Research for Practice:

Papers from the 2016 International Conference on Employer Engagement in Education and Training

Edited by Anthony Mann and Jordan Rehill

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About Education and Employers

Education and Employers is a UK charity created in 2009 to ensure that every state school and college has an effective partnership with employers to support young people. As well as undertaking research into the impact and delivery of employer engagement in education, the charity manages innovative programmes to enable schools and colleges to connect efficiently and effectively with employers including www.inspiringthefuture.org. The charity works in close partnership with the leading national bodies representing education leaders, teaching staff and employers/employees.

Research into employer engagement in education

As well as publishing new research, Education and Employers provides a free online resource making easily available high quality materials investigating the impact and delivery of employer engagement in education. Resources include a library of relevant articles and reports, many of which have been summarised to pick out key findings, papers and videos from the Taskforce research conferences and free London seminar series as well as Taskforce publications and a regular e-bulletin of relevant research announcements: www.educationandemployers.org/research-main. To keep updated on the work of the Education and Employers research team and for news of international developments related to research into employer engagement in education, follow the team on twitter: @Edu_EResearch.

About the authors

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Introduction: the point of partnership

Anthony Mann

This publication presents contributions from the 2016 International Conference on Employer Engagement in Education and Training. The conference brought together hundreds of delegates together with speakers from around the world sharing perspectives on what happens when the world of education and training engages with employers and how any positives emerging from the interaction be optimised. The conference was the fourth hosted by Education and Employers, the third by the Edge Foundation and the first joint event by the two organisations. The event was sponsored by LifeSkills created with Barclays and it is through their kind support that this publication has been made possible.

In the pages that follow you will find details of twelve contributions from the conference which all ask, in different ways, how practice in schools can be improved by consideration of research evidence.

The publication begins with a full transcript of an interview of one of the world's most influential commentators on education, the OECD's Andreas Scheicher. Questioned by the BBC's Education Online editor, Sean Coughlan, Andreas explores issues of skills mismatch, the limitations of qualifications and the importance of careers education. Andreas argues forcefully that "in any form of career development, in any form of learning, learning with real people and learning with real workplaces are crucially important." With the global economy rapidly changes demand for skills, the OECD's Director of Education maintains that exposure to the world of work is becoming ever more important in both vocational and academic education. In a twenty-first century economy it is not only technical skills and careers thinking that can be effectively developed with employers, but also character qualities like resilience, curiosity and leadership which are best developed where they can be exercised.

The eleven contributions which follow were specially invited by the editors to summarise insights from their presented papers. Contributors were selected on the basis of the high quality of the research approaches they had adopted exploring questions of particular relevance to professionals working in UK schools and colleges. All the summaries focus, in different ways, on the implications for practice stemming from research studies. To see presentations of the papers, including many videoed sessions, please visit the conference website at:

The collection begins with Stella Williams whose thoughtful piece explores how we can best understand what employability means. Drawing on literature from the last fifty years, the study argues that employability is not just about the skills and knowledge used in work, but about the contexts in which such skills can be used (including social networks providing resources of value) and how individual's thinking about their own working lives can influence their success. Williams prompts practitioners to think broadly about what employability means. In the second paper in the collection, Deirdre Hughes and colleagues adopt the same literature review approach but with a different end in mind. They present findings from an international literature review that looked at the impact of careers education (in its different forms). Reviewing high quality studies for evidence of economic and educational outcomes, they find that the majority of reliable studies demonstrate, on average, better employment and academic achievement for young participants. These

introductory contributions are followed by two studies which take stock of the extent to which British schools are working effectively with employers to help prepare young people for their working lives. HMI Adrian Lyons reports on findings from a major study by Ofsted finding significant variation in school practice, often driven by the differing views of senior leaders. Noting the importance of social networks to young people in determining how work experience placements are accessed, Lyons shares concerns that more disadvantaged pupils often poorer quality experiences than their more privileged peers. Lyons suggests that schools should intervene to address inequalities, a viewpoint shared by Julie Moote and her colleagues. Drawing on a unique survey of 13,000 Year 11 students, Moote finds that fewer than half of these teenagers now take part In work experience and that participation in careers provision is 'patterned' with young people from more disadvantaged backgrounds commonly receiving less provision than their more privileged peers.

This question of fairness is picked up by Steven Jones in his report of a major study which explored the value of job shadowing in the NHS. Reporting on a pilot exercise and survey data, Jones finds that social background is tightly linked with access to work-based placements in the NHS and that job shadowing can help increase access while providing young people with experiences of real value to their progression. Job shadowing is a form of work experience and two further contributions share understanding of how the impact of such placements can be optimised. Both Collins and Dean and McCrone and Bamford look at strategic approaches to work experience, highlighting the importance of targeting placements linked to pupil interests and characteristics, managing activities to ensure young people gain as much as possible from them. Their work is supplemented by Richardson and Bocij who take a deep dive into an episode of enterprise education to explore the benefits of learning through failure.

In an important contribution, Percy and Kashefpakdel analyse datasets which track young people over time to explore the circumstances under which schools can maximise long term economic benefits gained by students linked to teenage participation in careers talks with people from outside of school. They find that context matters: students attending schools with richer careers provision can expect greater earnings boosts in their mid-twenties. The work highlights the importance of context and suggests that young people's economic gains are linked to better understanding of the world of work. This is a theme picked up by Gambin and Hogarth who discuss a thorough evaluation of a programme designed to increase employer engagement in education and its impacts on the career understanding, and realism, of young people. The collection concludes by presenting work from the Centre for Vocational Education Research looking at the long term economic returns linked to participation in academic and vocational pathways. For young people making difficult decisions about their ongoing investment in education, the new data provides new confidence for students studying at level, but raises significant concerns for students who complete Year 11 without having reached level 2.

Together, the contributions to this collection highlight the importance of employer engagement. Members of the economic community have something distinct to contribute to educational experiences, providing most significantly authentic insights into the working world which shed light on the many decisions to be made by young people as they progress through schools, colleges, universities and training providers towards sustained employment. As the OECD recognises, employer engagement is a critical element of modern education. However, as a number of papers highlight, too many young people leave education without gaining access to it through their school. Moreover, employer engagement is not fairly open to all young people. Social background matters *a lot* in determining who gets what.

For practitioners and policy makers, this collection underpins the importance of employer engagement becoming an everyday aspect of modern schooling, of action being taken to manage engagement to ensure access is sufficient and fair and that schools take strategic approaches to ensure that young people gain as much as possible from the different activities and experiences open to them.

Education and Employers is committed to making high quality research into the subject of employer engagement in education easily accessible. It does this through conferences and seminars, publications, free web resources (including a unique library of summaries of key publications in the field), a free e-bulletin with details of new findings and a dedicated twitter account.

You can access these resources and stay in touch with the Research team by visiting: www.educationandemployers.org/research-main.

The changing relationship between education and employment

Sean Coughlan, BBC Education Correspondent interviews Andreas Schleicher, Director for Education and Skills, Organisation for Economic Co-operation and Development

Sean Coughlan (**SC**): *Thank you, and welcome to this morning and welcome to London. Hopefully, I think we're going get some good ideas here because we have with us Andreas Schleicher, who is probably recognised as one of the most important thinkers and researchers in international education in the entire world at the moment. For an event like this there couldn't be a more appropriate expert because the OECD sits across that bridge between education, economics, employment and how those interact and how those can be mutually beneficial. So, we're very lucky to have Andreas here with us. And he's someone who also is at the heart of the PISA process of comparing standards of education in different countries. Apart from terrifying education ministers around the world who worry that they're going to slip down the rankings and be seen as failing, it's also a way of focusing attention on where we really are, and in a way you need to make these international comparisons to really see where you stand. And part of this is about looking at what it means for future economies. What does it mean for the world of work for young people who are leaving school, college, and university in the years ahead? How well or how badly are transitions from education into work? What we should we be doing better? What works? So, to begin, I'd like to ask Andreas why it is we have this endless question. We have been here ten, twenty years ago asking why is there this mismatch between the skills that young people leave schools and colleges with and what the world of work, what employers demand? There always seems to be this gap.*

Andreas Schleicher (**AS**): You have about a third of workers in the UK who are overqualified formally speaking. It looks dramatic and that's what people talk about. But when we tested the actual skills of the workforce, it probably was less than one in 10 workers in the UK who was actually better skilled than what he or she needed to be for a job, so the pictures a lot less dramatic when you look at the actual skills. The same story is when you look at this over time, you know you have seen this huge rise in people getting more degrees and so on, but again the truth is that young people moving into the labour market in the UK are not really better skilled than those moving out into retirement in a very different kind of world. So I think that the mismatch problem is largely a signalling issue. We're not very good at giving young people good signals about what they [need to] know, and what they can do. Qualifications are building, but system that puts academic education and vocational education truly on a par. I think is a big part of solving the skills mismatch issue. I mean that it's basically just having better signalling systems and being more honest and open about what actually matters, giving people a better picture of the skills they need. It is very hard for a young person to figure out because the institutions that educate people have no inherent incentives.

SC: *It is very interesting that you said that that people now leave college, school and university with much better qualifications than they would have done in the past, [but] they have no better skills [than] previous generations who have fewer qualifications. How is that? Is that a flaw of the qualifications? Or is that a fault of the way they are taught?*

AS: Maybe a bit of a both, but I think the qualifications are a big part of the issue. The signals that we give people about what they can do, and what we certify isn't really related to what enables them to be successful... I think there's no doubt that there has been quite a big amount of inflation, and inflation has been very distorted. It's been very much on the academic sector whereas the kind of vocational skills are undervalued. Academic qualifications are over recognised, and as a result they undervalue the skills that you obtain in the labour market. But it's very hard to actually quantify the experience that you have gained, and that's what ultimately employers value. But, this is the easy part to solve - building a better qualification system…

The [career] guidance question is very important. You know, where do people actually get a picture of the real world? If teachers come from the academic world and move back into school they're probably not the best people to tell young people about the world of work. That's why I really like the work of Education and Employers, giving children early in their [lives] a picture of how the world looks and then they can make their own choices, they can put much more value in studying the relevant things and doing what's right for them. The really hard questions when it comes to closing the skills gap is about employer engagement. How do you bring employers truly to the table? Is it fair for employers to complain that they don't get factory ready workers? But this is not a problem that government can solve alone. Employers, and when you look at the countries doing this well, employers are a very important part of the picture.

