Increasing Internships with STEM Employers

Dr Caroline D Sudworth
HE Engagement Manager
caroline.sudworth@cogent-ssc.com

Innovation | Competence | Productivity | Sustainability

Cogent Sector Skills Council Limited

The National Skills Academy
PROCESS INDUSTRIES

Improving business performance through *skills* development

Who are the SSCs in the STEM Cluster?

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent

cogent

construction skills

energy&utility skills

government skills

Improve
food & drink sector skills council

semta

proskills
MAKING SKILLS WORK

Skills for Health

SKILLS for JUSTICE
Developing skills for safer communities

- Placements and Internships
- Quality of STEM Graduates
- Employer Engagement

SSC	HE Representative
Cogent	Caroline Sudworth (Chair)
Construction Skills	Nick Gooderson Chris Mason
EU Skills	Tony Hicks
Government Skills	Claire Fisher
Improve Ltd	Derek Jones
Proskills	Andrew Abaza
Semta	David Bassett John Harris
Skills for Health	Paul Blakeman
Skills for Justice	Marc Hannis
e-skills, Lantra, Summit Skills	

Business Priorities for Education and Skills

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent

CBI
THE VOICE OF BUSINESS

Ready to grow:
business priorities for education and skills

Education and skills survey 2010

Survey sponsored by

EDI Supporting learning and performance

Exhibit 30 Reasons employers value STEM-skilled employees (%)

	Con-struction	Science, hi-tech & IT	Manu-facturing	Energy & water	Banking, finance & insurance	All
Technical competence						
Analytical skills						
Problem-solving skills						
Numeracy skills						
Intellectual rigour						

Exhibit 33 Reasons for problems in recruiting STEM graduates (%)

	Science/ hi-tech/IT	Energy & water	Manu-facturing	Banking, finance & insurance	Con-struction	All
Lack of workplace experience	38	33	44	44	50	46
Graduates lack employability skills	58	42	38	67	54	45
Lack of graduates applying for positions	46	50	44	22	36	41
Content of degree not relevant to our business	42	42	36	22	32	32
Poor practical or laboratory skills	13	0	12	11	14	11
Degree not accredited by relevant professional bodies	4	8	5	0	18	7

STEM Subjects - Employability

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent

Exhibit 38 Most important factors considered when recruiting graduates (%)

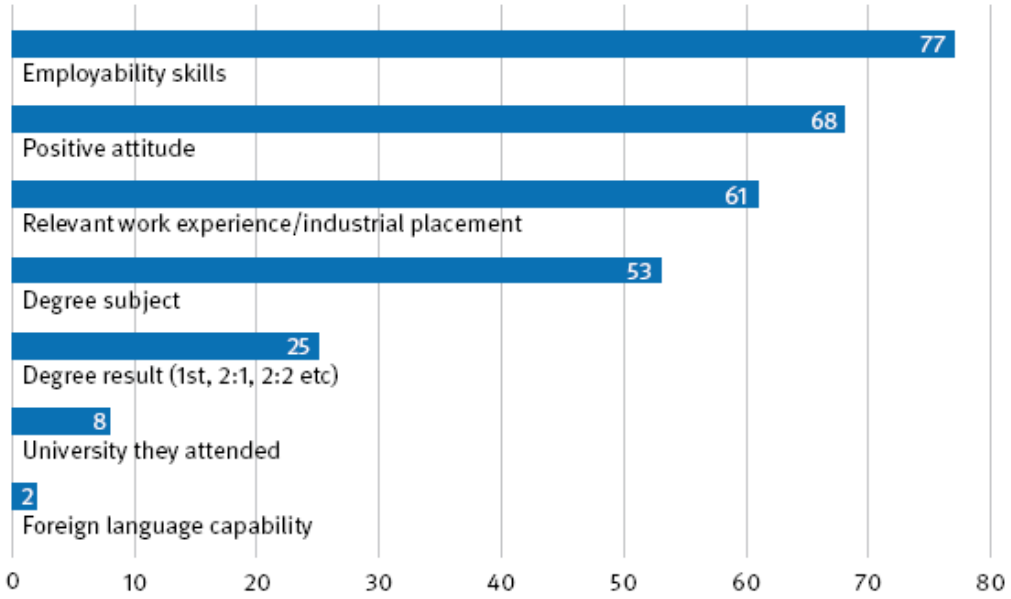


Exhibit 19 CBI definition of employability skills

Self-management – readiness to accept responsibility, flexibility, time management, readiness to improve own performance

