Researching skills development: students as partners in this process

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Abstract

Many employers report that newly qualified graduates lack key skills necessary for success in the workplace. Although variable, many lack general 'transferable' or 'soft' skills including communication and teamworking. Staff at Edinburgh Napier University have sought to address this using the Skills Passport tool. The main element of the Skills Passport is the Skills Evidence Evaluation Record (SEER), which encourages students to document and reflect on their skills throughout their time at university in preparation for employment.

The purpose of this study was to explore students' awareness of, and attitudes towards, their own skills development. Two final year students were recruited to the project and collected data from first to fourth year students via a questionnaire they designed to gather data about the Skills Passport and skills development as part of their final year project. In addition, an employer focus group and individual interviews gathered the thoughts of employers regarding graduates' skills sets and the skills important to them as employers.

Students were aware that transferable skills are highly desirable, and that extracurricular activities are important; they become increasingly concerned about their skills development as they progress through their studies. These results suggest that students are aware of and are willing to invest extra time in their skills development, but that they require further support from the institution in order to be more confident about future employment prospects.

Introduction

As universities have become more accessible, the number of graduates has increased, with knock-on effects on the graduate job market in terms of competition (Beaumont, Gedye & Richardson, 2016; Tomlinson, 2012). Previously, employers would simply seek those who had obtained a good degree, but now graduates are expected to offer more and demonstrate well-developed transferable skills (Cacciolatti, Lee & Molinero, 2017; Saunders & Zuzel, 2010; Tymon, 2013), especially in the UK labour market, where sociocultural qualifications are most highly prized (Manninen & Hobrough, 2000). Thus, graduates who lack soft skills are at a great disadvantage in an overcrowded and highly competitive market (Tymon, 2013). This is not just problematic in the life sciences sector as employers from all sectors report that newly qualified graduates lack key skills upon leaving university and entering the workplace (Calonge & Shah, 2016; McMurray, Dutton, McQuaid & Richard, 2016).

Universities are under increased pressure to produce an abundance of well-educated and well-rounded graduates who are fully prepared for entering their chosen career upon completion of their studies (Tomlinson 2012; Tymon 2013), with both the government and

employers fully expecting institutions to offer programmes which embed all the necessary technical and soft skills that are required (Yorke & Knight, 2006; Cacciolatti, Lee & Molinero, 2017; Gazzard, 2011). The use of league tables which rank universities on different indicators, including graduate prospects (McMurray, *et al*, 2016), influence the quantity and quality of students who apply to study and the funding awarded to the university (Gibbons, Neumayer & Perkins, 2015). Thus universities who present highest in the league tables will be better placed to charge higher fees, making league table placing of critical importance. Universities are regarded as the primary location whereby students develop their employability skills (Jackson, 2013). This is no easy task due to the diversity of employer and industry demands (Tymon, 2013), and presupposes that employers have precise perceptions of the skills required, and that they stay constant (Suleman, 2018). Employers and higher education institutes each have different, sometimes even conflicting, views on where students should be in terms of skills, and there is a lack of communication between stakeholders regarding the skills they seek in newly qualified graduates (Life Sciences Scotland, 2017; Gazzard, 2011). Stewart, Shanmugam and Seenam (2016) suggest that universities take for granted that students master various skills and abilities during their period of study; outright teaching of these skills can often be challenging to add to an already busy curriculum. Some graduates may not have had adequate opportunities to practice skills during their course, or had an opportunity to take part in a work placement. Students who have undertaken a work placement have a distinct advantage and are significantly more appealing to a prospective employer (Gazzard, 2011). A lack of industry input into the curriculum and general learning structure therefore leaves universities unclear as to their expectations (Jackson, 2013).

For the UK labour market many of the soft skills which employers seek are personality-based attributes (Manninen & Hobrough, 2000), thus could be inherited or simply part of an individual's personality. How well these can be taught and developed is questionable (Tymon, 2013). Some students go to university with prior awareness of these skills and actively seek to develop them through opportunities such as extra-curricular activities or workshops. In the USA, this aligns with a proactive personality, so perhaps universities should be encouraging students to develop such traits (Tymon, 2013). However, other students lack such awareness and, when prompted, do not understand their importance. If students are unaware or unsure of the importance of developing their skills and fail to recognise when they do confidently demonstrate them, they may actually have the skills, but be unable to articulate this to a prospective employer. Therefore, encouraging students to document and reflect on their progress whilst developing their skills could prove beneficial; making these activities more overt and increasing awareness may also encourage engagement (Tymon, 2013).

