

Lifelong Learning UK: Workforce Development in the FE Sector in England in relation to Science, Technology, Engineering and Mathematics (STEM)

This paper sets out the challenges and opportunities in taking forward the STEM agenda in the FE Sector in England, specifically in relation to workforce data collection, workforce planning, development and reform. This is an important opportunity for discussion of the issues and opportunities relating to the FE Sector STEM workforce. It should be read in conjunction with LLUK's report describing STEM workforce development in FE in England, which was submitted to the National STEM Board in Autumn 2007.

1. The STEM workforce in the FE Sector

Workforce development and planning has to be based on robust, meaningful and reliable labour market intelligence and this is a key priority for LLUK and has been identified as Priority One in the FE Sector Workforce Strategy. Currently FE College Staff workforce data is collected through the Staff Individualised Record (SIR) annual return which has been transferred in the last two years from the LSC to LLUK.

SIR data 2005/6 identifies that STEM staff cover 18% of the teaching workforce. Analysis of the STEM FE College teaching workforce from 2002 to 2006 shows that the percentage of teaching staff delivering STEM subjects has consistently remained between 18% and 19% of the total teaching staff over this four year period.

In terms of gender, only 37.9% of all STEM teaching staff is female. *This does raise interesting issues about how women could be encouraged to consider teaching STEM subject areas.* The working patterns indicate more full time STEM teachers (52.5%) than part time (47.5%)

The following STEM related subject areas have been identified as facing difficulties in recruiting and retaining teaching staff: Construction (advanced plumbing, joinery, carpentry), Engineering (electrical, mechanical, refrigeration), ICT (specialised areas rather than basic/general ICT) and Science (pure and applied).

A shortage of fully qualified Skills for Life teachers and trainers was also identified through the SSA research which has implications for mathematics.

2. The context of post 14 FE Sector learning provision

The importance of the FE Sector has now been recognised as pivotal to successful workforce development in all other sectors as identified in the FE White Paper. The importance of ensuring a good supply of scientists, engineers, technologists and mathematicians has also been recognised by the Government as vital to the success of the economy now and in the future - one of the challenges is to ensure that the FE Sector can effectively contribute to this goal.

3. Sector Skills Councils

There are 25 Sector Skills Councils (SSCs) which form the Skills for Business network. There are ten SSCs which are STEM focused - these include SEMTA (Science, Engineering and Manufacturing Technologies), COGENT (Chemicals, Pharmaceuticals, Nuclear, Oil & Gas, Petroleum & Polymers), EU-Skills (Energy and Utility skills), e-skills UK (IT and telecoms), Financial Services Skills Council (Maths), Construction Skills (all sector from architects to bricklayers), Summit Skills (building services engineering), Improve (Food and drink manufacturing and processing), Proskills (Building products, coatings, extractives, glass and printing), Skillset (Audiovisual industries). Each of these SSCs will be setting national occupational standards and agreeing sector qualifications strategies for their employers which impacts upon the FE Sector.

4. The Impact Review - supply and demand

LLUK occupies a unique position as the only sector skills council that represents the providers of education and training for all the other sectors. Recruitment difficulties in skills shortage areas in the FE Sector will significantly affect the ability of other SSCs to develop their workforces. As a result LLUK is undertaking a unique strand of activity called an Impact Review which focuses on reviewing the SSAs of the other 24 SSCs in order to understand their potential impact on future workforce planning and implications for the lifelong learning sector workforce across the UK. Following the initial review of SSAs, LLUK will be working collaboratively with other SSCs and partners to ensure that the skills base of the FE Sector meets the current and future needs of employers.

Emerging themes from the SSA analysis to date include developing the capability of the workforce to deliver new qualifications, new forms of delivery of learning, quality and flexibility of delivery and the need to build the capacity of the sector in line with the forecasted increase in learners and the rapidly developing knowledge base of STEM subjects. One of the recommendations of the Impact Review work in respect of the STEM agenda was the importance of undertaking collaborative work with the National Skills Academies. One aspect of LLUK's work is to identify the impact that these will have on the LLUK FE Sector workforce.

