CAVTL
Commission on Adult Vocational Teaching and Learning

First commissioners' meeting: visit to BAE Systems, 27 June 2012

Introduction

1. This report summarises the discussions and learning from the first commissioners' meeting which included a visit to BAE Systems in Lancashire. The Commission's overall aim is to raise the quality, and improve the outcomes and impact, of adult vocational teaching and learning in the further education and skills sector for learners and employers.

2. Commissioners are committed to taking account of the views of learners, teachers, trainers and employers at all stages of their work. Each of their five meetings will include a visit to see a different example of excellent adult vocational teaching and learning in action and to hear from learners, their tutors and employers about what makes for excellent teaching and learning.

3. The Commission's approach is to work from practice to theory. Every commissioners' meeting will include a reflective discussion to learn from the visit and to begin to identify the features and characteristics of excellent vocational teaching and learning and what might be transferable. Through this process of reflection and discussion, one of the Commission's goals is to begin to develop a new language for describing and valuing vocational learning in its own terms.

4. An outline of the learning from each visit and a summary of commissioners' reflective discussions will be published on the Commission website following each meeting. These summaries will be a contribution to the evidence base, and also way of sharing the Commission's emerging thinking with a wider audience. Comments are welcomed.

Presentation and visit

5. Nigel Whitehead, Group Managing Director of the Programmes & Support business within BAE Systems hosted the visit which gave commissioners an opportunity to meet apprentices, their tutors, graduate trainees and senior managers many of whom themselves had started as apprentices, at BAE Systems' training centre in Preston, and the Typhoon final assembly hanger at Warton. Nigel is both an industrial ambassador for CAVTL and a member of the UK Commission for Employment and Skills.

6. Welcoming commissioners to Preston, Nigel outlined how BAE System's investment in skills underpins its future capability as the UK's largest engineering and manufacturing company.

As custodian of critical defence sector skills, BAE Systems invested £83 million in 2011 in education and skills in the UK. The vision for the company's 2020 skills strategy is *'to take an agile and responsive approach to re-skilling and multi-skilling in order to meet changing customer and business needs'*.

7. Providing resilience in a changing world is a key priority: defence budgets are declining; the strategic and defence security review is underway; military operations are ongoing; there is an increasing need to address cyber security; and BAE Systems must retain sovereign skills. Their skills strategy has four key elements: workforce skills planning; education system supply; early career development; and through-career skills development.

8. Richard Hamer, Education Director and Head of Early Careers at BAE Systems explained that 'early careers' includes education, apprentice and graduate recruitment and development. Apprentice and graduate development programmes prepare individuals for work; provide them with the appropriate skills training and vocational development; support them to secure relevant professional qualifications; and help them develop the self confidence, maturity and motivation they need to succeed in work.

9. Apprenticeships underpin BAE Systems' future manufacturing and engineering capability needs and the company offers strong progression into professional and managerial roles. BAE Systems recruits around 300 apprentices each year and has over 1000 in training at any one time. There is a growing commitment to higher apprenticeships. The cost of a 42 month apprenticeship to BAE Systems is £87,000, and the company calculates that the benefits of that investment begin to be reaped 12 months after apprentices complete their programme – after which, an apprentice's added value to the business annually is an estimated £84,000. There is a real sense of pride in and commitment to the apprenticeship programme and a high degree of top level senior management engagement. The programme was graded outstanding by Ofsted in 2010.

10. The company's graduate programmes are designed to provide the technical experts and management leaders of the future. There are over 300 in training at any one time on two-year graduate programmes, with typically 4 six-month placements.

11. Following this initial overview, commissioners were escorted by apprentices on a tour of the Preston training centre, with an hour to meet and talk with first, second and third year apprentices about their training, preparations for skills competitions, and ambitions for working at BAE Systems. This was followed by a tour of the Typhoon final assembly and an opportunity to meet graduates.

Discussion

Setting the scene

12. Discussion at the commissioners' meeting was introduced by Lorna Unwin who helped us to understand and interpret what we had seen of BAE System's apprenticeship programme in the context of some of the characteristics of vocational education and training:

- it operates across more than one site;
- places importance on the horizontal as well as the vertical (breadth and depth);
- involves different types of 'teacher';
- sees learning as a collective endeavour – communities of practice;
- treats problems and 'mistakes' as opportunities for learning;
- develops expertise through practice in 'real' and simulated settings;
- values and nurtures tacit knowledge and skill;
- recontextualises disciplinary knowledge and integrates this with practice;
- requires a range of assessment methods;
- results in multiple outcomes including the building of identity – people learn to 'become' (occupational name) and to grow (as responsible adults/citizens); and
- knowledge and skills required in different occupations and the occupations themselves continue to evolve over time.