Many students believe that attending university and obtaining a degree will be enough for them to obtain appropriate employment (McMurray *et al*., 2016), and in fact students rely on higher education to teach them the skills necessary to progress in life after university (Rust, 2016). Whilst it is widely accepted that the majority of soft skills can be worked on and developed, regardless of initial ability (Tymon, 2013), it has been suggested that universities are not the most appropriate place for this, nor should universities be expected to push this onto their students (Barr, 2017; Tymon, 2013). If universities are ultimately a place of higher education they should focus solely on educating students in their subjects of choice, while the specific skills that employers seek should be developed in the workplace (Tymon, 2013). This may be sensible for large companies who have the available funds to provide skills development courses for their employees, however smaller companies may struggle to finance this and therefore be discouraged from employing applicants who have just graduated (Gazzard, 2011).

Naranjan and Edwards (2015) suggest that development of professional skills is a responsibility distributed across different stakeholders and should be developed cooperatively. Thus, Universities could focus on preparing graduates to face unknown situations, to learn how to learn, to maximize

their social and cultural skills development, for instance, whilst employers and other stakeholders would hold other responsibilities. This would remove the sole pressure for development of "employability" from the Universities and other HE institutions. Chiming with this, Tomlinson (2017) proposes that graduate capital is a useful way to conceptualize employability, as a range of dynamic and interactive forms of capital acquired through graduates' lives, and therefore not dependent solely on input from universities.

For students willing to take ownership and responsibility for their employability, Greenbank, (2015) and Lau, Hsu, Acosta, and Hsu, (2014) propose that extracurricular activities (ECAs) can be a beneficial way of widening skill ranges. These provide a personalised and more enjoyable way of developing skills and add to graduate employability beyond degree classifications. However, relevance to degree areas can be an important factor ensuring that skills developed will be useful when it comes to job seeking (Greenbank, 2015). Despite this, studies have made links between ECAs and development of students as they can enhance qualities such as leadership, personal analysis and commitment which employers seek, so can be a beneficial way to stand out, so perhaps universities should place emphasis on and encourage ECAs to help their students in the future (Lau *et al.,* 2014). Moreover, there is an argument that part-time work also provides such an opportunity to develop appropriate skills (Robotham, 2012).

At Edinburgh Napier University (ENU) within Biological Sciences we use the Skills Passport to develop and record student skills (Campbell Casey, Durkin, MacCallum & MacNab, 2015). The purpose of the tool, is to aid students in the development of their 'soft skills' to make them stand out within the labour market (Tymon, 2013). Alongside this, the Life Sciences Employer Liaison Panel (ELP) has been important in identifying skill gaps in students, how this relates to their employability and identifying how industry deals with such problems. This has allowed better integration of the Skills Passport within study programmes (Campbell Casey *et al.,* 2015, MacCallum &

Campbell Casey, 2017). Reflection is carried out via reflective portions built into various assessments and through a personal development tutor (PDT), an academic staff member who oversees the progress and development of a group of students.

This study is relevant because the views and opinions of current students are often overlooked with graduate and employer expectations often being the primary focus. Tomlinson, (2012) describes current student opinion as 'the missing perspective' thus more study should provide insight into the opinions of students with regards to their skills development. Furthermore, current students represent the future of their respective industries and so they must be fully equipped to progress and adapt to the world of work and be able to contribute effectively. In addition, if universities convey industry expectations effectively, students will stand a better chance of becoming more like the skilled graduates that employers have come to expect. This will hopefully give them a more competitive position in the labour market and begin to narrow the gap between graduate quality and employer expectation.