Teamworking – respecting others, co-operating, negotiating/persuading, contributing to discussions

Business and customer awareness – basic understanding of the key drivers for business success and the need to provide customer satisfaction

Problem solving – analysing facts and circumstances and applying creative thinking to develop appropriate solutions

Communication and literacy – application of literacy, ability to produce clear, structured written work and oral literacy, including listening and questioning

Application of numeracy – manipulation of numbers, general mathematical awareness and its application in practical contexts

Application of information technology – basic IT skills, including familiarity with word processing, spreadsheets, file management and use of internet search engines

Can internships help increase employability of STEM Graduates?

"Having completed a year long industrial placement can vastly improve a candidate's employability."

The changing shape of academic collaborations, ABPI, August 2010

www.cogent-ssc.com/Higher_level_skills/placements.php

Employer Views

"The value of industrial placements extends beyond practically benefiting individual students and companies; placements serve as a valuable connection between industry and academia."

The changing shape of academic collaborations, ABPI, August 2010

By committing to an industrial placement, employers can identify suitable candidates for employment, reduce recruitment costs whilst improving the skills of the candidate for their particular work environment.

In addition, employers can build relationships with education partners, develop research programmes and potentially access a wide range of further public funding opportunities.

What are employers looking for?

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent

- Can the graduate apply their technical knowledge?
- Can the graduate work in their environment?
  - Self starters, flexible and on time
  - Team workers
  - Communication, literacy and numeracy
  - IT skills
  - Managing business and customer need
- Easy access to graduates
  - Where can I find them?
- Easy administration
  - HR and Salary
- Is this the right graduate for my company to invest in?

www.cogent-ssc.com/Higher_level_skills/placements.php

Internships: Accessibility

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent | Skills for Science Based Industries

Search

Home | About | Publications | Research | Standards & Qualifications | Apprenticeships | Higher Education | Nuclear Dinner | Skills Policy | Careers | Skills Match

Home » Higher Level Skills

Industry Placements

At the beginning of October 09 Cogent held a workshop to investigate the need to develop undergraduate STEM placements. Attendees at the workshop included Industry Partners, Government Bodies and Higher Education institutes.

At this workshop a number of presentations were offered to discus the various aspect of developing a national scheme, with an emphasis on pharmaceutical and chemical sectors.
The presentations and group feedback are presented below:

- Workshop Overview
- Introduction by Joanna Woolf
- Student and Host Perspective
- University Perspective
- EDT Programme
- Cogent Objectives
- Group Feedback
- Meeting Notes

Cogent is now taking the project forward and will be seeking further support in the very near future.

graduate talent pool
Connecting businesses to graduate skills

Industrial Placements

Placements are an opportunity for an individual to undertake a project or period of work experience within an industrial setting. They provide industry with an opportunity to recruit suitably qualified or experienced students or graduates, apply their subject based knowledge and skills in the business environment. In return, placement candidates increase their knowledge, practical and employability skills.

There are a number of opportunities for employers wishing to identify and recruit undergraduates and graduates, some of which receive public funding.

By committing to an industrial placement, employers can identify suitable candidates for employment, reduce recruitment costs, improve the skills of the candidate for their particular work environment, and build relationships with education partners, develop research programmes and potentially access a wide range of further public funding opportunities.

Types of Placement:

