STEM West Midlands Growth Project case study

Background

The construction and arrival of high-speed rail (HS2) in the West Midlands has and will create thousands of STEM employment opportunities. However, many of these roles require higher level STEM skills, which employers across the region already report shortages in. Since 2015, local authorities, providers and wider stakeholders in the West Midlands have been exploring the ways in which adult learning can support residents to benefit from these opportunities. Using existing evidence and examples of good practice, a model of progression pathways for Entry Level learners and a range of activities to support access to this have been developed and delivered.

Building blocks for success

In response to the challenges and opportunities associated with the advent of HS2, Birmingham City Council commissioned Learning and Work Institute to design a STEM progression pathway for the region. Its aim was to enable residents to understand and aspire to the job roles available to them; access appropriate learning opportunities; recognise their progression route in further learning and work; and continue their progression while in work. This work reviewed existing evidence on what has worked in the region and elsewhere to identify eight design features for the STEM progression pathway:

1. A clear line of sight for learners to learning and work opportunities
2. Strategic partnership co-ordination
3. Progression infrastructure
4. Tailored and targeted provision
5. A holistic approach
6. Employer involvement
7. Outreach, promotion and engagement in communities
8. Peer support and role models

In addition, the work identified the need for an innovative entry pathway for those with the lowest skills levels, based on the tried-and-tested Citizens' Curriculum approach. This model provides a framework of learning opportunities built around the skills and capabilities that citizens need in the 21st century. The approach is flexible, and can be developed, adapted and applied to different learning contexts.

The work concluded that, in order to support the inclusive progression of learners along STEM pathways, three key strategic activities were needed:

1. Establishing an underpinning infrastructure to ensure leadership, effective partnership working, and ongoing development and monitoring of the work.
2. Implementing the STEM Entry Pathway Curriculum.
3. Enabling learners to access and progress on the Pathway.

To take the work forward, strategic working groups were developed on each of these three themes. These groups brought together Birmingham City Council's adult learning service,

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community learning providers and stakeholders such as the National Careers Service, to plan and design the partnership, curriculum and information, advice and guidance points needed to successfully implement a STEM Entry Pathway in the West Midlands.

Changes in personnel at the Council meant that this work was transferred to the Adult and Community Learning Alliance (ACLA), a consortium of community learning providers from across the West Midlands. So far, the group has achieved a range of objectives, including:

- The development of a short 'Introduction to STEM' course to support access to STEM subjects for learners with lower skills levels.
- STEM promotion and engagement activities, such as a STEM day at Walsall Community College and STEM week at Fircroft College, which aim to raise awareness of the range of STEM learning opportunities and the potential employment and progression routes associated with these.
- Outreach activities and ACLA involvement in the West Midlands Career Learning Pilot, which aim to increase access to STEM pathways.
- Improved links with the West Midlands Combined Authority, the National College for High Speed Rail, HS2 management board and other construction organisations.

These achievements have been made with little financial investment. To build on this, ACLA has developed a business case for investment which would support the delivery of branding and marketing activities, a progression pathways roadshow, and the development of eLearning and curriculum materials to support tutor CPD on STEM subjects.

Impact

Because the introduction to STEM course and engagement and outreach activities have only recently been developed, their impact on learners has so far been limited. However, the evidence suggests that these will meet a demand for STEM learning in the local area, with 20-25% of learners reporting an interest in STEM in Fircroft College's last two annual impact surveys. As such, a number of providers are planning to deliver the short introduction course as part of their STEM activities in the 2018-19 academic year. By providing these routes into STEM learning for adult with lower skills levels, ACLA is aiming to improve the line of sight between adult learning, even at Entry Level, and the job opportunities that will be created by HS2. In turn, this should increase adults' motivation to engage in STEM learning, thereby addressing the skills gaps currently experienced by employers and supporting economic growth across the region.

The work that ACLA has carried out so far has created a strong foundation for the development of STEM progression pathways from Entry Level to Level 4+ across the West Midlands. They are currently seeking investment in the work set out in their business case in order to take the project forward. However, this has proved challenging as the focus of the Combined Authority, HS2 Growth Board and other potential funders is not yet on developing the skills of adults in the region to meet the demand for higher level STEM roles. ACLA is confident that, once HS2 moves into the implementation phase and the need to ensure that residents within the region are appropriately skilled is recognised, they will be well-placed to develop and deliver a range of activities which further build and strengthen STEM progression routes for Entry Level learners.

How the ‘STEM West Midlands’ Growth project demonstrates Citizens’ Curriculum Entry Pathways principles

Principles	Capabilities	Links	Examples
Taking account of the setting and local context		√	STEM progression pathway for Entry Level Learners to benefit from HS2 developments; partnership with local businesses and employers and other key stakeholdrs
Learner involvement in co-design of learning		√	Clear line of sight for learners to learning and work opportunities; tailored and targeted provision; peer support and role models
Citizens’ Curriculum Capabilities			
	Literacy/English	√	Development of short ‘introduction to STEM course’ to support access to STEM subjects for learners with lower skills levels
	Numeracy/Maths	√	Development of short ‘introduction to STEM course’ to support access to STEM subjects for learners with lower skills levels
	Language (ESOL)		Mentioned as part of CC but not referenced in the case study
	Digital Capability	√	Development of short ‘introduction to STEM course’ to support access to STEM subjects for learners with lower skills levels
	Health Capability		Mentioned as part of CC but not referenced in the case study
	Financial Capability		Mentioned as part of CC but not referenced in the case study
	Civic Capability	√	Outreach, promotion and engagement in communities
Links to vocational		√	STEM Entry Pathway Curriculum; employer involvement; clear line of sight to employment opportunities

Critical Success Factors:

- Clear line of sight for learners to learning and work opportunities with tailored and targeted provision and progression infrastructure
- Peer support and role models
- Strategic partnership coordination with employer involvement
- Outreach, promotion and engagement in communities

4. Contact details

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