Methods

During our yearly evaluation of undergraduate Biological Sciences programme students and staff on their experience of the Skills Passport, additional questions relating to knowledge of skills and the role of both students and the university were included. This took the form of a paper-based questionnaire which had obtained ethical approval through the School Research Integrity Committee, which ensures that any research undertaken meets the University Code of Practice for Research Integrity. The questionnaire was developed by two final year students to explore these areas. Students had the opportunity to provide open-ended comments during the evaluation process and staff have previously found these invaluable in making adjustments and improvements to our approach to skills development. Semi-structured interviews and focus groups were held with local employers from our ELP to gather opinion on graduate skills, the areas that they feel are lacking and the qualities they would like to see in potential applicants.

Results and Discussion

This data obtained (not all shown), fits well with the information highlighted by our employer interviews around the importance of communication, enthusiasm, time management, lab and networking skills, and adaptability as key soft skills e.g. *"to be able to demonstrate a willingness to learn"* and *"flexibility and desire to work as part of a team"* and with the current literature on the subject (Woods & West, 2010). The individual requirements for employers will vary depending on the local business needs and the current economic environment, so adaptability and being able to apply skills to different situations are hugely important in such a dynamic labour market (Manninen & Hoborough, 2000). Our employers highlighted work experience, confidence and problem-solving skills as lacking in graduates: *"understanding of investigational skills …that problem solving aspect"* and *"confidence… to take ownership of a problem or a project, a task under, under suitable supervision".*

Students are aware of their responsibility in skills development with the vast majority of students agreeing that they need to take responsibility for this (Figure 2A) and that they are willing to devote extra time to this (data not shown). Students indicate that that they have a good idea of their individual strengths and weaknesses (data not shown) which potentially contradicts what employers might say: *"to not go beyond where you're confident… knowing your skillset…. having the confidence to know that you've got a lot of people behind you who, who will support you."*

Students have identified that they need additional help for skills development (Figure 2B) but a considerable number assume that just being at university will develop these skills (McMurray *et al*., 2016). Although graduates are aware of the importance of skills over and above those taught at university (Tymon, 2013), undergraduate students are not engaging with all the available opportunities in our institution with some of the reasons highlighted as *"not enough time", "other commitments"* and *"I wasn't aware of them"* (unpublished data). Career-building skills are based on knowledge and related awareness of employment specific requirements, a familiarity with the target labour market, knowing how to apply for and access work as well as opportunity awareness and exploitation (Tomlinson, 2017). Thus, we may need to make these opportunities more explicit to students but we also need to be aware that we have an increasingly diverse student body and therefore not everyone will engage in this process, nor should we expect them to.

Students awareness of the tools and opportunities that contribute to enhancing their employability is relatively high and highlights an awareness of aspects both within and also external to their course that contribute to employability (Figure 3).

A significant number indicated ECAs and work placements as important but students are not necessarily engaging with these opportunities (unpublished data). They need to realise how these are valued by employers and that ECAs can demonstrate drive and determination, leadership and ability to work in a team (Greenbank, 2015). Many students are working part-time, and this is often a key reason cited for not being able to engage with ECAs but part-time work also provides an opportunity to develop skills and attributes employers want (Curtis & Shani, 2002; Greenbank, Hepworth & Mercer, J., 2009; Robotham, 2012). Our employers have indicated the value of placements and part time working in developing employability skills: *"a placement… to me it shows commitment, it shows a desire to go the extra mile"* and *"any kind of, you know, part time jobs, volunteering… to be able to demonstrate a work ethic and time management and initiative"*. We encourage students to seek out opportunities, such as work shadowing, as early as possible by engaging staff from our Employability and Opportunities department within programme based activities, but we cannot do this for them.

