

Submissions Abstract Book - All Papers (All Submissions)

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Chaired by Peter Kahn

Thu 12 Dec 2019

14:15 - 14:45

Improving graduate employability - An alternative model of higher education?

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Research Domain: Employability, enterprise and graduate careers (EE)

Abstract: The National Software Academy (NSA) was established to respond to the shortage of skilled software engineers, as well as employers' dissatisfaction with the 'work-readiness' of graduates.

The research aims to understand how NSA develops employable graduates and responds to employers' demands and local skills shortages. Specifically, the research aims to answer the question: In what way does the NSA offer an innovative model of HE in order to develop employable students?

A case study approach was taken to explore the NSA model. Qualitative data was collected through semi-structured interviews with stakeholders (students, teachers, senior leadership, employers and government representatives). Thematic data analysis was then carried out.

Analysis suggests that NSA is an innovative HE delivery model which purposefully develops students' employability, easing transition to employment. A number of factors seem to contribute to its success, including strong stakeholder relationships, industry-involvement in curriculum delivery and simulation of a work-based environment.

Paper: Introduction:

This research considers a model of higher education (HE) different from the way traditional HE courses are delivered across the UK. In 2015 Cardiff University founded the National Software Academy (NSA) which offers a 3 year BSc in Applied Software Engineering to address the national shortage of skilled software engineers in Wales; to address employers' dissatisfaction with the 'work-readiness' of graduates trained in this field; and to stimulate the local economy.

The NSA aims to provide strong links with local industry and the wider South Wales economy. It uses a range of industry-engagement activities, such as client-developed projects and student placements in order to develop the skills, knowledge and hands-on experience required for students to be

employable. The Academy itself aims to replicate a work environment and a considerable amount of the students' learning is done through project-based learning. This, they claim, allows students to be immediately effective as commercial software engineers, as well as develop transferable skills for other jobs.

This piece of research aims to understand in what way the NSA offers an alternative model of HE in order to successfully develop employable students to reduce local skill shortages. Skills shortages also persists internationally and across sectors. Analysis across 28 EU members, found four in 10 EU employers had difficulty finding people with the right skills ([CEDEFOP](#), 2018).

Universities are in a strong position to help address these shortfalls by training students with the appropriate skills to be productive members of the workforce. It has been claimed that in the 21st Century, universities should be taking a greater role in ensuring their students develop employability skills (Prokou, 2008, Watts, 2006). As a consequence, employability is increasingly becoming a tool by which universities are being measured (Boden & Nedeva, 2010).

A large-scale survey of over 18000 employers across the UK showed 65% of employers claim relevant work experience to be critical or highly significant when recruiting compared with just 46% rating the same for academic qualifications. This suggests that new graduates need to offer more to perspective employers above their university qualifications (IFF Research, 2017). The same survey demonstrated that the percentage of employers dissatisfied with the skill level of higher education leavers has grown slightly over the last ten years, reaching 15% in 2016.

The literature review (Kashefpakdel et al., 2018) has shown that employers across a range of sectors highlighted eight key employability skills, such as problem-solving and team working, and four competencies that help young people become more successful during the recruitment process and early stages of employment. Furthermore, Cedfop's research (2018) highlight problem solving, team working and communication, as well as technical/job specific skills will see the largest increase in skill demand between 2015-2025 among EU28 employers. These skills can be applied across a range of jobs and sectors, supporting graduates to 'futureproof' themselves from the risk of automation in the fourth industrial revolution (McKenzie Global Institute, 2018).

If the NSA is effective in its aims to recruit students; effectively teach and build skills; and ensure that graduates are highly employable, then the NSA could offer a model of HE course delivery which could be emulated elsewhere across the sector. To understand whether this is the case, the research question is proposed:

In what way does the National Software Academy offer an alternative model of HE in order to successfully develop employable students?

- *How is the NSA course designed, developed and delivered?*
- *What role do key stakeholders (students, teachers, employers, Welsh Government) play in the NSA design and delivery to support graduate employability?*
- *Are NSA students being prepared for the workplace, and if so how?*

Methodology

A qualitative research approach was taken and case study design was used to answer the research questions. Data was collected through semi-structured interviews to capture stakeholder perceptions. Most interviews took place face-to-face at the NSA, and employers were interviewed by phone. Participants included:

1. students across the three year groups of the BSc
2. teachers and senior leadership staff from NSA
3. industry partners
4. representatives from the Welsh Government

Interviews took place in Autumn 2018 and Spring 2019 with students, course and academy developers, and industry partners, over four visits to the Academy.

Thematic analysis was used for all the interview data to draw out themes and subthemes and identify similarities and differences in stakeholders' views.

Observations also took place at the end of year project showcase events. This provided insight into some of the skills students developed over the course and demonstrated through their presentations. Observation data allowed the triangulation of some of the information from the interviews, such as evidence of skills development and student-employer interaction.

Findings

Findings suggest that employers consider NSA student and graduate work-readiness to be considerably better compared to graduates from other courses and universities. They report them having highly-developed skills such as team working and adaptability.

Common themes emerged from the interviews that indicate that this is an innovative HE delivery model which is having a positive effect on student transitioning to the work place and graduate employability. Evidence for the innovative approach include:

- The structure of the course: the first half of a semester focuses on theoretical learning and the second half made up of industry-set projects worked on in teams and with an outcome feedback to employers.
- Delivery of learning: including 'spiral learning', a flipped classroom, explicit teaching of skills. Teachers are also encouraged to develop innovative approaches to learning, such as learning through scrum techniques.
- The strong relationships between teachers and employers, students and employers, and between students as a peer group. A large base of industrial partners who set projects for students, offer summer placements, feed into course content, mentor students and run networking and information sessions.

The findings will be underpinned by illustrative quotations and the audience will be encouraged to reflect on the innovative nature of NSA.

References

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