In every regional economic strategy (RES) there is at least one STEM area identified as a priority - part of LLUK's SSA Stage 1 work was to review these and the final SSA Action Plan will include sections relating to regional strategic partnerships and plans.

5. A Sector Skills Agreement for the Lifelong Learning Sector (SSA)

Lifelong Learning UK (LLUK) is in the process of completing each of the five stages of the SSA process to produce a UK wide SSA. This means that LLUK has undertaken an assessment of current and future skills needs within the lifelong learning sector, together with an assessment of the current supply of skills provision. This work has been market tested with all of LLUK's employer groups across the UK and is currently undergoing further consultation with employers, partners and stakeholders to help shape possible solutions.

6. What is the demand for skills?

Results from the 2006 LLUK Employers survey show that more than half of FE employers, (52%), indicated that they had experienced difficulties in recruiting professional staff at Level 4 and above. They reported that:

- Applicants were most likely to lack specialist professional, technical and practical skills, with 44% of employers reporting skills shortages in this area. This includes subject specific skills and knowledge as well as teaching and pedagogical skills.
- Employers also reported internal skills gaps in their existing workforce with 40% indicating that their professional staff lacked specialist professional, technical and practical skills, in addition to lack of relevant experience.
- More than half of employers expected the demand for professional staff in FE colleges to increase over the next five to ten years (52%).

7. Recruitment and Retention Initiatives

LLUK works with DIUS to promote the take up of two schemes designed to encourage recruitment and retention into teaching in FE Sector Colleges. These are the FE Sector Bursaries and FE Sector Golden Hellos schemes.

FE Bursaries are paid to teachers coming into shortage subjects and Science, ICT, Engineering and Mathematics are all included on this list. Bursaries are only paid to those doing pre-service initial teacher training. The budget is fixed, with institutions delivering pre-service ITT courses bidding for places. Golden Hellos are paid to teachers in their second year of teaching. The programme is demand led (ie all eligible claims are paid).

8. 14-19 CPD

LLUK has worked in partnership with the TDA to develop an online Training Needs Analysis tool to inform the generic CPD needs of teachers who work for organisations delivering the new Diplomas. LLUK has not been involved to date with the subject specific professional development on the lines of learning relating to the fourteen broad economic sectors - this work is being taken forward by QIA

LLUK is working in partnership with other SSCs and together with the Children's Workforce Development Council nationally and regionally to provide support, as appropriate, to the gateway consortia planning to implement the new Diplomas.

9. FE Recruitment and Retention Programmes (The Catalyst Programme)

(Refer to Catalyst brochure or to the website <http://www.catalystprogramme.org> for more detail)

The four programmes are:

- **'Make a Difference'**, a programme to encourage high-flying graduates to make a career in the sector.



Skills for Learning Professionals

- **'Business Talent'**, a management recruitment programme as suggested by Sir Andrew Foster, to help colleges and providers attract exceptional talent from business and the public sector into senior management roles.
- **'Business Interchange'** to offer teachers and trainers structured experience and training in relevant business sectors and create parallel opportunities for industry experts to give time to local colleges and providers.
- The **'Give Something Back'** programme, to be run in collaboration with the Skills for Business network, will give technical and vocational specialists opportunities to teach in colleges and providers to fill key vacancies and to prepare the next generation for their industry. This programme will have a rolling plan of work with priority sectors and will provide colleges with an additional channel of development to support the new Diplomas. The first sector is anticipated to be engineering.

The latter two programmes will be particularly relevant in supporting the STEM agenda and there are potentially opportunities for collaboration between the STEM ambassador scheme and Business Interchange.

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Lifelong Learning UK is considering future areas for exploration in relation to the STEM agenda and would welcome feedback on the information and issues in this paper.

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(Information in this paper is based on an LLUK Report on Workforce Development in the FE Sector in England in relation to STEM, dated August 2007)