The skills passport tool (Figure 3D) is not used as extensively, nor does it demonstrate the impact for skills development that we would have expected. A number of reasons have been highlighted previously around this, including lack of awareness or not thinking it was useful at this point. In contrast, there is also evidence of successful student
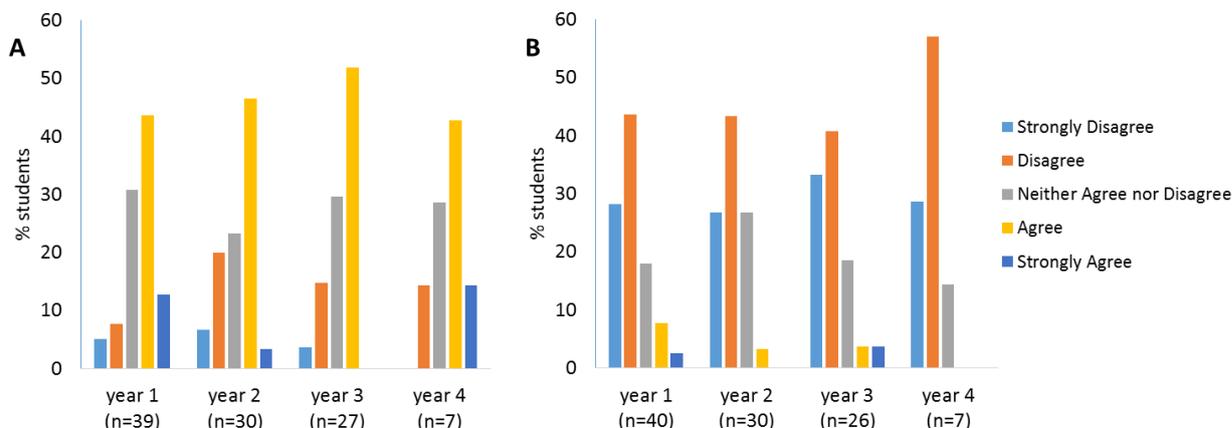
Figure 1 Student awareness of employability skills. Students have knowledge of the skills required by employers (B) "I am aware of what skills employers are seeking" and recognise the importance of skills development in relation to employability but acknowledge that they do not have all the skills they need (A) "I already possess all the skills I need". The results are consistent across year groups suggesting that students are aware of these issues throughout their studies.
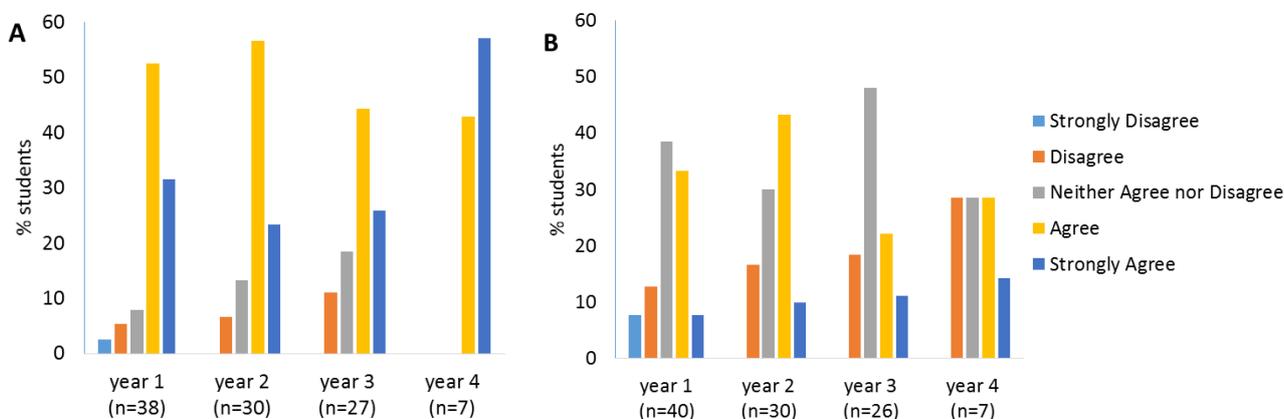

