Although public policy debate centers on education and training (ET) as a primary determinant of economic success, this study suggests that instead the economy determines patterns of participation in education and training. Research over time shows that planned government ET policies have little ability to affect the economy because the effects of the economy on patterns of participation in ET are so strong. This study of ET trends and the economy in South Wales identified 31 potential variables, including year of birth, area of residence, gender, ethnicity, family, religion, language spoken at home, pattern of school attendance, residence, family structure, type of secondary school attended, educational level, and socioeconomic and educational characteristics of parents. The study also determined that work-based training has not increased in frequency since 1945, remaining at just over 39 percent of all work episodes. The most important factor pushing workers to get further education was found to be lack of jobs. Study respondents noted that in a tight labor market employers ask for more credentials, whether or not the qualifications are related to the actual jobs, but when jobs are more plentiful, there is less emphasis on further education. The study concluded that for government policy encouraging further education to succeed, policymakers would have to entice or coerce employers to change their attitudes towards jobs, restructuring jobs to meet the demands of the new economy and thus actually requiring workers with more training. (KC)
Education, Training and Identity

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Education, Training and Identity
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Introduction
Public debate about educational policy has come to be dominated by a particular view of the relationship between education and training (ET), on the one hand, and the economy, on the other, in which investment in ET is seen as a primary determinant of economic success. In fact our study suggests that a much stronger pattern of determination (and one which is supported by much more persuasive empirical evidence) can be found if we look, instead, at the way in which the economy determines patterns of participation in education and training. This strong determination is easiest to see when we look at changes over time which are captured by the strong historical element in our research.

In the 1990s policy-makers have high hopes for 'lifelong learning' and the 'learning society' but our research suggests that we should be very sceptical of the ability of present and planned policies to achieve these goals precisely because the effects of the economy on patterns of participation in ET are so strong. The Government (like its predecessors) thinks that the UK’s education and training system is not producing the right sort of skills to support the future competitiveness of the UK economy. Yet the history of government intervention throughout the post-war period (the latest example of which is foreshadowed in The Learning Age) shows just how hard it is for any Government policy to remedy the situation. We suggest that the determination of patterns of participation in ET by the economy means that this may not be the sort of system that can respond in a simple, predictable way, to such Government intervention.

To the extent that governments have understood their interventions to be intended to make up for the weaknesses of employer-led training then they were, implicitly, recognising some sort of connection between ET and the economy, albeit one that was now so weak as to cry out for outside intervention. But the research we have undertaken in South Wales shows that there are all sorts of subtle and complicated connections between patterns of participation in education and training and the economy (including some links which become visible when there is economic change) which we will now explore.

In our conclusions we will look at the implications of our findings for government policy and we will suggest that the subtle and complex linkages that still remain may well frustrate Government efforts to intervene. While attempts to promote economic development by promoting education and training are to be welcomed, our research underlines the need to be realistic in our expectations about the kinds of impacts that such promotion can have, either at the macro level of economic growth or at the level of individuals’ expectations of labour-market success. The effects of education and training on both the economy and on the sorts of jobs individuals are able to access are constrained. Government policy is faced with an uphill struggle in attaining its stated objectives and it would be better if all of us were fully aware of the difficulty of the task in hand. The conclusions are followed by a list of the working papers and publications in academic journals which give fuller details of the research reported here. A full list of project publications is available from the address given at the end of this paper.
The Determination of Education and Training Patterns

The history of our region of study shows how skills and competences have been created by the economy and not the other way round. In the nineteenth century people migrated to the South Wales coalfield with no skills but then acquired them in their new occupations; in the twentieth century the nationalised industries in coal and steel and the railways established successful training regimes which produced large numbers of skilled men (but few skilled women). Present patterns are also determined by the economic base (and its history): to a great extent the education and training experiences of the people in our (1996) door-to-door survey of 1,104 householders were determined by the economic base of the localities they were brought up in.