SC: *What are the factors that improve the alignment between industry employers and education? What are factors that make that work that better?*

AS: I think the biggest factor is work-based learning of high quality. At the OECD we ask for few things to be mandatory, but that's one of the things that we really think should be mandatory. High quality work-based learning, that is a quality assured and that is credit-bearing. It is very important for young people to know: 'how do I get recognised for this?' It is also important that it is put on par with learning at a university. In fact, Switzerland is a great example of where this is happening. If you give young people a choice at age fourteen/fifteen/sixteen between working at a high-quality apprenticeship or university, the majority of people actually prefer that work-based route. Because what we know is that integration with the world of work rather than the world of learning is a much more powerful path to skills development. But I think that it's hard to achieve. Guidance and qualifications are really things where I don't think there's any excuse for not acting and acting now. With employer engagement, you really have to work at it.

SC: *And when you say work-based learning, do you mean vocational qualifications? In the sense of following a route towards a technical qualification, or with a particular career in mind?*

AS: I think about it even more broadly. You might be surprised, but I think we should have work-based learning in universities. I do think in any form of career development, in any form of learning, learning with real people and learning with real workplaces are crucially important. When we talk about twenty-first century skills, everybody talks about communication and collaboration. Do you learn this when you sit behind your desk in a row? Or in a school when a teacher talks to you? No, you learn this when you work with real people. And I sincerely believe we should get rid of this idea, that this is some kind vocational education. That "we don't do these kind of things in academic education." I sincerely believe that work-based learning should be part and parcel of any learning

process. Not the sole part of it, but that's why we said [at the OECD] that it should be mandatory, credit-bearing and it should be quality assured. When we talk about vocational education, everybody promotes it as a route for other people's children. We spend huge amounts and we have huge incentives for people to go to university. The amount being spent per graduate is enormous. And then, when we think of vocational education, we think that it can be done by small enterprise, we leave people alone and we don't train them properly. If we want to make this work we have to make the same investment financially and in terms of quality and quality assurance to make it happen.

SC: *It's almost in the words that training is seen as something less prestigious than education. Which is seen as an intellectual pursuit rather than a practical one?*

AS: Honestly, I don't like the word training really very much. I think this is about learning, and it's about education. All of these processes should not be divided, between on the one hand abstract academic learning, and on the other hand some sort of a low-level practical training. I think that this no longer reflects reality. If you become a car mechanic these days, training in electronics and engineering design is a very important part of the process, and at the same if you become a professor of philosophy you've got to know how to manage the department. I think the reality is that the two worlds have already integrated, and we keep them artificially apart in the design of our school systems and education systems.

SC: *You mentioned about the importance of guidance in careers being a very important topic, certainly in this country. Are many examples of where you think in the world people get it right? Where is there a good model of careers education that we might want to look at?*

AS: I think countries where there are defined choices are naturally better places at doing this. In countries where students have to make certain choices at certain ages. You know if you choose to become an engineer at age 20 you missed out important parts of your earlier learning, and this is something I think again Education and Employers are doing well in primary schooling. This is not about vocational education in primary school, absolutely not. It's about giving children and young people an idea of how diverse the world is, and what it looks like, what the options are, what the possibilities are. Giving a young person a chance to understand that if I really want to get this job, I have to study hard to get these kind of skills, and I think we missed it. And why do we miss that? Because teachers and school psychologists and all these people are not really well placed to talk about the world of work.

SC: *There are plenty of schemes where people offer mentoring and advice. But do you think there needs to be somebody in the school, who is permanently a contact for employers? Or what sort of framework would actually allow those up to date bits of information to arrive in a useful form for people to learn about what their choices might be?*

AS: Bringing people into schools again has the risk that in a few years these people will be isolated from the world of work because the world of work changes dramatically. I really think that rather than creating a new post in a school, it's about bringing people from the world of work on a regular basis into school. I see Nick Chambers[1] here, they put an ad on the internet and say 'You volunteer

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[1] CEO of Education and Employers (www.educationandemployes.org).

couple of hours per year to actually help children understand your own job, and you are the best person to explain your own job'. These are the kind of initiatives, if we would do this in a more systematic fashion in schools, I think we could do a lot to actually at least create a vision for schools and learning that is much broader than going to another education institution. And then when you think about career guidance. I think again it is a separate profession. I don't think you can do that on top of your day job as a teacher or as a school psychologist. You really have to make sure that those people have enterprise experience, and at the same time that trainers in companies have pedagogical qualifications, that's equally important, integrating those fields.

SC: *And also addressing skills mismatch. Do we need a more consistent approach from government in coordination with industry? The system is being pulled in different directions. As you mentioned, there is an investment in university support, whilst at the same time the CBI this week said that there's a tremendous problem with employers not being able recruit adequate skilled workers. We have a system that seems to reward one thing, but at the same time calling for something else. Is there a need for a more consistent approach that would link through the different phases of education, and also link education with industry as well?*

AS: I think there are several things that governments are really well placed to do. I mean the quality of having a coherent and simple qualification system, I think, is the easiest thing. And that is a very powerful device: that people know what skills count and where can they get them. But also when you think about employer engagement, there's a lot that governments can do to facilitate this. Employer engagement, apprenticeships, all of these things are easy in a large enterprises and they actually are not doing a bad job on this. It's so hard to do this in small and medium-sized enterprises which are the majority of employers. But if you look to Norway, for example, there they built up a platform where employers can work together to do this. Or Switzerland, where they share apprentices. These are examples of what governments can do. They can fund these kinds of arrangements, they can reward work-based learning, they can create incentives for employers and institutions to work on a systematic basis. I think they should review the overall incentive structures. I know these days they have raised tuition fees in universities and there has been a lot of discussion about the level of this. But we are always thinking that one part of the education system should actually be free now, and the other part we leave for employers to worry about. I think we should have a better view on what contributions different qualifications and different skills make to our societies and how we align the resources that go into them with those rewards. How should the costs and benefits of education be properly shared between government, employers and individuals across the board? I think there is a big role for government to create a level playing field.

SC: *You mentioned earlier about how much the world of work is changing. Technology drives that, also globalisation as well as competition within the economy and the global economy. I read something you had written recently about how work is becoming a much tougher place, a much more hostile environment for young people. Can you talk bit more about that? How you think that changes how we help young people enter the workplace.*

AS: I think that there is no doubt that the world and youth transitions are becoming more complex and more protracted. There is no longer sort of clear-cut 'I learned something for life, and I'm going to get a job for life.' Ten or twenty years from now will there be something like employment? We think about informal work and employment as a big issue for developing countries, but that may

actually become a very big issue for this nation. Now one of the dilemmas for public policy is that the kind of things that are easy to teach and may be easy to test are precisely the things that are also easy to digitise, automate and outsource. Where you actually see the big lot of job losses today is not low skilled versus high skilled, it is about routine cognitive skills versus the kind of creative problem-solving interpersonal skills. This really suggests that what you know about the world of work is becoming increasingly important, because when we talk about character qualities like resilience, curiosity, leadership (which we know are of rising importance) you are best placed developing those in places where you can exercise them. That is why I think we need to acknowledge that this transition is more protracted and more complex, and get away from a vision that we prepare people for thirteen years to get something in education and then they are out on their own. The idea of lifelong learning really needs to become a reality.

SC: *Do you think we should be taking exams in curiosity rather than geography?*

AS: Whether this should be in an exam, I am not sure. But I think we should be better at recognising those kinds of elements, and you know, in one way, your country is a great example. If you go to one of these great private schools that are delivering fantastic results. This is not about three points more in maths, this is not about three points more in languages or history. These schools are giving young people those character qualities that make them so much more successful in getting a job, and so much more successful in succeeding in their job. We are trapping a large part of the population by not focusing enough on what really matters for success.

SC: *When you said a couple of minutes ago, you said something very interesting. You said there might not be 'employment'. But what do you mean by that? Do you mean that all of us are going to be out of a job? Or how we think about is going to change?*

AS: I do think that is something is already happening. In your country, you have zero hour contracts and people are very sceptical [about them] because we are managing them very badly. Or think about Uber and the taxi industry, it is again a good example of public policy that doesn't know how to tax those people. The nature of ebay, the e-economy, all of these things exist. But we have no ways, no tools for public policy at the moment to deal with them, and that is something that requires an entirely different skill set. If you know how technology companies hire people today, you know they don't care very much about qualifications. They are very good at actually observing what contributions people can make and I think we don't [do that in education]. It's very difficult to anticipate the evolution of skill demand, I really think it's a hard task. But on the other side, I think we are almost closing our eyes at the moment by not even starting to develop tools, and suggesting to young people that it [will be in] their best interest to spend all their first 30 years [doing] one [job].

SC: *If whilst you're visiting us there's another reshuffle, and they ask you to be education secretary what would you do? If you were looking at how our system operates, what would you say is a practical recommendation to address a problem which comes up again and again and again: schools produce people with qualifications that employers say 'they're not what we want we want, we want different skills'. As you say there is growing 'uberisation' of the workforce. What would you suggest is your top tip?*

AS: You know the [Post-16 Sainsbury Review] skills plan that was just published I think is a really great way to address the issues. But again, it is easy to say what you are going to do and it's hard to do what you say. But that's a great plan. But if I would have to say something about it, I wouldn't start at age 16 but I would start in primary schooling. I really think it's about trajectories. It's not, you know, how do I pick someone up and at 16 and route them to the right qualification? Even though I think that's part of the answer, I think this is a great way (if this is implemented) then you have a good chance of raising the quality of apprenticeships, of building fewer, clearer pathways in education. All of those things I think are on the right track, and my sense is really that what is missing in the UK is an early start in all of this. You have a school system that is largely disconnected from what happens at age fourteen, fifteen, sixteen and I think, I really think that's an area where you need to start.