Figure 2 Student awareness of their responsibility in skills development. Students are aware of their responsibility in skills development with the vast majority of students agreeing that they need to take responsibility for their skills development (A) "it's up to me to take charge of my own skills development" but a significant number feel that they need additional help with their skills development (B) "I feel like I need extra help in developing my skills".
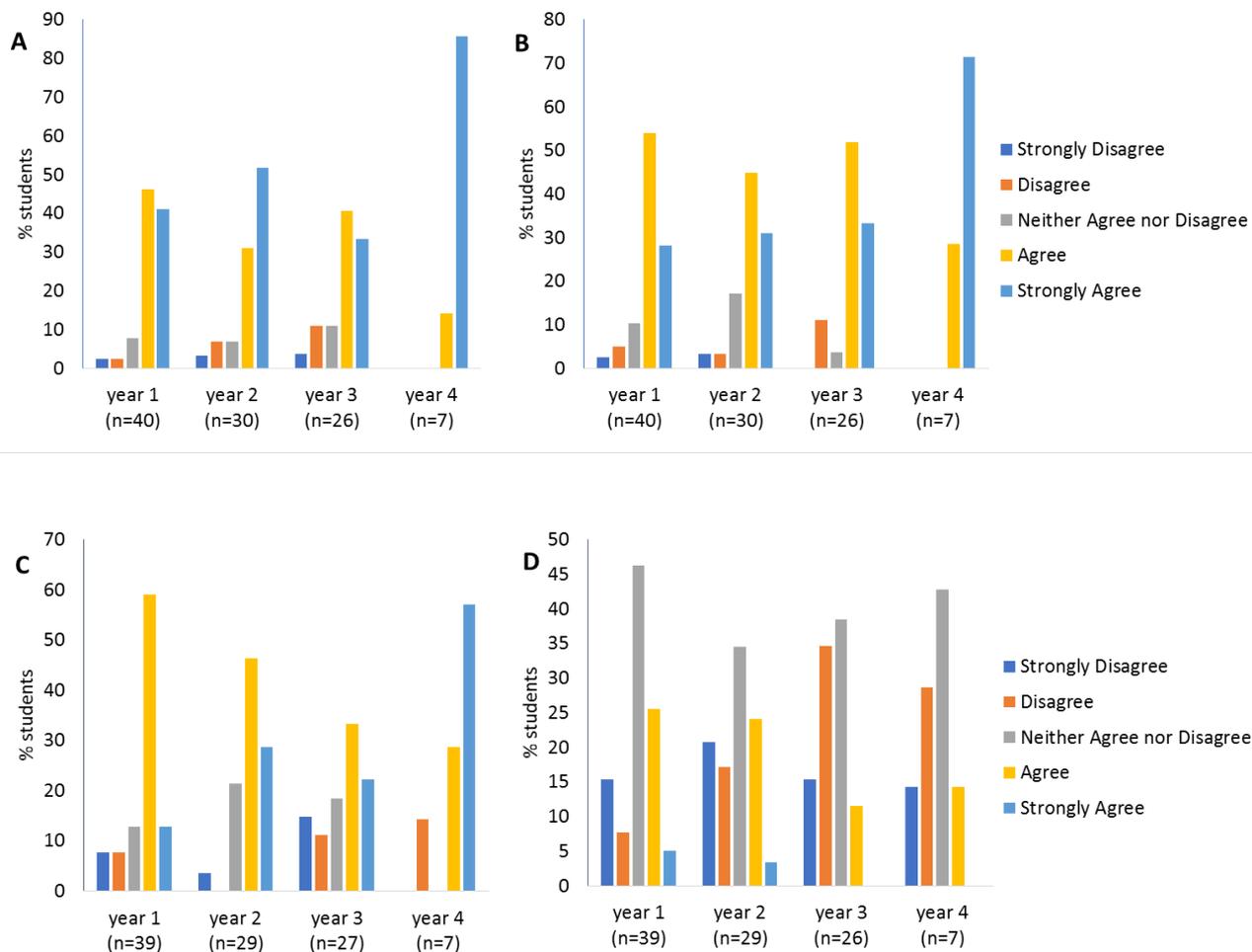
Figure 3 Awareness of the tools available to support skills development. Students have an awareness of the tools and opportunities both within and external to their course that contribute to enhancing their employability agreeing that feedback (A) "Feedback on coursework helps me to develop my skills", extracurricular activities (B) "Extra curricular activities can help to improve my skills and improve employability" and work placements (C) "Work experience and placements offer ways to develop skills and improve employability" all enhance their employability. (D) "The skills passport helps me to identify and work on the skills needed for employment"
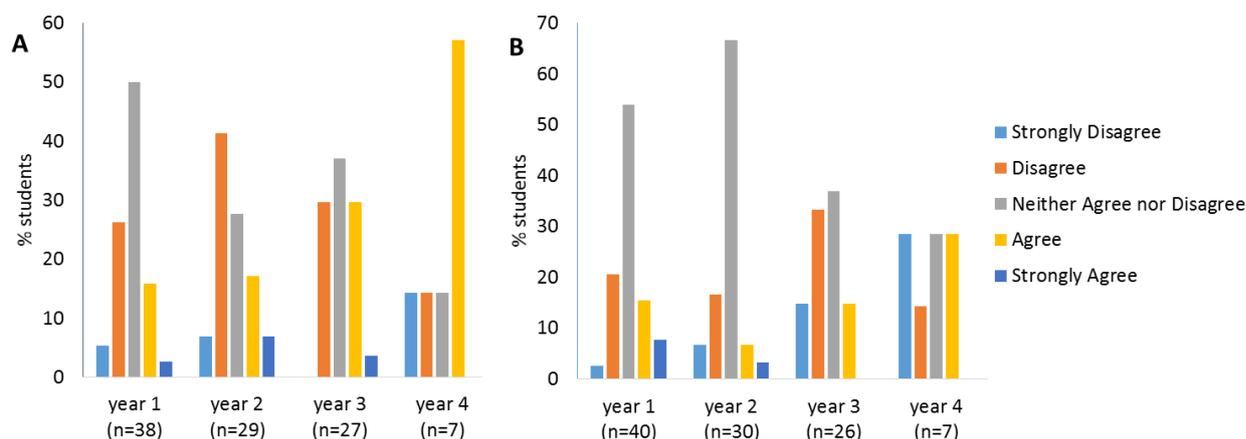
Figure 4 Student opinion on the role of the university in their skills development. Students are less confident regarding their employment prospects upon graduation (A) "I am confident that I will gain employment quickly at the end of my studies" and express mixed views on whether the university takes for granted that they will have developed their employability skills by graduation (B) "I feel that the university takes for granted that I will develop the skills necessary for employment".