One way to see how the industrial history of our region has left its mark on the population of the area is to look at the determination of the different trajectories we have derived from the survey. We recorded all education and training events (even the smallest) to derive these post-compulsory ET trajectories. The trajectories we identified included non-participants (people who had no record of ET after the school-leaving age), delayed learners (who went back into some sort of ET after a gap), transitional learners (who continued in some sort of ET immediately after school-leaving age but did not become lifetime learners) and lifetime learners. Which trajectory any individual is going to fit can be predicted in terms of the events occurring up to the end of initial schooling. There are 31 potential variables including:

- year of birth
- area of residence
- gender
- ethnicity
- family religion
- language spoken at home
- whether a regular school attender
- length of residence in South Wales when aged 15
- type of secondary school attended at age 15
- number of children by age 15
- number of siblings when aged 15
- whether qualifications taken at age 16
- qualifications gained age 16
- the age at which each parent left school
- occupational and social class of each parent
- educational qualification of each parent

Using logistic regression (maximising the effectiveness of the predictions while minimising the number of predictors), it was possible to cut this list down to six. The six independent variables are highlighted. Three out of the six concern differences would occur within a population which shared the same economic profile (since there will still be doctors and school teachers and company directors as well as colliers and steelworkers and direct data entry staff) but the remaining three variables are closely tied to the characteristics of the economic base. We now consider each of these variables in turn.

Area: this variable tells us whether the respondent was living in either Neath Port Talbot, Bridgend, or Blaenau Gwent - all three of the sites for our survey were located in South Wales but the post-war economic history of each locality is different and their current economic profiles show wide variation. These variations are clearly affecting the ET patterns of each locality. Gender: no matter which decade we are talking about (some of our respondents started work as early as the late 1940s), gender is closely related to the type of job one is going to end up doing and therefore we would expect it to figure here if the economy/labour market has a profound effect on people’s ET trajectories. Finally, ‘occupational and social class of parent’ although the model does not actually need all of that information but only Father’s Occupation: again this is very closely determined by the economic profile of the place you grow up in.

Given the priorities of a ‘learning society’ and ‘lifetime learning’, we are particularly interested in those respondents in our sample who undertook later post-compulsory education
and training. The logistic regression function discriminating between those who return to education and training in adult life and those who do not is 87 per cent accurate. It shows that background is less important for later returners but that school and career characteristics are much more important. For present purposes we need to note how important the job you are in (and also your geographical mobility, a closely related factor) is for determining your lifetime learning patterns. Again this is a measure of the influence of the economy, especially the industrial structure of the localityiii.

The Determination of Changes in Education and Training Trajectories
The basic data on changes in post-compulsory ET trajectories can be summarised in this way:

- although lagging behind trends in the UK as a whole, there has been an increase in the amount of ET going on in our three localities;
- there is proportionally more education than training going on and most of it is of the transitional variety (carrying on immediately after school-leaving age but not leading to lifetime learning);
- the training is not as good as it once was - it tends to be shorter and not at all the sort of training we associate with high skills and competitiveness.

In what way have these changes have been determined by the economy?

- a combination of structural and organisational changes have brought about an increase in the proportion of shorter training episodes and of episodes which are responding to bureaucratic requirements;
- there has been an increase in employer demand for qualifications at entry-level in all sorts of occupations which has influenced the demand for transitional learning.

We will now examine each of these patterns of determination in turn.

Training: More means Less
We conducted in-depth follow-up interviews with 10 per cent of our original sample of over 1000. Extracts from the transcripts of these interviews are included here and below.

‘... in the early 80s there was no full-time employment for people my age then because it was when the youth opportunities schemes started ...
‘... I stuck on the youth opportunities ... and looking for full-time work so I didn’t go back to Swansea [Art College] to start again because I was in the middle of a youth opportunity and I thought I’ll stick this out and hope that it’ll turn into a full-time job.

