CETL-MSOR Conference 2015

Noel-Ann Bradshaw: Flipping Employability: Discovering how to further embed employability into the mathematics curriculum

The stereotypical maths graduate is shy and non-communicative. Employers of maths graduates increasingly want someone who is good at problem solving and has strong technical ability but is also a good communicator and team member.

There is evidence in the literature that some maths students do not know what they want to do when they graduate and are unsure where a maths degree can lead (apart from careers in teaching and banking/finance). However universities are under growing pressure to increase the numbers of graduates obtaining graduate level employment within 6 months of graduating, to do which means students need to start applying for graduate roles at the start of their third year of study.

Many universities are introducing Skills Awards which give students points and awards for various extra-curricular activities which provide skills and evidence for use in competency-based interviews. Is there any evidence that these are useful or that maths students are engaging with them?

How can the mathematics curriculum find space for developing the above skills as well as delivering the mathematical content that students and employers expect?

This session will look at how the mathematics curriculum at the University of Greenwich has adapted to enable these skills to be embedded in the curriculum as well as discuss an assignment that helps students prepare for the job application process. This assignment is part of a second year module of Operational Research and has been endorsed by employers. The tasks include research on appropriate jobs and companies, creating a CV, job application and cover letter, creating a LinkedIn profile, providing evidence for competency-based questions and reflection.

This session will be "flipped" to enable delegates who are not used to the flipped classroom discover the benefits of teaching and learning in this environment. It will be assumed that those attending are familiar with the ideas in the following papers.

Bradshaw, N., 2014. *Employer-endorsed employability assessment: an assignment delivered in an operational research course to second year mathematics students*. HEA STEM 2014. Available at: https://www.heacademy.ac.uk/sites/default/files/resources/MSOR-130-Paper.pdf [Accessed 25 May 2015].

Challis, N., Robinson, M. and Tomlinson, M., 2009. *Employability Skills in Maths Courses*. MSOR Connections, 9(3), pp. 38-41. Available at: http://journals.heacademy.ac.uk/doi/abs/10.11120/msor.2009.09030038 [Accessed 25 May 2015].

Hibberd, S. and Grove, M., 2009. *Developing graduate and employability skills within a mathematical sciences programme.* MSOR Connections, 9(2), pp. 33-39. York: The Higher Education Academy. Available at:

http://journals.heacademy.ac.uk/doi/abs/10.11120/msor.2009.09020033 [Accessed: 25 May 2015].

Pegg, A., Waldock, J., Hendy-Isaac, S. and Lawton, R., 2012. *Pedagogy for employability*. York: The Higher Education Academy. Available at: https://www.heacademy.ac.uk/sites/default/files/pedagogy_for_employability_update_2012.pdf [Accessed: 25 May 2015].

Yorke, M. and Knight, P.T., 2006. **Embedding Employability into the Curriculum**. York: The Higher Education Academy. Available at: http://www.employability.ed.ac.uk/documents/Staff/HEABriefings/ESECT-3-Embedding_employability_into_curriculum.pdf [Accessed 25 May 2015].