SC: *Do you feel we are unusually bad at that?*

AS: In Europe, I would say yes. On a global scale, in the English-speaking world that is pretty typical. The country that is doing better in that world is Australia perhaps. And in Asia they are doing a lot worse. There basically the vocational education is just beginning to rise. But I think clearly the UK could do a lot more in this field.

SC: *I think a phrase you have used before, maybe distils some of these ideas. You say that schools, at the moment, assess people and what they know, whereas you think the important thing for work is to assess how they apply this knowledge. What they do with what they know. If you were to take that as a principle, how would you practically put that into a school or a university so it delivered the results that would be better in terms of applying knowledge? How would you do that? What differences would you see?*

AS: You know we did something really interesting, we surveyed teachers and asked them what pedagogical ideas are important to them. And you get really very, very strong support for a very constructivist approach to education. 'Students who had learned on their own before I tell them solutions'. 'Skills are more important than curriculum content'. That's what teachers think should be done, and think that's what they're doing. But when we actually look at this through the student lens, through the PISA test; when we asked 'what type of tasks are UK student good at?' Actually in the UK, students do more rote learning than in China, and that's something that is really the opposite of the image that teachers themselves have. You can ask: how do you close the gap? There's a perception that: 'I'm teaching open-ended, problem solving in my classroom' and the reality is, what students do is very shallow wide, kind of knowledge. We criticise the Chinese for rote learning and what we see is that they are much better on rigour, they're much better focusing on teaching a few things well and on coherence (building meaningful learning progressions). So what is this disconnect? I think again it comes down to 'if my perception of what I'm doing in a classroom isn't really corresponding with what is actually happening I will never change'. Building better ways for professional collaboration, getting teachers on board with that mission. Get teachers to try to ask 'what is the world of work going to look like?' 'What are the kinds of knowledge and skills that are going to matter for student success?' This is a debate again, when you come to employer engagement it is not just about delivery of education. Curriculum design is something that the whole of society should be thinking about. What is it that young people should be learning? Employers are not the only part of the answer, because they're not very good at seeing what's needed in the long

run. They can tell you what they need today, but not what they need tomorrow. So I think you need to bring multiple perspectives into this. If that would happen, if you get good teachers on board, employers on board, and the research community on board, I think you could get a better picture and close the gap of what happens early in their careers of students.

SC: *One of the interesting elements in Andreas's work with the OECD is that it's shown in some ways that these things are choices. That there's a sort of assumption sometimes that certain countries are better at something, that they have a cultural predisposition to be clever. China are doing very well because they have cultural education. Andreas's work has shown that is often not the case, and that these are conscious choices. Do you think that sometimes we have a sort of fear to grasp these things, that we think some things are inevitable, and some things will always be this way? That in fact the countries that have rapidly improved their education systems, whether it is part of China or Vietnam or Poland as well as other countries that have improved, have actually decided they can break the mould and do things differently. And we're fearful of doing that somehow.*

AS: You know I am the last person to deny the importance of culture, but then you have to ask ourselves to what extent is culture inherited, a context can't really be changed, or to what extent is culture created by what we do today? I give you an example we ask in the PISA test. We will ask students what do you believe is going to make you successful in mathematics? And we had a majority of students in England telling you it's about talent. Telling you 'if I'm not born as a genius I better choose something different.' So the idea is basically, 'the education system is just going to a grind me through a mill and I'm going to come out in some ways and I have no influence over this.' When you ask that same question to students in Singapore and China, you have nine out of ten telling you 'if I study really, really hard and I trust my teacher is going to help me, then I will be successful.' What you see are children from all social backgrounds seeing what they need to do to actually succeed. So some people argue that is culture, I would argue that is exactly how the system works. That's more to do with how it sets its incentives, having high expectations for everyone, and opening doors. One of the points of evidence for this is if culture would be everything, we [would] be seeing the same picture year after year, decade after decade. But you look at the United States, which was number one in the 1960s but is now below the OECD average not because they are getting worse, but because everyone is getting much better. And I think that's something that we have to take to heart, that there's a lot overall for public policy to actually make a difference to. The example of somewhere like South Korea. South Korea only a couple generations ago had the highest rate of illiteracy in the world of the lower literacy levels. Now it's the very top of international education rankings.

A systematic review of current understandings of employability

Stella Williams[2]

Summary

A theoretical framework is essential for the effective evaluation of employability. However, there are a wide range of definitions of employability existing in current literature. This research reviewed the existing ways in which employability has been defined and conceptualised to inform a better understanding of the nature of contributions made by various employability development opportunities, and appropriate assessment of these contributions. A systematic review of employability literature produced between 1960-2014 identified 16 employability conceptualisations. Analysis of similarities and differences between the components of these employability conceptualisations identified three recurring themes (Capital, career management, and contextual dimensions). This research offers a road map for understanding these different conceptualisations, as well as identifying intervention directions within and outside of Higher Education (HE).

Why the research was undertaken

A key demand placed on Higher Education in the present day is to be a provider of employable individuals. The success of which is measured against employment outcomes. The validity of this employment outcomes approach is widely contested; however, an alternative measure of employability has yet to be put forward. An assessment of HE's contribution to employability is nigh on impossible, until a more tangible understanding of the meaning of this term is achieved. With numerous competing conceptualisations in existence, the present research seeks to present a systematic review of these conceptualisations and move us one step closer to an evaluation of what HE can, and is offering the employees of tomorrow.

How the research was undertaken

Relevant literature was extracted using a sensitive search strategy. Eight bibliographic databases were searched for relevant publications from January 1960 to May 2014; PsycArticles, PsycINFO, Business Source Elite, Educational Research Complete, Psychology and Behavioural Science Collection, Web of Science, SCOPUS and Expanded Academic. Additionally, ProQuest Databases and Index to Theses in Great Britain were explored for the purposes of identifying grey literature.

To capture all relevant titles, inclusion criteria were kept broad. Initially, titles and/or abstracts were included and full studies were retrieved for further scrutiny if the manuscript referred to a

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[2] Stella Williams works as a senior lecturer in the Psychology and Counselling Department at Newman University, Birmingham, UK.

conceptualisation (e.g. a model, framework or theory) of employability. Where the title or abstract provided insufficient information regarding its relevance to the inclusion criteria, the full manuscript was retrieved and reviewed before a decision regarding inclusion was made. Studies that met the following inclusion criteria were accepted into the review; those that (1) were written in the English language; (2) aimed to provide a holistic conceptualisation of employability; and (3) concerned the development of an individual's employability.

What the research found

A total of 16 conceptualisations were identified, consisting of 88 components with three overarching themes that describe the nature of these components. Consideration of how these dimensions have developed following successive publications and interpretations suggests that more recent publications do not add to all dimensions of employability, and that the development of dimensions is inconsistent with a continuous progression of this concept. These three distinct but overlapping themes of employability include:

Capital

The research found that four types of capital accumulation are key components in measuring employability.

1) Human capital or simply 'knowing how'. This is largely in the form of practical skills or expertise gained through work and life experience.
2) Social Capital. Defined by Bourdieu as "social obligations or connections seen as convertible to economic gain".
3) Cultural Capital offers an explanation of employability in terms of the impact of fit between the employer's ideas, customs and social behaviours and those of potential employees. Enhanced similarity, or fit, provides increasing motivation to engage in the company's expected work practices, to strive for company goals and to thus enhance an individual's employability.
4) Psychological Capital. Psychological capital adds to previous forms of capital, explaining employability from the standpoint of the individual's ability to offer optimal performance within the role offered, e.g. providing confidence levels that will add credibility to their performance.

Career Management

The wider literature has demonstrated an ever-increasing importance placed on career management as a component of employability. This indicates the need to consider employability in terms of competencies and skills beyond performance in a set job role, as well as the role of career goals/ orientation in outlining an individual's desired employment. The core features of this theme are elements of an individual's feelings or values influencing how they relate to the working world. This in turn influences which opportunities presented in the context are pursued, and what actions to develop or apply capital a potential employee is motivated to engage in.

<u>Contextual Components</u>

Finally, the literature refers to the surrounding circumstances and events that have a bearing on an individual's chances of employment. This relates to competition for employment, and the comparison between our capital and the capital of those we are compared to. This theme also includes personal circumstances such as caring responsibilities, disabilities and household status which may affect the ability of the individual to navigate the labour market.

Further information

Williams, S., Dodds, L. J., Steele C. and Randall, R. 2016. "A systematic review of current understandings of employability" *Journal of Education and Work* 26:8, 877-901

An International Literature Review: Careers Education

Deirdre Hughes, Anthony Mann, Sally-Anne Barnes, Beate Baldauf and Rachael McKeown[3]

Summary

The report was designed to provide an overview of the evidence base underpinning careers education and its impact on pupils' skills and outcomes. The review aims to identify which interventions might be most appropriate to implement in the UK context to better support careers education, and in turn improve educational, economic and/or social outcomes for young people. The literature search highlighted 73 studies focused on careers education and 23 studies exploring the impact of part-time employment. The analysis highlighted that literature in this field is weak and fractured. Specifically, within the UK there is a notable lack of robust studies, the majority of studies were US in origin. Evidence available, however, points towards the benefits which can be drawn from careers education - high quality, independent and impartial career guidance rich in workplace relevance for young people is key to supporting transitions into education, training and employment. The majority of studies revealed positive findings for education, economic and social outcomes of young people. The literature suggests that careers education is optimally facilitated when interventions are personalised and targeted to individuals' needs from an early age.