So what sort of things were you doing on them?
‘The first one I was in BP Chemicals in the offices, office work.

Did you learn anything there?
‘Not really no, as it was youth opportunity they were just using you to do the things that nobody else wanted to do, all the tedious paperwork, all the counting and all the running round, fetching the tea and everything, I was only 16, 17.

‘After BP I went to Motorhouse Vauxhall in town. I was in the stores, selling spare parts in the stores but as I say 6 month courses they were and soon as that’s finished they’re not interested in taking you on they just get another young boy for six months.

‘And after that I was in Pioneer Concrete in Port Talbot Docks, as a labourer you know ... they promised me a full-time job there. I stayed on these schemes for over a year and a half. After every six months they said yes we’ll keep you on and then they said we can’t keep you on until the next 6 months. Same again. I can’t keep you on until the next 6 months. I done a year and a half there and three times they said they’d keep me on and
then they turned me down so I left there and I was unemployed for a year, I couldn’t get a job anywhere, a full-time job anyway.’

‘... because I only started on the schemes as something to cover me throughout the year like. While I was in them they’d promise you jobs you see, full time work. When you’re 16, 17 with a full-time wage coming in it’s great isn’t it? Most of my mates were all out as well, none of them could get jobs anywhere. So the chance of having full-time work would have been great. But the promises keep breaking down with this youth opportunities scheme they have, they were just using people for twenty pounds a week instead of giving them 150 pounds of whatever.

‘So as soon as one course finish they say bye bye and get another 16 year old in.’

male, 31, Neath Port Talbot

‘... I ended up going on YTS then, trainee brickie, and they were taking us um to college once a week doing NVQ in bricklaying, a course in Neath. They run out of funds then so as soon as I’d done that I went on placement then, went back to O’Leary’s and there was no chance of a job with them, so I finished with them. So that was out of the window then, the two years I’d done as a YTS.’

male, 22, Neath Port Talbot

‘... There’s a lot more available, you can get a course on anything nowadays, even bricklaying, that wasn’t when I was in school. But my outlook, yeah, I think has changed because there’s a lot more available to a certain extent. But then you get the courses which are not worth anything, like GNVQ which is Generally Not Very well Qualified - is what it stands for - and the other is Not Very Qualified, NVQ, which is basically like a YTS, Young Thick and Stupid, when I was in school ....’

male, 24, Blaenau Gwent

According to our survey data, work-based training has not increased in frequency since 1945, remaining at just over 39 per cent of all work episodes which involved some sort of training. Work-based training was skewed towards jobs undertaken earlier in life (but this fact does not materially alter our conclusion that there is no evidence of an increase in work-based training). Of all work episodes, 22 per cent received health and safety training, and this has grown consistently from 15 per cent in 1940s to 28 per cent in the 1990s. This increase makes health and safety training unlike all other categories of work-based training, for example there has been no increase in short in-service courses such as are now common in IT training. In-service training (half day and IT courses) has remained remarkably stable at somewhere near 23 per cent and nor has induction training increased, remaining at 18 per cent of work episodes. Training considered useful to another employer (i.e. that would enhance careership/employability) has actually decreased marginally over time and now accounts for 7 per cent of episodes. The proportion of work episodes having any other kind of training (apart from H/S and in-service) is 24 per cent had training to do the job better and this proportion is also constant over time.

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Work-based training occurs more often in lengthy spells of employment and this is especially true of both more prolonged training and transferable training. On average, people do not receive training that enhances their employability after the age of 22. When the length of employment is taken into account (by dividing the number of formal training episodes by the number of months employed) there is still no change in the proportion of substantive training over time. There is a small but significant negative correlation between age and frequency of training (-7 per cent).

There has been a relative decline in the frequency of any type of training episode lasting 5 or more days from 18 per cent in 1950s to 11 per cent in 1980s. This agrees with the report of the DfEE (1995) which shows how the frequency of job-related training has increased from 1980 to 1994 for example, but this growth has been mainly in courses off-the-job on employers premises lasting less than a week.