Type of Placement	Undergraduate Placements	Internships	Short Knowledge Transfer Partnerships	Classic Knowledge Transfer Partnerships	Case Studentships
What is it?	Typically offered by universities to students as part of an undergraduate course	Typically offered by company as a route to potential recruitment and employment	Short Term Project used to employ student/associate that delivers a real business solution	Long Term Project used to employ student/associate that delivers a real business solution	Long Term Project used to employ postgraduate student that delivers a research and development, leading to PhD qualification
Typical Length of Placement	3, 6 or 12 months	3 months	10 – 40 weeks	1-3 years	3 years
Entry Requirements	A-levels; Students usually expecting a good degree classification	A-levels; Students usually expecting a good degree classification; Graduates	A-levels; Students usually expecting a good degree classification;	Graduates (usually with minimum 2.1 degree classification)	Graduates (usually with minimum 2.1 degree classification)
Costs					
Employer	Usually Full Employment Cost	Full costs to employer, although there are some schemes available to support employment costs	Partial costs to employer; Public Funding Provided dependent on company size	Partial costs to employer; Public Funding Provided dependant on company size	Full or Partial costs to employer: there are some schemes available to support costs
Student Fees	Typically 50% university fees	None	Student fee minimised during this period	None	Stipend covers student fees
Education Provider	Usually none	Usually none	Partial costs to provider; Public Funding Provided for Academic Input	Partial costs to provider; Public Funding Provided for Academic Input	None
Financial Support Opportunities					
Employer	Usually no support		Up to £950 per week SME (60% of total project cost) Large Company (40% of total project cost)	Up to £950 per week SME (60% of total project cost) Large Company (40% of total project cost)	
Student	Usually no support, except salary on offer	Usually no support, except salary on offer	Typical Salary	Typical Salary	Student Stipend: Approx. £12,000 per annum
Education Provider	Usually no support	Usually no support	Partial support from public funding (typically 2/3)		Student Stipend and Bench Fees
More Information		www.graduatetalentpool.ac.uk	www.ktponline.org.uk	www.ktponline.org.uk	

cogent | Skills for Science Based Industries

- Funded Opportunities

www.cogent-ssc.com/Higher_level_skills/placements.php

SSC STEM Cluster

The Sector Skills Council for Chemicals and Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

cogent

- STEM SSCs are working together to raise awareness and uptake of internships and placements
  - HE STEM Programme
  - Manage Industry Links
  - Facilitate Access Routes for Industry

- Emphasis on industry-HE engagement in wider context
  - Improving provision through work placements
  - Practical and Employability skills

- Building on existing good working practice

- Bringing together Employers and HEIs as cluster organisations

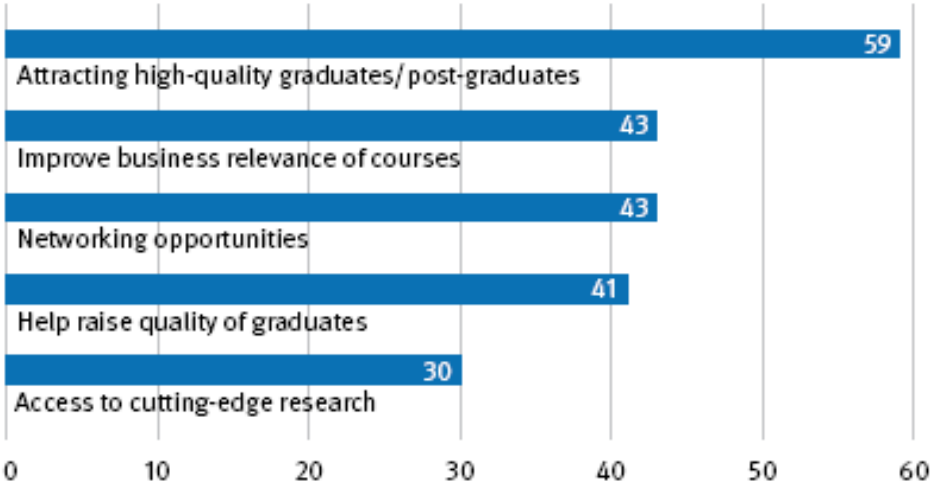
www.cogent-ssc.com/Higher_level_skills/placements.php

Using Internships to Improve Employer Links?

Exhibit 43 Nature of employer links with universities (%)

Provide sandwich years or work placements to university students	47
Partner with universities for research and innovation	40
Provide 'real-life' projects and resources	34
Offer internships to graduates	30
Sponsor students	29
University provides workforce training for our organisation	26
Participate in degree advisory boards	20
Offer students jobs at the end of their penultimate year of study	18
Other	15
Develop research projects with public research funders	15
Provide financial support to new graduate recruits	6

Exhibit 44 Reasons for employer links with universities (%)



What more can we do to help?

- Addressing employer needs for STEM graduates
  - Understanding practical skills needs
  - Understanding “employability”

- Managing Expectations
  - Industry expectations of graduates
  - Increase industry engagement

- Employers accessing and working with HE
  - Simple access routes to programmes and individual HE programmes

Thank You

More information:
www.cogent-ssc.com

Contact: Dr Caroline Sudworth
caroline.sudworth@cogent-ssc.com