Why this research was undertaken

This report, commissioned by the Education Endowment Foundation (EEF), supported by the Bank of America Merrill Lynch, was designed to provide an overview of the evidence base underpinning careers education and its impact on pupils' skills and outcomes. Careers education is defined as: 'Careers-focused school- or college-mediated provision designed to improve students' education, employment and/or social outcomes.'

The main questions addressed by this report include:
- What intervention research has been carried out since the year 1996 measuring the impact of careers education on improving young people's outcomes?
- What is the strength of evidence of this research?
- Where are the research gaps that need to be addressed?

Furthermore, this review aims to identify which interventions might be most appropriate to implement in the UK context to better support careers education, and in turn improve educational, economic, or social outcomes for young people.

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[3] Dr Deirdre Hughes OBE, Principal Research Fellow, University of Warwick's Institute for Employment Research (IER) and Dr Anthony Mann, Director of Policy and Research, Education and Employers, co-lead this research programme supported by Dr Sally-Anne Barnes and Dr Beate Baldauf, Senior Researchers at the Warwick Institute for Employment Research and Rachael McKeown, Research Assistant, at Education and Employers.

How the research was undertaken

The literature review highlighted 73 studies focused on careers education as defined above. All studies included were required to adhere to quasi-experimental or experimental approaches undertaken within Organisation for Economic Cooperation and Development countries since 1996. The findings focus on evidence from studies where outcomes could be compared with a control group, though the robustness of the methodologies used inevitably varies. The research also identified 23 studies exploring the impact of part-time employment. The types of interventions considered in the examined studies included careers provision, career guidance, enterprise, ICT and careers, job shadowing, mentoring, transformational leadership, volunteering, work experience and work-related learning.

These were considered in the context of their impact on:
- educational outcomes such as attainment level, participation in education and/or training, and sustainable progression.
- economic and employment outcomes such as earnings, employee retention, likelihood of finding work and/or congruence with the work environment, transition from education to work, social mobility, and reductions in those 'not engaged in education, employment or training' (NEET).
- social outcomes such as cultural capital, community engagement, confidence, resilience, self-esteem, improved non-cognitive skills and/or mental health well-being, and not engaging in criminal activity were also considered.

What the research found

The research literature over the last 20 years on the impact of careers education on student outcomes is largely considered weak and fragmented, due mainly to the complexity of differing elements being identified and reported in differing ways. Overall, there are significant shortages in quasi-experimental and experimental studies in the career development field.

The review identified 27 studies which explored the links between school-mediated careers education and later economic outcomes for those individuals. A robust literature does exist—linked mainly to wage premiums using national longitudinal databases. Two-thirds of the studies reviewed (67%) provided evidence of positive economic outcomes; one-third found evidence to be mixed with no distinct patterns in terms of outcomes. No study found evidence that participation in a careers education intervention can be linked to poorer adult economic outcomes. The scale of the wage premiums detected is routinely considerable.

The review identified 45 research studies providing reliable assessments of the impact of careers education on the educational achievement of young people. Of these, which looked in total at the impact of 67 different interventions, 60% provided largely positive findings evidencing improvements in educational outcomes. Only one study suggested negative impacts. The remainder provided either mixed results or no clear patterns of achievement. The literature is strongly focused on secondary education with 44 studies providing comment on careers-focused mediated provision received by pupils between the ages of 12 and 19. Looking at specific interventions, four areas have

been investigated by five or more studies: leadership, mentoring, careers provision, and work-related learning.

The review identified 25 research studies providing evidence of the impact of careers education on the social outcomes of young people. The evidence base is broadly positive (62%). However, most literature on careers education and its effectiveness is focused on influencing students' knowledge, attitudes, and decision-making skills; students' behaviours and actions often remain unexamined.

There is a clear need for research that is longitudinal and is therefore capable of identifying longer-term and possibly more deep-seated effects, not merely in terms of individuals' pathways and assessment of opportunity structures (such as the take-up of learning or job opportunities), but also in terms of career behaviours, attitudinal shifts, and perceptions of career identity—also of great importance. While qualitative studies often focus on the aspirations, motivation and attitudes to learning of participants in research, there is a need to identify shifts in the use of 'softer' measures using longitudinal data, randomised controlled trials, and other such approaches.

Further information

Watch the report being presented:
https://www.youtube.com/watch?v=ziaRFN0JiMo

Read the report:
http://www.educationandemployers.org/research/careers-education-international-literature-review/

Enterprise, employability and employer engagement: The findings of Ofsted's thematic survey

Adrian Lyons[4]

Summary

The paper presented findings from the 2016 Ofsted inspection of secondary schools around England in which inspectors visited schools to assess how well schools were preparing young people for adult life through school-mediated career activities. The research found that there was a real variation in the provision of such activity in schools, driven primarily by the attitudes of school leaders towards the role of schools in preparing young people for the world of work. It also found that schools were often unsure about the support on offer from local and national organisations, while their links with local employers were often weak. In some cases, this had a particularly detrimental impact on the most disadvantaged pupils, who had fewer family contacts to draw on when expected to arrange high quality work experience placements for themselves.

Why the research was undertaken

The report discussed follows a number of Ofsted and other governmental reports into the national strategy on work-related learning. A previous 2014 Ofsted national report identified a solid foundation of good, age-appropriate enterprise education in primary schools. The report noted that 'schools generally regarded it as an essential element of the whole-school curriculum, helping to prepare children and young people for their futures within the complex and dynamic economic, business and financial environment in which they live.' However, a more recent study by Lord Young voiced concerns about the consistency, delivery and evaluation of enterprise learning in Key Stage 4 and, as a result, the Careers and Enterprise Company was set up to help coordinate relationships between schools and businesses. This report sought to further analyse the delivery of work-related learning activities two years on.

How the research was undertaken

The report examined 40 thematic inspections of schools which took place in the spring of 2016. These visits included a mix of inner city, urban and rural settings, a mix of comprehensive, selective, 11-16 and 11-18, mixed or single gender and schools with overall effectiveness grades ranging from outstanding to requires improvement. The selection was chosen to roughly reflect the range of schools in England. The report synthesises these reports with additional questionnaires from 109 inspectors leading routine inspections during the same period. Additionally, Ofsted established two expert engagement groups representing employers' organisations including the CBI, Institute of

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4 Adrian Lyons is Her Majesty's Inspector and National Lead for economics, business and enterprise at Ofsted.

Directors and the British Chamber of Commerce, the TUC and organisations involved in work with schools and business. Individual meetings were held with a wide range of organisations involved in supporting school and businesses links. Telephone interviews were carried out with 12 head teachers of schools that had previously been judged by Ofsted to be outstanding for their enterprise provision. A public call for evidence resulted in 161 responses which informed the survey's findings. Additionally, 338 responses from Ofsted's parent panel contributed to the findings.

What the research found

The research found the extent to which schools used their curriculum to prepare pupils for the world of work was largely dependent on whether school leaders considered it to be a priority. This ranged from schools such as the one where a head teacher described enterprise education as 'a luxury we can't afford' to others that saw the acquisition of knowledge and skills prized by employers as central to the school's purpose. Schools often cited pressures on finance and curriculum time as reasons for not prioritising enterprise education. Additionally, the report notes that even where schools were delivering enterprise education, it was often unclear whether this was having any impact on pupils' knowledge, understanding and skills. Under a quarter of the schools inspected formally assessed pupils' learning in this area and even fewer used external validation, such as accredited award schemes, to verify pupils' achievement. Furthermore, opportunities for pupils to take part in meaningful work-related learning or work experience were limited at key stage 4. Local employers and their national representatives suggested that a lack of work-related learning was a major barrier to young people gaining employment. School leaders who offered well-managed work experience in key stage 4 reported that it had a positive impact on pupils' attitudes to school on their return and was therefore well worth the investment in curriculum time. Moreover, business involvement in some of the schools visited relied too heavily on the personal networks of teachers and parents, potentially resulting in disadvantaged pupils missing out. Teachers and employers we spoke to for this survey said that they had little time to create and develop partnerships and, where partnerships did exist, they were vulnerable to staff leaving or changing roles. Where schools provided time for work experience, the responsibility for finding placements was often left to the pupil. While inspectors saw some very impressive examples of work experience placements, some arose solely because the pupils' parents were well connected. Finally, it found that schools appear to be more likely to promote apprenticeships than in recent years, but parents and pupils are concerned about the quality and reputation of apprenticeships.

As a result of these findings, the report advises that secondary schools should ensure that there is a coherent programme to develop enterprise education, including the economic and business knowledge, understanding and skills of all pupils. Additionally, they should also develop stronger links with employers by using local networks provided by, for example, the chambers of commerce and LEPs, and set clear objectives for the intended outcomes of these partnerships. Finally, schools must ensure that these programmes have effective mechanisms for monitoring and assessing progress in relation to developing knowledge, understanding and skills.

Meanwhile, the Department for Education (DfE) was advised to ensure that the availability of apprenticeships is communicated well to parents and pupils, and that the potential value of apprenticeships as a viable alternative to traditional university routes is promoted. Whilst also

further promoting the Careers and Enterprise Company to encourage schools and businesses to work together in delivering enterprise education.

Further information

Watch Adrian's presentation:

https://www.youtube.com/watch?v=9pOLbOPLwPs

Read the Ofsted report *Getting ready for work* (2016):

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577236/Getting_ready_for_work.pdf

Who is getting advice? Year 11 students' views on careers education and work experience in English secondary schools

Julie Moote, Louise Archer & Emily MacLeod[5]

Summary

Despite the statutory requirement for secondary schools in England to secure independent careers advice for all pupils, our survey of over 13,000 Year 11 students suggests that fewer than two-thirds of students aged 15-16 report having received careers education and only half of all students have had work experience.

Moreover, our data shows that where there is careers education provision, this is patterned by social inequalities, leaving those most in need of it without adequate, or any, independent careers support. White males are most likely to receive careers education - whereas girls, students from minority ethnic or working-class backgrounds, lower-attaining students and those who are unsure of their aspirations are all significantly less likely to report receiving careers education.