Of the longer episodes, there is no increase in attempted certification.

When this is examined as a proportion of all work episodes it is clear that certification has declined along with substantive training. As the 'raw' frequency of training episodes increases, their relative length and certification decreases.

The vast majority of these longer training spells are 'paid for' by the employer, but there is some indication that this proportion is in decline, and is being replaced by government training schemes. In 1940s 94 per cent of episodes were employer-funded (or employee could not recall). The peak was in the 1970s with 96 per cent, and the lowest in the 1990s with 88 per cent. The government training figures are 0, 5, 3, 2, 5, and 11 per cent for each decade. Finally, 92 per cent of these spells were in working hours and there was no change over time, and 66 per cent of spells were provided by the employer (as opposed to private firm, FE, government scheme etc.), and there is no change over time.

To sum up the survey results on formal training in work, health and safety training is increasing and such short employer-based courses are typical of the growth over time. New training is brief, prescribed by law, non-transferable, and non-certified (at least not according to our respondents interpretation of this term). The financial burden has shifted from employers towards government agencies (and of course schools and colleges). It would however be dangerous to conclude from this that we have laid bare changing patterns of training provision within individual employers. Both the industrial structure and the gender division of labour within South Wales have changed radically during the period concerned. Thus the decline of
employment in those sectors where formal training, and especially apprenticeship training, had become general was accompanied by an increase in employment in sectors with very different training regimes and large numbers of women employees. Given these caveats (and others, for example the increased availability of training and education outside work episodes) it is no surprise that at the level of the individual employer and even in some industrial sectors, there has clearly been an increase in the formalisation of training.

The formalisation of training is visible in the work histories of respondents included in the sub-sample chosen for re-interview. One man aged 38 had worked in the steel industry for 15 years without any formal training after initial training on entry. They have over the last six years brought in numerous training programmes, training him on almost everything. A nurse recalled the dearth of (post-qualifying) training early in her career: in those days there was not the need for constant up-dating or specialisation that there is today. Now, she said, there is a continuous need to update one’s knowledge of new procedures (for example in her role as a practice nurse).

In these two examples increased formality has accompanied a perceived change in job characteristics (changing technology and/or work organisation). This impression was also supported by archive and key informant data but our research also uncovered examples where employers were simply paying lip-service to government efforts to improve training and were keeping traditional practices in place, albeit sometimes in different packaging. Many employers (although this did not apply to most foreign-owned companies in South Wales) were simply not adapting to the demands of new technology and work organisation and because of that real failure some of the apparent paradoxes in this paper become explicable. Thus, this reluctance to make the necessary investment in modernisation explains why, in the next section, we will show that employers only seem able to use higher-level qualifications as a screening device. They have no alternative, in fact, because the jobs they must fill have not been transformed as they need to be to succeed against international competition. This represents a lost opportunity for the transformation of work.

Nevertheless, all of our research instruments uncovered example where the formalisation of training (especially at the lower level) seems to have become something of a fetish. Thus the Training Co-ordinator of one supermarket reported that, at the national level, the company felt that one of the major reasons why it lost its leading market position was that rivals had better in-store training. Lack of emphasis on training reflected complacency about their position as number one retailer and training was now seen as a major element in the drive to regain its former position but the staff are not necessarily ready for the culture change:

‘A lot of people who come into S. say, “Look I only came here to stack shelves, I don’t want to do workbooks and things, I don’t want to go back to school ... so its very difficult ... we’ve got workbooks for just about everything, a tremendous amount of them I’m afraid. Some people just do not want to do this, its very difficult then to encourage them and again that is part of my job. I am enthusiastic about my job and again I think that does tend to wear off on people.’

Further extracts from the follow-up interviews are useful here. The first is from an interview with a young man who wants to be a theatre lighting technician but currently works as an electrician in Macdonalds outlets:

‘Yeah I’ve been on the AEC, which is the Annual Electrical Conference. It basically tells us about new regulations coming out.

