

Title: Supporting New Computer Science Academics

Presenter: Alastair Irons¹, Alan Hayes², James Davenport², Tom Crick³, Tom Prickett⁴
University of Sunderland¹, University of Bath², Swansea University³, Northumbria University⁴

Learning Outcomes

By the end of this session, delegates will be able to:

- Consider the need for subject specific pedagogic development programmes for new academics – using computer science as an example;
- Evaluate the rationale for creating subject specific CPD;
- Utilise a framework for evaluation of a mentor schemes for new academics
- Evaluate the use of technologies to enable peer supported communities of practice

Outline

The proposed research paper shares the team's initial findings on the project to create a national community of practice in computer science education. The programme has been designed to:

- provide a programme of continued professional development (CPD) for computer science specific requirements in higher education;
- offer a community of practice and support network for new computer science academics (in addition to their PG Cert in academic practice activities); and
- generate a forum for sharing good practice and offers a mentoring framework for new computer science academics.

The project has grown from work undertaken in the Institute of Coding and the BCS Academy Board for Computing and literature such as Murphy (2016) and Davenport et al (2017) has been aimed at computer science academics who are **new** to teaching in UK HEIs i.e. early career academics.

There were a number of reasons for creating this programme specifically for computer science academics, including:

- changes in the national computer science curricula;
- high attrition and failure rates of students;
- student satisfaction commonly reported to be lower than that of other disciplines; and
- specific pedagogic challenges in teaching subjects such as programming.

In the first phase of the project the team have established a project steering group, a project operations group and an initial cohort of participants. An initial CPD programme has been created and a series of workshops and pilot sessions have taken place to enable the project team to gather data and identify a set of requirements to take forward into phase 2 of the project.

This presentation shares our initial findings from data gathered from workshops and through feedback from pilot CPD sessions (Crick et al 2020; Crick et al 2021). In addition to obtaining data from participants and potential participants, we have gathered feedback from the broader computer science community on the creation of the programme. We will also explore the arguments against creating subject specific CPD.

Activities and Approximate Timings

The session will be delivered by members of the project team and will use data gathered from workshops, pilot studies and feedback sessions.

Overview of the Project to Date (20 minutes)

Introduction

Background to the Project

Design process

Workshops and feedback

Pilot session

Feedback and Evaluation

Next Steps

Questions and Discussion (10 minutes)

Potential Questions

Why did you do this ?

Is the programme transferrable to other disciplines ?

What are the main factors raised by new computer science academics ?

Will the programme be available in online mode ?

How is the community of practice being managed ?

How have you engaged mentors and what training / expectations are there for mentors ?

Preparation before the session

No preparation required

References and sources *(word count not applicable)*

T. Crick, J. H. Davenport, A. Hayes, A. Irons, and T. Prickett. Supporting Early-Career Academics in the UK Computer Science Community. 2021. In proceedings of ACM Computing Education Practice (CEP 2021). <https://doi.org/10.1145/3437914.3437977>

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Murphy, E., Crick, T., and Davenport, J., (2017). An Analysis of Introductory Programming Courses at UK Universities. *The Art, Science, and Engineering of Programming* 1(2), 18 (2017), 23. <https://doi.org/10.22152/programmingjournal.org/2017/1/18>

Davenport, J., Hayes, A., Hourizi, R., and Crick, T. (2016) Innovative Pedagogical Practices in the Craft of Computing. In Proc. 4th International Conference on Learning and Teaching in Computing and Engineering (LaTiCE 2016). 115–119. <https://doi.org/10.1109/LaTiCE.2016.38>

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