Why the research was undertaken

When the government terminated the annual £200 million funding allocation for the national network of Connexions centres in 2010, the statutory requirement to provide independent careers advice to all pupils shifted from local authorities to individual schools. Since then there has been considerable policy interest in the quality and quantity of careers education provision.

Studies have found numerous benefits of careers education: from equipping students with the requisite skills for the world of work to promoting social mobility. However, the shifting of responsibility of provision to schools, paired with continuous developments in the labour market affected by technological advancements and social change, raises questions about the current standard of support received by pupils.

Existing research on the topic of careers education mainly focusses on the nature of the provision from the point of view of schools and school leaders. In this study we gather and analyse data from Year 11 students in order to understand this provision from the point of view of those who are, or should be, receiving it.

How the research was undertaken

These data and findings are taken from the ASPIRES 2 project, based at UCL Institute of Education (previously at King's College London) and funded by the Economic and Social Research Council. ASPIRES 2 is the second phase of a ten-year study into the career aspirations of young people, with a focus on science and STEM (Science, Technology, Engineering & Mathematics) education, enjoyment and participation. The first phase of the project, ASPIRES, tracked the career and STEM aspirations of students aged 10-14. ASPIRES 2 is now tracking the same cohort of students from age 14 to 19. At each data collection stage students are surveyed, to produce quantitative data on school experiences and aspirations, and students and their parents are interviewed in order to produce in-depth qualitative data. To date, this ten-year study has collected data from over 37,000 students in the UK.

The findings presented here are based on data collected in the first data collection cycle of ASPIRES 2, when students were in Year 11, aged 15-16. Following data cleaning, we analysed data from 13,421 students from 340 schools and interviews were conducted with 70 students and 66 of their parents. Both male and female students were surveyed and interviewed (47% of survey respondents were male, 53% were female; 30 student interviewees were male, 40 were female). Students involved in the project came from a broad range of socioeconomic classes and ethnic backgrounds, and the schools they attended were roughly proportional to the national distribution of schools in England with regard to school type, attainment, and make-up of pupils.

Survey and interview topics included experience of school, future aspirations, attitudes towards school and different careers, the influence of parents, teachers and peers on post-16 choices, and experience of careers education and work experience.

What the research found

Overall, just 63% of our survey sample reported having received careers education. Our interviews revealed that a one-to-one session with a careers advisor, often external to the school, was the most common form of support given. The second most common form of careers advice reported was attendance at a careers talk or fair. A small sample of students said that their careers advice had been provided within a timetabled lesson, though one student reported that this had been stopped and replaced with English lessons in an attempt to boost grades before GCSE exams.

Alarmingly, our data showed that careers education provision in England is not just 'patchy', but 'patterned' – especially in terms of the following existing inequalities:

- **Gender**: Female students were found to be significantly less likely to report careers information provision at school. This trend was also apparent within aspirations: 44% of female students who aspired to a manual trade reported receiving careers information, compared to 66% of male students with the same aspiration.
- **Ethnicity**: 65% of White students reported having met with a careers advisor, while only 33% of Asian students reported similar meetings.

- **Cultural Capital**: 67% of students with very high cultural capital, and 62% of students with high cultural capital, reported receiving careers education compared to 53% of their peers from less advantaged backgrounds.[6]
- **Post-16 Plans**: Prospective 'A' level students were most likely to report receiving careers advice (64%) compared to their peers who were unsure of future plans, or wanted to pursue alternative routes such as part- or full-time work.
- **Science Options & Setting**: 65% of students taking Triple Science reported receiving careers education in our surveys, compared to only 56% of students taking BTEC science. Similarly, a higher proportion of students in top sets reported receiving careers information than those in lower sets.

Students who had received careers education were significantly more likely to be satisfied with their school's provision. However, our interviews also revealed that many students expressed **a desire for more, earlier and longer-term careers education**. Furthermore, despite the requirement for schools to provide careers education to all pupils, some schools seemed to provide support on an optional basis. Worryingly, students from disadvantaged backgrounds, who were already less likely to be able to access quality work experience, were less likely to use a self-referral model of provision. Finally, when provision was available, **students often felt that schools gave biased advice**, leaving some students preferring to research their aspirations outside of school.

These findings indicate that schools are not only failing to provide careers education to all, but that **the students most in need of this support are the least likely to receive it**.

Further information

For more information about, and findings from, the ASPIRES and ASPRES 2 projects go to http://bit.ly/ASPIRES2-IOE or email ioe.aspires2@ucl.ac.uk.

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[6] Cultural Capital (e.g. Bourdieu, 1984) was calculated with a scale of -4 through 9, calculated based on responses to items about parental education, approximate number of books in the home and frequency of museum visitation. Scores were then grouped into categories to indicate very low, low, medium, high or very high levels of cultural capital.

How access to the medical profession is conceptualised by key stakeholders: Evidence from a case study of NHS 'work tasters'

Steven Jones[7]

Summary

By examining the responses of schoolteachers, medical students and NHS staff to the idea of 'work tasters' (or job shadowing) for state school pupils, this study identifies the real-world barriers that need to be surmounted if access is to be widened, as well as revealing stakeholders' underlying views and dispositions toward entry to medical professions. Specifically, it found that ninety percent of school staff felt that access to work experience in the NHS was currently difficult or very difficult to access, and eighty-two percent of school staff felt confident a job shadowing programme would be popular among pupils. Interview responses and general demand from young people involved in the tasters confirmed the intervention was well-received. In addition to the practical benefits of the 'work tasters', a number of theoretical implications were identified: human, social and cultural capital were found to be interconnected in ways more complicated than previously thought. For disadvantaged young people unable to access the 'capital carousel', an additional elements of alienation were increasingly noted.

Why the research was undertaken

Over recent years, a number of UK policy and research papers have raised questions about equitable access to the healthcare professions. Research by the Social Mobility and Child Poverty Commission in 2012 and 2013, as well as wider literature, has shown that young people struggle to access the kind of employer engagement activities needed to enter leading universities and professions. Also, research has demonstrated that access to these opportunities varies according to school type and socio-economic background. Moreover, work-related experience continues to be incredibly important in entering medical schools. Research by the Education and Employers Taskforce has shown that schools overwhelmingly want applicants to have relevant work based experience. Eighty-eight percent of Russell Group universities make it a desirable or essential element, an enormous challenge for young people at the age of sixteen or seventeen.

How the research was undertaken

The study assessed the delivery of eighteen 'work tasters', defined as episodes of job shadowing which lasted between one and three days for students of 16 years or above in groups of one, two or three. The study complemented this delivery with surveys of key stakeholder groups. The survey cohort included 707 state school staff, which represented one fifth of all English secondary schools

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[7] Dr Steven Jones is a Senior Lecturer in Education at the University of Manchester.

and colleges, as well as responses from over 1000 medical students, 90% of whom were under 30 years of age. Three hundred NHS staff members were also interviewed, evenly split between both clinical and non-clinical professions. Respondents were asked about their experience when applying to medical schools and healthcare professions and their opinion on current access, as well as whether they felt the proposed work tasters would be useful. Finally, the young people involved in the programme were interviewed either two or three times during the school year to gauge their opinion of the work tasters.

What the research found

It's difficult for students to gain insights into what working in the NHS is like

The majority of school staff highlighted how difficult it was for their students to find work-based experience that allowed them to gain meaningful insights into NHS employment. Out of the 670 respondents, 43% stated it was fairly difficult for their students to gain experience, and a further 45% said it was very difficult. Within these responses, social capital (defined here broadly in terms of 'who you know') was highlighted as a prominent issue in gaining experience in the NHS. There was a perception that without social capital, often in the form of parental links or other connections, barriers existed when attempting to find clinical-based placements.

Students from independent schools have better access to trusted and useful advice, and more contacts to draw upon

The study found that among medical students who attended independent schools, only one third said they did not know anyone who was able to offer trusted and useful advice, whereas in non-selective state schools this proportion rises to half**.** When students did get advice, they were twice as likely to know more than one suitable person to consult if they went to an independent school. At non-selective state schools, there was an equal number of students who reported knowing one person and knowing multiple people. Research has shown that the quantity of ties are exponentially important, and as a result it is significant that students from advantaged backgrounds have many more contacts.

Young people were very positive about their 'work taster' experience

The interview responses found that the eighteen young people who took part in the tasters were very positive about their experience. Many drew attention to its use in applications to higher education courses, whilst others noted its value in terms of career decision making. The responses also highlighted that the tasters were more useful than usual traditional work experience encounters. Specifically, the students commented on the authenticity of an experience that offered a realistic and authentic insight into the reality of the NHS, and what doctors 'actually did'.

School staff were also very positive about the delivery of 'work tasters'

When school staff were asked about the work tasters they too valued the authenticity of the experience. They commented on how the tasters served to remove barriers to entry for disadvantaged young people. Specifically, they valued the programme as a positive alternative to relying on a family network.

Further information

The full presentation and video can be accessed here.

A military approach to inclusive work experience activity: Bespoke STEM placements

Jill Collins and Glynis Dean[8]

Summary

Since 2009, a programme of activities has been developed with industry partners and Sheffield Hallam University (SHU) to encourage young people to consider careers in Science Technology Engineering and Mathematics (STEM). In 2012, a survey of 74 female participants in the 'RAF Placement' week (response rate 72%) indicated that over 60% planned progression to STEM related courses/training. Data from the 76 application forms indicate that students can be categorised within three broad groups: i) those planning STEM/RAF careers, ii) those tentatively interested, and iii) those willing to try something new. The largest group had a tentative interest (58% of 44 girls). Participants report that the experience provided opportunities to gather information, and space to consider future employment options. They used the experience to clarify preferences and explore new ideas, building on existing skills/knowledge in a work environment, drawing on role models for further insights. Early engagement, i.e., with first contact no later than age 14/15 but ideally by age 11/12, and an understanding of intersectionality is also essential.