So that’s a specialist Macdonalds thing?

‘Yeah.

So all the people there work for Macdonalds?

Yes

Did you get any sort of certificates?'
We have to wait now for them to come through. There is a certificate called AEC level 1, level 2, and 3, and I also did an NVQ in retail 'Through Macdonalds?' 'In the store. Macdonalds work with the Link Training and they do NVQ level 1 and 2. They basically come into the store and watch you doing different things and mark you on. Do you have any written work with that? 'No, none at all. Do any of these certificates or anything lead to promotion? 'Not really, no.'

Male, 24, Blaenau Gwent

Credentialism and the Education Explosion

As late as 1974, not only did one of our respondents not return to school from their summer job to do A levels as expected, but they did not even go back to find out their examination results. Yet it seems that in the follow-up interviews everyone who was old enough to have lived through the change (though some dated it earlier - say the mid 1970s - than others) thought that employers had increased the level of qualifications they required independently of any change in the nature of the job - none of them said that the jobs themselves had changed in a way that made more pre-entry training (which would, incidentally, have to be certified) necessary. Moreover, several respondents were keen to point out that they thought people (themselves for example) could do the jobs perfectly well without the qualifications now being demanded. What almost all of the respondents said was that the hike in entry-levels happened when labour markets tightened and we have many quotations which make the same simple equation between less jobs and more qualifications (and, in the past - and even, in one case, in the future - between more jobs and less qualifications):

'... it was the last year of the 11 plus and the teacher went on to my father about me taking the 11 plus and he said well if he doesn't want to do it, he's not going to do it. I think that was his attitude, if you don't want to do it it's up to you. '... I didn't do it. I think things have changed a lot since then, um, you need qualifications when you go for a job. You know, I've got a totally different attitude now to what I had then because my kids are coming up, well my daughter has just tried her GCSEs and... She's the oldest, my boy tries them next year, one of the boys, and I have a totally different attitude towards school than I had then.'

Why do you think that is, can you explain a bit more about that?

'Things are harder to get a job that's why. Obviously I think I wish I did try harder when I was in school, it's easy to say now. '... I got a job as a mechanic with the same company that my father worked for so, you know, but I don't think that's the case today. It's very hard to get a job.'

'At the moment they're only 7 and 5 but they are quite bright ... and now Labour's got in perhaps by the time they leave school the jobs will be a lot better for them, maybe they won't need pushing that I had in school to do better.'

Male, 31, Neath Port Talbot

So were you looking for a qualification or for the training itself?

'Well it was for a [City and Guilds] qualification I think, you know to get something better because then it started to tighten up didn't it as far as jobs was concerned. The jobs started to drift away kind of thing, it was getting harder to get jobs now. '... education is a very very important thing more than ever through the nineties. Why do you think that is?
Well because the jobs now, even the poorer jobs, they seem to want educated people. You know they can pick and choose, I mean if you got a job with 5 or 6 people going for it and you know the person, the manager or whoever, is interviewing you he’s always going to go for the more educated person, always.

male, 57, Blaenau Gwent

'I knew that I wanted to get as much qualifications as I could to get the best job that I could because there wasn’t much around, there’s never anything round here and they seem to always want qualifications. The more you’ve got on paper, I know some people without qualifications are still good at the job but it always looks good I think.'

female, 33, Neath Port Talbot

Now, it does not matter whether we think any of this is true since what we are trying to explain is the behaviour of the respondents, the people who increased their transitional learning over the period, and they tell us that they (and their siblings, and children) increased their participation in education because labour markets tightened and this led employers to increase the level of qualifications they demanded.