13. Lorna also encouraged us to reflect on how vocational teaching and learning takes on different characteristics according to the sectoral context, and the stage and level involved. For example, we considered the challenges involved in each stage of vocational learning, and the importance of the Commission looking at all four stages:

    - initial vocational formation (full-time college/workshop);
    - apprenticeship – combining job-specific training, vocational education and everyday work experience;
    - continuing vocational formation – further refinement of expertise; and
    - reformation – which can require the 'unlearning' of existing expertise in order to adapt to a new or changed occupational area.

14. We also reflected on the impact that different vocational learning environments can have on supporting vocational learning, through Lorna Unwin and Alison Fuller's Expansive-Restrictive Framework[1] (Annex 1), and recognised the importance of establishing, through effective leadership at all levels, a positive learning culture within organisations. We noted that the BAE apprenticeship programme goes beyond the requirements of the relevant apprenticeship framework.

15. We recognised the role the environment at BAE Systems has played in shaping the ways in which vocational teaching and learning has developed, and that vocational teaching and learning will vary in other environments. We challenged ourselves to begin to identify some underpinning principles and approaches to vocational teaching and learning that have relevance regardless of occupational and sectoral diversity, whilst also celebrating and making more visible the richness of that diversity.

Commissioners' reflections

[1] Fuller A and Unwin L (2008); *Towards Expansive Apprenticeships: A commentary by the Teaching and Learning Research Programme* - http://www.tlrp.org/pub/documents/apprenticeshipcommentaryFINAL.pdf

16. We were struck by the *'clear line of sight'* for apprentices at BAE Systems. It was clear for the apprentices (and us) to see the 'end product' – the jets being built and then flying overhead - they could really see what they were about. That fact of being able to see and visualise the end product seemed to us to be a characteristic of vocational learning. The company is planning at a significant scale to 2034 – giving apprentices a sense of a long term future in which to invest; the connections between their training and future work are very clear - creating strong motivation and a sense of purpose and pride; and the number of senior managers who themselves started as apprentices offers practical examples of role models and progression pathways which fosters ambition.

17. We explored how, in companies where there is more *'churn'*, apprentices might develop a similarly strong sense of identity to those we met at BAE System. We wondered whether their identity might be more aligned to the industry or profession, than a single employer.

18. Establishing a *'process mindset'* was, we thought, a key transferrable characteristic for learning organisations. Part of the narrative at BAE Systems is a regular dialogue about the company's priorities for the next 10-20 years, the skills mix needed to meet those priorities, how jobs may need to be designed differently in future, the current picture of skills, and the organisation's plan for developing skills for the future. Involving the whole organisation in a discussion about workforce development planning was an important, and transferrable, process.

19. The visit to BAE Systems also highlighted the potential of learning in the context of the workplace with clear progression routes into work to foster motivation and a sense of pride in both work and learning (that pride was shared – by apprentices, instructors and senior managers). Speaking to apprentices, we were struck by their very clear sense of purpose and by the responsibility they were taking for their own learning. Their programme was very structured and they had a clear forward picture of what they would be doing. Their instructors appeared to be in the background, but the apprentices were confident in the support available to them.

20. We asked ourselves how vocational learning opportunities could help all young people experience the same sense of purpose and levels of motivation that were evident amongst the BAE Systems' apprentices. They highlighted the importance of having a sense of belonging to an organisation, being part of a community – a family even. This was illustrated vividly by apprentices' own stories of how they have taken their skills outside the job, getting involved in charity and local challenges and competitions – growing as adult citizens. Equally, we recognised the competition for places on the BAE Systems' programme is an important part of the context – each apprenticeship place is over subscribed by a factor of 20 and those selected appreciate the significant investment made in them.

21. The clear value of the programme at BAE Systems highlighted for us the importance of raising awareness of the apprenticeship route at an earlier stage, while young people are still at school. We recognised how important it is for some young people to *'have a reason for ploughing through the difficult years'* at school. Offering them a picture of the vocational opportunities open to them is one way to do that - giving them a different view about how

they might be successful, one that goes beyond the academic model, and is based on securing a job with training, or a vocational programme with a 'clear line of sight' to a job. We talked about how to build respect and value for the vocational route, particularly at a time when it is so important for our economic renewal. The importance of employers, colleges and providers being able to go into schools and talk to young people, their teachers and parents about vocational routes was an important point for the Commission to emphasise.

22. Another key learning point for us was that it was the job with training that was the motivating factor for the apprentices we met, rather than the qualification they would achieve. We explored the implications of this for our vocational education and training system which continues to be geared around qualifications, but reminded ourselves of the need to contextualise our thinking in relation to different sectors and occupations. Whilst the number of employers committed to apprenticeships is encouraging, there are also large numbers of students who continue to need qualifications to get a job. What was clear, however, was the importance of recreating the sense of purposefulness in the BAE Systems' apprenticeship programme across FE and skills provision.