engagement with this tool as preparation for job interviews and using this to obtain employment: *"although not directly related to Biomedical Science, it is through the transferable skills that I have learnt at university that I have managed to obtain this position. Hopefully this gives some proof that the Skills Passport and transferable skills genuinely make a difference".*

The overwhelming opinion of students is that more skills development should be embedded within modules (data not shown) as they are not overly confident about their employability prospects at the end of their studies (Figure 4A). They are aware that this is a risky transition, and it must be planned carefully for (Tomlinson, 2012), the challenge being to package their employability around some sort of narrative. There is then a requirement for students to take a degree of ownership in this journey and expectations need to be managed on where responsibilities lie (Naranjan & Edwards, 2015).

Particularly in their later years of study students do express concerns that the university takes for granted that they will have developed the necessary skills to make them employable (Figure 4B) a point already made by Stewart *et al.* (2016), highlighting that there is work to do around student expectations of what the university can achieve. Although we can

provide skills training and opportunities to try to make students employable we cannot secure them employment.

The personal development tutor who can support students with skills and employability development appears to be viewed less positively in terms of their impact (data not shown) and we need to explore the reasons for this in more detail to support both staff and students in this process. If the university is taking responsibility for the development of employability skills in students then they have to help the students take responsibility for their personal development and provide appropriate student support on an individual and group basis.

Conclusions

Despite the fact that students assume the university will upskill them to be ready for employment and to a certain degree the labour market assumes the university will upskill graduates effectively, the needs of the employers are many, varied and unfixed and this presents a major challenge. The labour markets in different parts of the world require diverse skills and these will also vary depending on the nature of an individual's graduate capital. Ensuring that we contextualize activities and link skills within and across our programmes, and are very explicit

about expectations around responsibilities for employability is clearly important. Working with industry, and also students, is critical in order to gain an all-round perspective on this issue and to develop appropriate activities and resources to support employability and skills development. As such students will be more likely to take up opportunities to gain appropriate experience and enhance their skills. Future work on this will involve gaining a deeper understanding of the reasoning behind student uptake of opportunities to refine our approach.

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