Human Capital Theory and Self-transformation

Our research suggests that a sociological theory which refers to the relationship between economic change and individuals’ identities offers a more fruitful way of understanding the determination of patterns of participation in education and training, and the relationship between education and the economy, than does the currently fashionable theory of individuals investing in their ‘human capital’ which is borrowed from economics. Identity is important because it gets to the heart of motivations. These extracts from the follow-up interviews indicate the sort of data which will be used as the basis for a theory of identity. In the first quotation a young women is asked what would have happened to her if she had not gone to university:

'God I dread to think, I’d probably be stuck in some dead end bloody job. I don’t know, I mean well hopefully I would have sort of worked my way up through the ranks of some kind of job by now. I mean sometimes I think like the job situation now, Oh God maybe I should have finished school at 16 - especially when I think of my friend who’s in the Trading Standards. She’s got her own house and a cat you know and I think Oh God maybe I should have. I could have been earning proper money or whatever and then I think no I really enjoyed the three years too much but I’m sure if I hadn’t gone on I would be in some sort of 9-5 job probably still stuck in Port Talbot. Christ, maybe even with a couple of kids. I see some of these girls wandering around with two or three kids in tow and I think God, you know, I was in school with you, you’re 23 and you’ve got like three, like, kids.'

female, 23, Neath Port Talbot

'... with youngsters today I think it’s drummed in you’re not going to get a job and all that, you might as well stay on instead of hanging about on the streets which is true like. 'I wanted to do bricklaying, that’s what I wanted to do, that’s why I left school because there was nothing for me to stay on at school to do, A levels or whatever. I wasn’t interested like.’

male, 22, Neath Port Talbot

Why did you want to go to university?

'It was just I suppose it had been planned in my mind for a long time you know, all the way throughout comprehensive. You know my friends used to say we’ll all go to the same university and then when it came to “if you ever want to do this job”. I just didn’t
They would recognise the fact that I’d been a roughing mill roller, they would now exactly what that means, what it entails, and that I could do it, but as a written qualification then no there isn’t.

‘... there was no sort of financial incentive or anything, there was no other reward. It was just that I felt, I don’t know, I felt good about it.’

These people are making decisions about ET on the basis of their feelings about who they are or who they want to become and the sort transformation they want ET to bring about in themselves. When they do this they have in mind concrete futures which involve real jobs to which they might aspire (or wish to avoid). Human capital theory forgets this vital ingredient in the equation: your investment in ET cannot pay-off unless there are actual jobs to put it to use in. In the UK this may mean people either go in for credentialism or they do not ‘invest’ in anything very much. It is hard to see how a policy based on the investment idea is ever going to work when people do not think in these terms but think instead about what ET can do for their identities. Mostly this means they are thinking about what ET can do for their jobs and so when jobs disappear people do not suddenly ‘invest in human capital’ but instead do whatever they can to get across the new starting line (hence they go in for the transitional learning needed to satisfy the new screening requirements of employers). Moreover, they will have no reason to go in for lifelong learning unless that is what is required to keep a job (for example in the NHS where a strong training regime is now in place).

Conclusions: the Policy Implications of our Findings

In the post-war period a great deal of educational reform has been concerned with bringing about the massive expansion of education beyond the elementary level which has in turn made possible the increase in credentialism referred to in the previous section. Here policy changes have clearly been necessary to bring about the increase in transitional learning but nobody - and certainly nobody in the DfEE - would claim that this has produced the economic success that investment in ET is supposed to bring. Part of the problem may well be what our respondents kept telling us: that the content of transitional learning is not closely related to any jobs, still less to the high-skilled jobs of the future. In fact there is no mechanism to make this connection if employers are only using the qualifications earned in this sort of education for screening purposes while failing to make the transformations in work needed to secure the high-skills future.

The difficulties faced by government training initiatives are illustrated by some of the quotations about youth training included above. From the 1980s onwards (and the founding of the Manpower Services Commission) the success of the state in getting initiatives off the ground started to break the link between training and the economic base in people’s minds (a break later confirmed by developments such as some companies’ fetish for formalisation of lower level training). This has had the effect of gradually changing people’s attitudes to training opportunities. From the 1980s there were new opportunities which were not heavily influenced by the sorts of jobs on offer and, moreover, which many people declined to take advantage of.