23. The apprentices we met ranged in age from 16/17 to around 25. The mix of ages seemed to be contributing to the development of their professional identities – also supported by the opportunities to get involved in community projects and the positive relationships that we observed between the apprentices and tutors.

24. We heard about the very deliberate approach to the apprentices' first year programme – they all start by spending 3 weeks together in the Lake District and are then kept together as a group at the Preston training centre for the first year – to establish culture, behaviours and attitudes, as well as a respect for the emphasis on safety throughout all that BAE Systems does. Their trainers are role models, committed to creating a learning and working environment based on respect, with an ability to inspire apprentices with their *'huge passion for their subject'* while providing a disciplined sense of direction. The focus of year one at Preston is on '*getting the circumstances right for apprentices to align to our ways of working'*. But apprentices are equally encouraged to explore new ideas and worlds – to awaken their '*curiosity, inventiveness and creativity*'. We noted the importance of securing a balance between a structured programme and one that offers flexibility for individuals to pursue personal pathways, and how this balance might shift in different sectors and contexts.

25. Tutors are respected for their relevant knowledge and experience – some are employed and they move on and off the shop floor, in and out of training roles. BAE Systems also sub-contract some provision to the local college and training providers. We recognised a key challenge for the FE and skills sector as a whole - and an issue for the Commission - around how to support tutors keep up to date with professional/industry practice and their subject knowledge, as well as their approaches to pedagogy.

Emerging conclusions

26. We saw firsthand the motivating impact of having a job, with all that entails about developing professional identity and a sense of self worth. The need to raise awareness of

the apprenticeship route as a high status/high value option with young people and the influential adults in their lives was a recurring theme in our discussions, leading us to consider arrangements for information, advice and guidance in schools.

27. We emphasised the importance of encouraging employers to play their part in bridging the gap between school and work, acknowledging that other organisations could help employers with this, but that ultimately employers themselves need to do this.

28. We recognised the importance of establishing an open dialogue with Ofsted about the characteristics of excellent vocational teaching and learning so that the Commission can contribute to developing common language and lenses through which to understand, recognise and celebrate vocational learning.

For more information, or comment please contact:

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Participants

1st Commissioners' meeting		27 June 2012
Present:	Chair	Frank McLoughlin CBE
	Vice chair	Graham Schuhmacher MBE
	Commissioners	Richard Atkins, Prof Mariane Cavalli, Rob Hammond, Sue Hill, Gary Hughes, Colonel Carolyn Johnstone, Roshni Joshi, Shauni O'Neill, Mike Smith, Tom Wilson, Dereth Wood
Attending:	LSIS	Rob Wye, Jenny Williams, Eleanor Jackson
	IfL	Toni Fazaeli
	BIS	Janet Presland
	Academic partner	Prof Lorna Unwin, Chair in Vocational Education and Deputy Director of the LLAKES Research Centre at the Institute of Education, University of London.
	BAE Systems	Nigel Whitehead, Group Managing Director, BAE Systems
Apologies:	Commissioners	Fiona McMillan OBE, vice chair, Prof Matthew Harrison, Martina Milburn CBE, Jacqui Ramus, Alastair Taylor

Expansive-Restrictive Framework

EXPANSIVE Characteristics	RESTRICTIVE Characteristics
Apprenticeship is a vehicle for aligning goals of individual development and organisational capability	Apprenticeship used to tailor individual capability to immediate organisational need
Workplace, training provider and (where present) trade union share post-Apprenticeship vision: progression for career	Post-Apprenticeship vision: static for job
Apprentice has dual status as learner and employee	Status as employee dominates: status as learner restricted to minimum required to meet statutory 'Apprenticeship Framework'
Apprentice makes gradual transition to productive worker, gaining expertise in occupational field	Fast transition to productive worker with limited knowledge of occupational field; existing productive workers given minimal development
Apprentice treated as member of occupational and workplace community with access to community's rules, history, knowledge and expertise	Apprentice treated as extra pair of hands who only needs access to limited knowledge and skills to perform job
Apprentice participates in different communities of practice inside and outside the workplace	Participation restricted to narrowly-defined job role and work station
Workplace maps everyday work tasks against qualification requirements – qualification valued as extending beyond immediate job requirements	Weak relationship between workplace tasks and qualifications – no recognition for skills and knowledge acquired beyond immediate work tasks
Qualifications develop knowledge for progression to next level and platform for further education	Qualifications accredit limited range of on-the-job competence
Apprentice has time off-the-job for study and to gain wider perspective	Off-the-job simply a minor extension of on-the-job
Apprentice's existing skills and knowledge recognised, valued and used as platform for new learning	Apprentices regarded as 'blank sheets' or 'empty vessels'
Apprentice's progress closely monitored - regular constructive feedback from range of employer and provider personnel who take a holistic approach	Apprentice's progress monitored for job performance with limited feedback – provider involvement restricted to formal assessments for qualifications