Why the research was undertaken

The backdrop of disproportionate UK-wide skills shortages in the engineering element of STEM, and the numerical dominance of engineers in the RAF workforce (50%) combined with a clear, Board-level mandate to improve the diversity profile of the Service has led to a focussed, evidence-based approach to STEM outreach that has diversity at its heart and experiential learning as its primary vehicle. Originally developed in 2008, the strategy recognises improved female representation as a key lever in the struggle to address skills shortages and gendered occupational stereotyping as the most serious barrier. Collaboration and partnership with external organisations sharing RAF ambition in the STEM space and support at all levels of the organisation are critical enablers. Consistency, longevity and continuous improvement are the other essential ingredients, as is the growing involvement of RAF STEM Ambassadors in programme delivery. Introduced originally to address low female recruitment into the engineering specializations that make up 50% of the RAF workforce, the programme was underpinned from the outset by Board-level support and well-publicised commitment to greater gender diversity, and clear objectives that reached beyond its impact on individual students. The strategy now encompasses other under-represented groups, and demonstrates the organisation's deepening understanding of intersectionality.

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[8] Jill Collins is Senior Research Fellow at Sheffield Hallam University. Glynis Dean is Wing Commander at RAF College Cranwell.

How the research was undertaken

A mixed method approach was embedded in the evaluation of the RAF programmes. Grounded theory has formed the basis for this research as it allows for a flexible approach, where data is sorted, sifted, sometimes leading to redefinition of the aims, according to academic and organisational requirements of the data. The collaboration between the RAF and Sheffield Hallam University staff has created a continuous improvement process, informed by an iterative evaluation, combining the data available and adjusting the design and delivery of the programme. The shape and content of the programme was informed by research and by the experience of external partners. Developed to be inclusive and accessible regardless of background, gender or prior learning it recognised that meaningful, hands-on experience was the most effective tool to challenge stereotyping and misperception. The programme has evolved to provide a rich, inclusive learning experience with STEM at its heart and with curriculum links and career learning embedded. Using continuous improvement as its guiding principle for this paper, the authors have drawn on evaluation materials gathered from participants in RAF programmes since 2009. Participant presentations at the end of the week also provided excellent opportunities to observe and delve deeper into the impact of the week, through conversations with RAF staff, partner organisations, the young people on placement and the parents who come to the event.

What the research found

The results of the evaluation have been fairly consistent, with the strongest impact relating to the hands-on activities. The popularity of role models and the stories they relay has often been noted as a positive, although a degree of caution is useful when the evaluation is conducted en masse at the end of the week as their responses can be influenced by the group dynamic. The most significant evaluation report focused on a three year longitudinal the RAF-WISE programme, delivered at Cosford.

The impact of the programme was always intended to reach beyond its effect on participating students. Although continuous feedback from participants and delivery staff continues to improve course content and add value to students through the introduction of Silver CREST and Silver Industrial Cadet Awards into the programme. The success of the programme has led to the introduction of inflow targets into the engineering specializations of the organisation. From the outset there was aspiration for extensive organisational learning that would deepen the understanding gender and other stereotyping and its potential to harm the sustainability of the RAF work force, and to retain support at Board level such that the expansion of the programme and its continued funding was considered a critical enabler. The need to encourage buy-in and personal investment of staff at all levels of the organisation was also seen as essential and in the STEM space this would be measured by an increasing RAF participation in STEMnet Ambassador activity. These aims are being met.

Further information

For a copy of the conference presentation, visit:
http://www.educationandemployers.org/research/london-conference-on-employer-engagement-in-education-and-training-2016/presentations/

Young people's transitions: how employers make a difference

Tami McCrone and Susan Bamford[9]

Summary

This paper presents evidence from three qualitative projects on how employers currently add value with innovative approaches by increasing young people's engagement in learning, and developing employability skills. We found that employers should offer relevant experience of the world of work and that employers, the education provider, and the young people should prepare prior to interaction so that key strengths are improved and weaknesses addressed. Additionally, the parties involved should monitor, review and build on the experience; connections should be proactively engaged and maintained; and dedicated staff within the schools/colleges should be in place to lead and manage the process.

Why the research was undertaken

Youth unemployment remains persistently high. The proportion of young people not in education, employment or training (NEET) remained broadly flat for the 16 - 24 age group between July and September 2015 and 2016[10] and, although 5.5 percentage points lower than the peak of 19.4 percent in 2011, it is still too high. Currently approximately one in seven young people are not actively contributing to the present or future economy.

Additionally, it has long been recognised that technical education in this country needs to improve in order to produce young people with the appropriate skills to ensure a strong economy going forward. The post-16 Skills Plan[11] sets out reforms to the skills sector and emphasises that employers have a significant role in these planned developments.

The three research projects that this paper draws on explore employer engagement in education from different angles. They include input at Key Stage 4; work experience as part of study programmes; and the involvement of small- and medium- sized employers in education. Together they provide highly relevant insights into how employers can make a difference to young people's transitions from education to employment.

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[9] Tami McCrone (senior research manager at the National Foundation for Educational Research) can be contacted at t.mccrone@nfer.ac.uk, Susie Bamford (quantitative researcher) at s.bamford@nfer.ac.uk.
[10] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/571248/SFR59-2016_NEET_Statistics_Quarterly_Brief_Q3-2016.pdf
[11] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536043/Post-16_Skills_Plan.pdf

How the research was undertaken

Three qualitative case-study projects in England were carried out, focusing on three age groups: 14 to 16, 16 to 19, and 19 to 24 years old. The methodology included NFER independently identifying schools and colleges and employers demonstrating innovative and effective ways of working together. The three projects were:

1) **Sharing innovative approaches and overcoming barriers in delivering 16-19 study programmes' principles:** http://www.nfer.ac.uk/publications/DFIA01. This study (commissioned by the Department for Education) showcases examples of successful interaction between employers, schools and colleges in delivering work experience as part of study programmes.

2) **Improving employability skills, enriching our economy:** http://www.nfer.ac.uk/publications/IMSL02. This project was carried out in partnership between the NFER, South East Strategic Leaders, London Councils and the London Enterprise Panel. It highlights how schools, colleges, SMEs (small-and-medium-sized enterprises) and micro-businesses in London and the South East work together to improve young people's employability skills and successful transitions into work.

3) **NEET prevention - keeping students engaged at Key Stage 4:** https://www.nfer.ac.uk/publications/IMPE04 This research examines the impact of school-based programmes, such as enterprise activities, mentoring and work-related learning in place to support students aged 14-16 at risk of temporary disconnection from learning.

Across the three studies, methodologies included: face-to-face and telephone interviews with school and college staff and young people, partner organisations (including employers), longitudinal tracking of some young people's attendance and attainment at school, and focus groups with young people at schools, colleges and employers. All three studies took place between 2013 **a**nd 2016.

What the research found

Two ways were identified through which employers positively influence young people's transitions from education into employment or further training.

Firstly, through enhanced *engagement* of students in learning and work. From our NEET prevention research (study 3) we identified a school that was implementing an Extended Employer Work Experience intervention. This alternative provision for particular students in Years 10-11 included a dedicated programme lead, focus on core subjects of English, maths, and science, and relevant work experience with an employer every week. The programme resulted in the young people developing a more positive attitude to learning and the world of work, improved attendance and punctuality, and a high proportion of them engaged in post-GCSE learning. The programme has been adapted over time to provide effective bespoke support.

Another example emerged from study 2.The programme delivered in a school emphasised the importance of providing industry-relevant work experience for young people. It comprised two days of key skills to raise attainment in maths and English; one day of high-quality work experience: and two days of technical learning. The retention rate for the programme was excellent, with only one

student dropping out during the 2012/13 academic year and a full rate of retention in 2013/14. A key aspect of success was the ability to develop the programme over three academic years. Students reported that suitable support systems were in place and felt the programme was managed well, equipping them with skills and confidence to participate in work. The benefits were reported to:

- be mutually advantageous to employers and young people

- support ongoing engagement of young people in further education for longer

- broaden the school's post-16 offer.

Secondly, through building employability skills. In our NEET prevention research we presented a case study of a dedicated program

me leader who worked closely with a local business to provide skills days for the young people. These consisted of spending the day in an exciting business environment. The school identified the particular skills these young people needed to improve, and the young people spent the day working in small groups as a business using key skills such as maths, English and IT to solve a task. Outcomes were an increased confidence in maths, English and IT, the ability to see the relevance of school work to the future, and a more positive attitude to attendance and learning.

In our work experience research (see study 1) one further education college had developed an employers' advisory board (EAB). It consists of 20 local business representatives and strengthens links with the college. The EAB informs curriculum development by integrating expected behaviours and skills and is also a mechanism for driving senior staff development.

Further information

For more information on the three projects reported in this paper please follow the above links and/or visit the NFER website.

Technology and the Ability to Learn through Failure: A Virtual Business Enterprise Team

Angela Richardson & Paul Bocij[12]

Summary

The research highlighted that, from the learner's perspective, the ability to work together and win was still considered important throughout an online business simulation game designed to deliver key employability skills. However, the research identified a much more useful success factor in that the ability to reflect on performance in order to improve represented a wider measure of the learning experience and success. The research concluded that the technology enabled students to learn more through failure than through success whilst participating in a virtual business enterprise team.

Why the research was undertaken

An action research project with the College's first cohort of 28 business game students was established using student interviews, observations and individual learning journals to ascertain whether the team selection process was workable. Further investigation identified that a similar selection process was applied at Aston Business School where hundreds of students per year enrol on an equivalent business game module.

In both institutes, students were required to apply individual and collective knowledge in running the virtual enterprise whilst evaluating their own and the group's progress in individual learning journals. The students' learning journey highlighted some key development of employability skills, communication, team-working, leadership skills and the growth in reflective practice following 'failure' to connect as a team or perform well in the business simulation game.

