning was delivered to 150 teachers about using stories including *The Iron Man*, *The Very Hungry Caterpillar*, and *Charlie and the Chocolate Factory*, as a stimulus for STEM learning.

There was also a focus on Learning for Sustainability stories linked to COP26. The session supported teachers on how to develop planners aligned with these titles. Resources remain freely available.

As well as these initiatives, PSDOs have delivered a wide range of professional learning sessions on the following themes: outdoor learning; science capital; concept cartoons; engineering design process and makedo; nature STEM; and themed STEM on areas such as Halloween, Christmas, and Star Wars.

Data analysis

West Lothian, Clackmannanshire, and North Lanarkshire are the first authorities to have completed a full cycle of evaluation through The Wood Foundation's process.

This includes a baseline survey which identifies the needs of a local authority's practitioners as they start the programme, supporting the development of a context-driven action plan.

A mid-point survey is then issued to understand the impact one year into the investment, and to further tailor support and strategic direction in the second year. At the end of the investment period, reflection surveys, focus groups, and interviews take place with PSDOs, strategic leads, practitioners, partners, to review RAiSE's role in strengthening the STEM offering locally.

- 85% of practitioners reported the programme has enabled pupils to experience breadth and challenge in their learning.
- 80% of practitioners stated that pupils' aspirations have increased regarding STEM careers.
- 82% had received support in building their confidence, skills, knowledge, and enthusiasm in relation to the teaching of science/STEM.
- 84% have received support in developing pupils' skills for learning, life, and work with relevance of science/STEM both to them and society.

Key highlights were:

- The flexible and adaptive nature of the programme.
- The empowerment of skills and confidence of teachers able to collaborate and cascade their learning.
- The integration of STEM within the curriculum.
- The importance of the dedicated, central role focussed on STEM and the collaboration across authorities.
- Powerful local and national partnerships which bring learning to life.

"By deepening my own understanding, I have been able to support our teaching staff to develop their own capacity. By auditing and re-evaluating our school curriculum, lessons are now well-resourced and more relevant for the pupils."

(West Lothian Primary Practitioner)

"I've been able to connect with all the STEM leaders within my cluster. We've got our own little team as well. We've been able to work as a closer group, to share ideas and promote challenges and to work with the high school as well. Without the STEM leaders programme, we couldn't have identified each other in order to do that, especially with COVID."

(North Lanarkshire School STEM Lead)

Legacy and impact

RAiSE is a model rooted in sustainability and empowering structures, approaches, and partnerships which extend beyond the two-year funding period.

Of the authorities to exit in 2022, all will retain a STEM Officer – two in a part-time capacity, and one in a full-time role – to build upon the foundations laid during the investment and realise ongoing opportunities for further heightening the profile of STEM in their regions.

Nine additional local authorities have exited the programme since its launch, with many retaining a central STEM role within their local authorities. STEM staff in four local authorities remain in post three years post-funding. The majority have remained actively engaged with the RAiSE network.

In North Ayrshire, the PSDO, Tim Dreyer, was retained as a STEM officer leading a team with a remit to promote STEM learning throughout the 3-18 curriculum, alongside Learning for Sustainability.

The expanded team drives strategic developments, creating impactful opportunities for teachers, families, and learners.

The team has remained engaged with the RAiSE network, collaborating on sharing best practice and attending professional learning events. Tim said:

“The work I continue to lead on now has been made possible because of the RAiSE investment period. It is clear that practitioner confidence has increased and there are many opportunities for young people now to become inspired by STEM from a young age.”

Dumfries & Galloway was part of the pilot cohort of authorities to embark upon the RAiSE programme in 2017.

The authority contributed funds to secure additional staffing resource during the investment period, establishing key partnerships, opportunities, delivery of extensive professional learning, events, and strategic direction for STEM education.

It retains a full-time Curriculum Support Officer, supported by a strategic lead who also has responsibility for Learning for Sustainability. Its annual STEM Conference, now in its fifth year, attracts hundreds of practitioners to enhance their practice.

The authority continues to engage in the RAiSE network, as well as other national networks, to influence its focus and key drivers. The structures and approaches it has developed for STEM are now being used throughout the authority.

More information

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