The failure of employers to transform the activities of the workplace while simply repackaging existing practices to keep the appearance of going along with government training initiatives recalls some recent comments by Alison Wolf. Like Cutler before her, she sets out to debunk the connection between ET and the future of the British economy as being in large part a plot by one interested party or another. In Wolf’s case it is the CBI who have pushed vocational training (when it is actually the academic sort that improves individuals’ income prospects) in a way which has allowed businesses to keep on doing what they would be doing
anyway (that is, the very practices which Government policy identifies as problematic when it bemoans the failure of employer-led training to guarantee future competitiveness).

It is a measure of the uphill struggle faced by governments intent on modernising their economies by investing in ET that when the UK Government puts resources into expanding education it simply manages to fuel credentialism when jobs are scarce. Similarly, when it puts resources into training it either inadvertently breaks the important link between training and jobs or suffers from it by inadvertently subsidising failing training practices. All of this is bound to make us wonder why such flawed policies have been pursued, albeit in a variety of different guises, for so long. The answer could be that such policies are supposed to work in theory. The latest incarnation of the particular theory we have in mind is ‘human capital theory’ but, whatever name it is given, we think it is plainly the wrong theory to underpin ET policy. People just do not think of ET as ‘investing’ in ‘human capital’ (and the economy does not necessarily benefit from investing resources in ET - see Ashton and Green’s latest summary). The reason that the policy-makers (and even their critics) cannot see how difficult it is to use ET policy to reform an economy is because they uncritically accept human capital theory. Our evolving, sociological theory of identity and self-transformation offers a much better way of understanding the motivations that lie behind patterns of participation in ET and, therefore, makes it easier to understand both the complex linkages between ET and the economy and why these linkages cause such problems for government attempts to intervene.

It may be that if policy-makers were to understand the obstacles they face they would conclude that there may be no alternative to taking direct action to change the behaviour of employers and considering ET to be a necessary by-product of technical and organisational and structural change, not the other way round. Our research suggests that there are significant constraints on any government’s ability to bypass employers in this since ET will either not happen or will be of the wrong sort. To change the economic profile you have to change the economic profile, or, rather, get the employers to do this. Employers can even use training as a lever to do so but only in this sense is training any sort of determinant of a high-wage/high-skill economy. We need a training revolution which is very closely tied to transforming jobs and it is not the autonomous effects of ET but the jobs of the future that will transform the skills of our workforce.


A full list of project working papers is available from Stephen Gorard, School of Education, Cardiff University, 21 Senghennydd Road, Cardiff CF2 4YG (email: GORARD@CARDIFF.AC.UK) This is an ESRC project (grant no. L123251041).

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1 DfEE *The Learning Age*, London: Stationery Office Ltd. 1998  
2 representing a systematic stratified sample of the population of South Wales in the age range 16-65.  
3 Our detailed, follow-up interviews (see below) also accumulated data on the concentration of lifetime learning in certain occupations like teaching and nursing.  
4 Ignoring 40s and 90s as outliers: For those aged 15-24 at time of start (2204 cases)  
5 50s 40% trained  
6 60s 45%  
7 70s 49%  
8 80s 42%  

For those aged 25-34 at start (874 cases)  
5 50s 39% trained  
6 60s 30%  
7 70s 33%  
8 80s 39%  

For those aged 35-44 (505 cases)  
6 60s 27% trained  
7 70s 22% trained  
8 80s 33% trained  

This confirms that training is less likely with age e.g. in 80s 42% of 15+, 39% of 25+ and 33% of 35+ but there is no clear evidence of an age-related cohort effect in our 39%. There is a suggestion that training may be more common for 35+? but then we face the recency of recall problem.  
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