How the research was undertaken

The study adopted an interpretivist approach in order to explore the opinions and feelings of the participants in relation to their experience of the module. Of particular interest were views on working in groups, the competitive aspect of the module and what learning students felt had taken place. The main methods used were questionnaires, observation and interviews. Additional data was collected from student learning logs, reflective essays and from reports produced by the simulation.

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What the research found

The paper reported on the development of a module for a Foundation Degree in Business within a Further and Higher Education College. The module was based around the use of an online business simulation game to deliver key employability skills. The use of the simulation provided a stimulating environment that enabled learners to explore the challenges of operating a virtual company in competition with other student teams. In doing so, learners gained valuable experience that is easily transferred to the 'real world'. Such experience encompassed areas such as strategy formulation, problem solving, working in diverse teams and conflict resolution. The module also provided a wide range of additional learning opportunities that complemented and built upon what was learned from the simulation. Local entrepreneurs and employers, for instance, provided students with valuable advice and guidance, while assessment practices emphasised and encouraged the development of individuals as reflective practitioners.

An evaluation of the module found that learners recognised and appreciated many of the learning opportunities open to them. Many students felt that they had improved key employability skills in areas such as communication, leadership and team working. It was also found that most learners engaged well with the module because of the competitive nature of the simulation and the desire to 'win' against competing teams. However, the paper concluded that failure was just as valuable – if not more so - than success. Students learnt a great deal from reflecting upon the reasons for failure, much of which translated directly to workplace skills.

Further information

For slides from the presentation, visit:
http://www.educationandemployers.org/research/london-conference-on-employer-engagement-in-education-and-training-2016/presentations/

What makes a career talk sing: Under what school delivery circumstances or student attitudinal contexts are career talks associated with optimal, long-term wage outcomes?

Christian Percy and Elnaz T. Kashefpakdel[13]

Summary

This research examined under what circumstances school-based careers talks are linked to larger effects on future wages, controlling for a range of background factors and using a large dataset that tracked individuals born in 1970.

We found that while all talks add value on average, you get bigger effects if the talks are regular, outside of exam years, with outside speakers and in a school environment with a proactive careers culture. Moreover, when students say they like the overall programme of talks, the wage effect tends to be higher – so it's worth asking for student feedback and trying different things.

Why the research was undertaken

Previous research has found that careers talks with outside speakers and engagements with the world of work while at school are linked to a statistically significant improvement in earnings in your 20s. With a good number of such talks and engagements, the effect can accumulate, being equivalent to a few thousand pounds a year.

These insights provide confidence that it's worth investing time and effort in setting up talks and engaging with employers and volunteers, but do not give specifics that can advise practitioners on how to make sure talks are as beneficial as possible – which is where this research comes in.

Nonetheless, this research relies on quantitative data from large scale surveys, not detailed conversations with individuals. It can provide some useful ideas, but inevitably only shows part of the picture, being restricted to what questions were asked in the survey and the dated research. For some of the analyses, the subsamples also become quite small – the ideas remain well-grounded, but should be interpreted directionally or with an error band rather than with too much precision.

How the research was undertaken

A large representative group of British people, all born in a single week in 1970, answered detailed surveys at regular intervals about their life, as did their parents and teachers. By tracking the same individuals over time, we get a rich insight into how their early lives, as reported at the time, might have affected their futures.

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We used answers from several surveys in the dataset, the British Cohort Study, to compare how someone's self-reported wage at age 26 (i.e. 1996) relates to the number and type of careers talks they participated in at age 14-16 (i.e. the mid 1980s, when there was great variation in such provision). Under many circumstances, people on average earned more money if they'd been in more talks while at school – typically around 1% more per talk. What we did in this study was examine under which circumstances this effect associated with careers talks was larger.

In doing this, we are careful only to compare like for like, focusing just on those in full-time employment. Specifically, we set up the analysis so that we only people compare people who have broadly similar academic achievements (Drawing test at age 5, Maths scores at age 16, and highest qualification at age 26), social backgrounds (mother's socio-economic status), early home learning environment (based on the TV watched at age 10), gender, and how hard it might be to get a job in their area (local economic activity rate). These features were carefully chosen out of a larger set of options based on which were most closely linked to wage. We then report the average effect across all similar sets of people (in technical terms: regression analysis with control variables). Some outliers are excluded to make sure the results aren't being swayed by a few extreme cases (with the outliers, the positive links to talks were higher).

What the research found

1. Numbers matter – it typically takes more than a couple of talks to make a difference

On average, a few talks a year wasn't enough to drive a significant difference in future wages. This doesn't mean that one or two great talks can't make all the difference to an individual, but not often enough to show through in the average stats. By the time you get to five or six talks a year, the benefits come out more strongly. But the great thing is that the associated benefits keep stacking up – a dozen, two dozen, or more talks a year. It suggests that you don't know what you don't know and being exposed to more opportunities and more people always has a shot at being helpful.

2. Place more emphasis outside of exam years

Career talks at age 15-16, when students would have been studying for 'O' levels, still had a minor positive link to future earnings, but the effect is not statistically significant and much lower than the year before (which was 0.8% per talk).

One possibility is that the distraction of imminent exams and pressure makes it harder to get value from careers talks, which can feel more abstract and focus on future decisions.

The exception is when individuals aged 15-16 reported that they found the talks "very helpful" – then the wage benefit comes back (0.9% per talk). The lesson isn't necessarily to stop careers talks in exam year, but to work hard on making them relevant under a high pressure period and, where resources are limited, to put more talks into non-exam years.

3. When students say talks were helpful, there was a larger wage effect

When students described the overall programme of talks with outside speakers age 14-15 as "very helpful", each of those talks ended up being associated with a 1.6% wage increase at age 26 – as opposed to the 0.8% average effect across all students, no matter how helpful they described the talks.

This suggests it's worth asking students whether they found talks useful, trusting them and taking action accordingly. But this does not mean every talk needs to be useful for every kid and there's no need to play to the lowest common denominator - diversity of talks remains helpful as you can't have a view on something you haven't yet heard of. One possibility is that feedback on individual talks isn't the key question to ask, but more feedback on the overall programme.

4. External speakers add extra value compared to internal staff speakers

Students were asked about four different experiences they might have had at age 14-16 at school: timetabled internal career classes, informal careers chats with school staff, other times in school when careers were discussed and talks with external speakers.

Only the external speakers had a statistically significant positive link to future wages, when controlling for background variables. Internal staff led events might still add significant value, but this does suggest that, at least back in the 1980s, they didn't do so consistently or significantly enough to show up on average.

The lesson is simple. It might take more effort to find external speakers, but it's worth it. They bring a fresh voice, authenticity and a different background.

5. But when internal staff do more careers work, the external speakers have more impact

However, when we compared individuals who reported more timetabled careers classes, conversations with school staff and careers officer interviews, they were much more likely to say they found the external speakers' talks were helpful. This is a reasonable proxy for how seriously the school took careers – and this is important: external speakers can only be well sourced and participating students only be well briefed with the work of high quality school staff.

For instance, a "careers rich environment" might be one with a careers officer interview, an informal chat with a form tutor and ten other occasions over two years when careers were discussed during timetabled periods – or some other similar or higher combination. Among all those who found talks with outside speakers very helpful, 58% operated in such careers rich school environments, whereas among those who found the talks not helpful at all, only 37% had been in careers rich school environments. And we know from above that finding talks helpful was a key driver of being associated with better outcomes.

So it's important to keep doing lots of careers activity led within the school – but the real kick seems to come when you combine that with outside speakers. We shouldn't see any of this as either/or;

the best effects are likely to come from a variety of diverse activities, led by different people, by staff who take it seriously.

Further information

Watch the paper being presented:
https://www.youtube.com/watch?v=hqefrln-BeY

Read the initial analysis discussed in the presentation:
http://www.educationandemployers.org/research/career-education-that-works-an-economic-analysis-using-the-british-cohort-study/

Aligning school to work: Assessing the impact of employer engagement with schools in assisting young people make the transition from school to work

Lynn Gambin and Terence Hogarth[14]

Summary

This note provides a summary of how employer engagement with schools helps increase pupils' awareness of what will be expected from them when they venture into the jobs market. Pupils may then be better able to align their activities within school to what will they will need to make successful transitions from school to work. Evidence is drawn from an UKCES-funded evaluation of Business in the Community's Business Class programme to illustrate how employer engagement with schools can effectively prepare pupils, often located in economically disadvantaged areas, for what will be expected from them in the jobs market once they leave school.

Why the research was undertaken

Over time, the transition from school to work has lengthened. Where once upon a time young people could exit the education system and enter a world of work where their employers would provide them with the skills required to do the job, this is no longer the case. Now young people are increasingly expected to demonstrate various skills sets in order to get a job. This lies at the heart of the employability debate which is concerned with the acquisition of skills by individuals that will make them attractive to employers.[15] There has been an increasing externalisation of the costs of acquiring employability skills, however defined, with young people making their initial forays into the labour market already expected to possess certain skills sets.[16] On the one hand, the observed process of externalisation reflects a policy shift in the 1970s and 80s where government, exasperated at the low levels of skill development of young people taking place in the industry led and financed vocational education and training (VET) system at the time, decided to increasingly take control of VET provision.[17] Initially, this was achieved through creating a system of vocational qualifications that could be studied in further education (FE) colleges. But the externalisation also reflects, to some extent, a relatively weak labour market for skilled employment, especially for those exiting compulsory schooling looking to acquire a trade or profession.

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[15] Gambin, L., Hogarth, T. and Winterbotham, M. (2015). *Evaluating the Impact of Higher Education Providers' Employability Measures*. Gloucester: QAA

[16] Hogarth, T., Gambin, L., Winterbotham, M., Baldauf, B., Briscoe, G., Gunstone, B., Hasluck, C., Koerbitz, C. and Taylor, C. (2012) *Employer Investment in Apprenticeships and Workplace Learning: The Fifth Net Benefits of Training to Employers Study*. BIS Research Paper Number 67. London: BIS.

[17] Hogarth, T., L. Gambin and C. Hasluck (2011), 'Apprenticeships in England: What Next?' *Journal of Vocational Education and Training*

Given this context, how do young people, especially those from more disadvantaged backgrounds acquire the employability skills that will provide them with a bridge into the world of work? This is where programmes, such as Business Class,[18] run by Business in the Community (BITC), potentially play an important role. It helps establish a link between a key local employer where that employer is able to relatively effectively articulate to pupils the skills and attributes they (and other employers) look for in young job applicants, and play a role in helping young people to acquire those skills. In doing so, it potentially assists the young person to align what they do in school with what they want to do afterwards.[19]

How the research was undertaken

Evidence is presented from an evaluation of Business Class.[20] Before explaining the evaluation method, the programme is briefly described. At its core, Business Class is a UK partnership between a school and a business. The nature of the partnership is based on an initial assessment of the needs of the school in relation to: leadership and governance; enterprise and employability, curriculum; and wider issues. The partnership is between a single school and a single employer. The school identifies the support it will need from its business partner. Business Class also brings together, on a regular basis, schools and employers participating in the programme in a given local area to share lessons learned and best practice. Evidence is drawn from the evaluation of Business Class to demonstrate the importance of such programmes in conveying to pupils the skills they will need to acquire if they are to achieve their ambitions in the jobs market. In summary, the evaluation of Business Class was based around comparisons of: (a) those pupils that had participated in Business Class and those who had not; and (b) schools that had taken part in Business Class with differing levels of involvement. Data were collected through questionnaire surveys of pupils, group interviews with pupils, and semi-structured interviews with employers and teachers, across a sample of schools that had taken part in Business Class. Further details can be found in the full report based on the evaluation.[21]

What the research found

Key findings from the evaluation indicated that:
- Business Class (BC) increased pupils' access to information about employability. Compared with students who were not in BC, those that were participated in two additional employability and enterprise activities, other things being equal. It was also apparent that where information

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[18] http://www.bitc.org.uk/programmes/business-class

[19] Percy, C and Mann, A. (2014). "School-mediated employer engagement and labour market outcomes for young adults Wage premia, NEET outcomes and career confidence" in Mann et al, eds. *Understanding Employer Engagement in Education*. London & New York: Routledge; Yates, S., Harris, A., Sabates, R., and Staff, J. (2011) 'Early occupational aspirations and fractured transitions: a study of entry into 'NEET' status in the UK', *Journal of Social Policy*, 40(3), pp 513-534

[20] Gambin, L. et al. (2015*) The Evaluation of Business Class: Final report*. BITC / University of Warwick. See also Bean Research (2015) *Businesses and Schools: The characteristics of successful partnerships*. London: BITC.

[21] Gambin, L. et al. (2015*) The Evaluation of Business Class: Final report*. BITC / University of Warwick.

about the world of work was delivered by employers rather than teachers, pupils found it more credible;

- there was indicative evidence that where pupils participated in BC their educational expectations were likely to be better aligned with their career aspirations. In other words, BC may have contributed in some way to pupils being able to better match their activities in school to their aspirations in the jobs market. Evidence collected during the evaluation suggests that BC gave pupils a more informed view about what employers would expect of them when they eventually entered the jobs market. In particular, it would appear to have a substantial impact upon shaping pupils' views about the skills and qualities that employers value when recruiting young people;

- there was indicative evidence that pupils particularly valued the more intensive activities with employers that involved a degree of one-to-one engagement. Through more intensive activities, pupils felt they obtained the specific feedback that would assist them to obtain the job they wanted. In addition, work experience was particularly valued by pupils;

- employers reported that they too benefited from participating in BC. Whilst one of their motivations for taking part might have been related to corporate social responsibility, in practice those employees who actually worked with the schools and engaged with pupils reported that it helped them to develop their own skills, not least in relation to communication and negotiation.

Partnerships of the type BC fosters between schools and employers bring about a win-win situation. Pupils and employers both benefit from the engagement. But for the partnership to be most effective there needs to be a degree of intensity in the relationship vis-à-vis pupils' preferences for more intensive contact with employers. Nevertheless, the conclusion is that the labour market information provided to pupils through programmes such as BC, and the very fact that it is delivered by employers, helps shape pupils understanding of what will be expected from them in the jobs market. But if the gains from BC are to be truly realised then there needs to be a plentiful supply of opportunities for pupils to further develop their skills – e.g. via high quality apprenticeships / technical training – when they leave school. This is what will allow them to eventually obtain rewarding employment. It is at this stage that the VET system in England has so often under-performed as summed up in the report from the Independent Panel on Technical Education.

Further Information

To read the report discussed in the presentation, visit:
http://www.bitc.org.uk/sites/default/files/webform/files/warwick_bitc_business_class_-_final_report_nov15.pdf

For a copy of the conference presentation, visit:
http://www.educationandemployers.org/research/london-conference-on-employer-engagement-in-education-and-training-2016/presentations/

Post-compulsory education in England: Choices and Implications

Claudia Hupkau, Sandra McNally, Jenifer Ruiz-Valenzuela and Guglielmo Ventura[22]

Summary

Administrative data was used to track the decisions made by people in England who left compulsory education after taking their GCSE exams in 2009/10. The study found that A-levels and vocational equivalents at Level 3 are equally strong predictors of staying on in education up to the age of 18 and achieving a Level 3 qualification before the age of 20. The findings are more troubling in relation to lower levels of learning. For those primarily pursuing a Level 2 qualification at age 17, there is no clear trajectory to higher subsequent levels of learning. Reform is necessary for social mobility.

Why the research was undertaken

Well under half of young people in England complete A-levels, yet the baffling array of qualifications available for their peers is rarely discussed. Most young people do not follow the 'academic track' (A-levels) after leaving school, and only about a third go to university before the age of 20. Those who do follow the academic track have much higher prior attainment and are much less likely to come from a disadvantaged background than the average young person.

Yet progression routes for those who opt for vocational post-compulsory education are neither as well-known nor subject to the same degree of discussion among academics or the media. This is partly a result of the complexity of the vocational education system and the difficulty of deciphering the data that are available. The CVER has made a start on unravelling all this with the use of administrative data. If long-standing problems of low social mobility and a long tail of underachievers are to be tackled, it is essential that post-16 vocational options come under proper scrutiny.

How the research was undertaken

Administrative data was identified to track the decisions made by all young people in England who left compulsory education after taking their GCSE exams in the academic year 2009/10. They were followed through the next four years to the age of 20. Their educational choices were observed at each stage, until they left publicly funded education.

The many different types of post-16 qualifications were put into several broad categories, and analysis was undertaken looking at the probability of achieving various outcomes by the age of 20,

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conditional on the path chosen at age 17. Account was also taken of the influence of demographics, as well as young people's prior attainment and secondary school.

Educational outcomes known to have a positive return in the labour market were considered: staying on in education up to the age of 18; achieving an upper secondary (Level 3) qualification; starting an undergraduate degree; attending a Russell Group university; starting some other form of tertiary (Level 4 and above) education; and starting an apprenticeship.

Because classification of post-16 activities is complicated by the fact that many young people pursue different qualifications simultaneously, a methodology was developed for classifying learners by their main educational activity at the age of 17. While this is fairly straightforward for level 3 vocational qualifications, it has not proven possible to do this for most lower-level qualifications, which are too diverse to be put into simple categories.

What the research found

The study found that A-levels and vocational equivalents at Level 3 are equally strong predictors of staying on in education up to the age of 18 and achieving a Level 3 qualification before the age of 20. This is known to be a positive predictor of earnings and employment. However, A-levels remain the dominant pathway to university.

The findings are more troubling in relation to lower levels of learning. For those starting out on one of the broad class of qualifications known as Level 2 at the age of 17 (usually because they have not done well enough in their preceding GCSE exams), there is no clear trajectory to higher subsequent levels of learning. Most people starting out on Level 2 qualifications don't progress any higher up the educational ladder: only about 44% achieve a Level 3 qualification by the age of 20. For those starting out at Level 1 and below at the age of 17, the proportion is even lower at only 16%.

Furthermore, many people starting out at low levels of qualification continue to study these low level qualifications for several years, even though these courses are often of fairly short duration (and might be pursued part-time). In just this one cohort, around 10,000 young people were working towards low-levels of qualification for four consecutive years.

It needs to be asked if this is a cost-effective way of providing 'second chances' in the current system. It also needs to be asked whether it is as good as it could be for learners. This seems unlikely given the fact that the institutions offering the substantial number of young people who cannot access upper secondary (Level 3) courses at the age of 17 are less well-resourced than those for higher-achieving young people.

Roughly a fifth of young people in this cohort were taken on as an apprentice between the ages of 18 and 20 (about 40% of whom are on advanced Level 3 apprenticeships). The 60% accessing intermediate or Level 2 apprenticeships are lower-achieving on average (in terms of GCSE performance) compared with the average person in the cohort. Although the people accessing advanced apprenticeships are a little higher achieving than the average, they have a completely different profile than those who undertake A-levels and go to university: the latter are much higher achieving and less likely to come from a disadvantaged background.

Our findings help illuminate why reform of post-16 education is important, particularly for the many who are not able to pursue level 3 courses immediately afterwards.

Further information

This article is an edited version of the CentrePiece article published in Autumn 2016: http://cep.lse.ac.uk/pubs/download/cp481.pdf

The full paper is 'Post-Compulsory Education in England: Choices and Implications' by Claudia Hupkau, Sandra McNally, Jenifer Ruiz-Valenzuela and Guglielmo Ventura, CVER Discussion Paper No.1 (http://cver.lse.ac.uk/textonly/cver/pubs/cverdp001.pdf).

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