# Detaching work from place: charting the progress of change and its implications for learning

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## Introduction

In a world of hyperbole and exaggeration, nothing seems to excite journalists and headline writers more than the idea that working for eight hours a day in a fixed place is a thing of the past. This provides a new twist to the 'end of jobs' thesis that was so fashionable just over a decade ago (eg Bridges, 1995). Indeed, many readers' own experience will no doubt accord with the idea that the world of work is spreading its tentacles throughout time and space. The days when paid employment was confined to designated hours in a specified place are fast fading for many managers, professionals and other white collar workers. Mobile phones, laptops, email, the internet and wireless connections enable deals to be clinched, information to be browsed and careers to be pursued wherever we are in the world and whatever the time. Recent adverts for business systems underline the point that we never need to be disconnected whether we find ourselves flying across the globe, walking in the Brecon Beacons or sipping a beer on a beach in the Red Sea. All are now fully functioning places of work. This does not mean that one place of work is being substituted for another, but rather that everywhere has the potential to become a place of work. Electronic technology means that we no longer need to go to the office; instead, the office comes with us everywhere we go – in the words of a recent palmtop advert this allows us to be 'always on, always ready, always connected'. Such sentiments are frequently reported in the broadsheets such as the Financial Times and its 'Business Life' pages (eg Taylor, 2008).
New places of work, then, are characterized by diversity and fragmentation, movement and mobility – what has sometimes been referred to as the 'hybidization' of workspace (Halford, 2005). Work may include using a PC in the back bedroom, a mobile phone headset in the car, a table at a motorway service station, a desk in a corporate office building, a rented meeting room in a serviced office building and a chair in a hotel lobby (cf. Harrison, 2008). To add further complexity, all of these places may be used by one person in a single one day. Contrasting locations call for different skills and working practices. Getting reports written in a crowded railway carriage involves mentally shutting out the noise and distractions of fellow passengers, as well as grabbing and

holding on to a seat with a table. Making business calls while stuck in traffic requires that all the right phone numbers have been correctly entered and stored on the handset. Preparing for a meeting by reading the relevant documents while relaxing on a sofa at home may entail negotiations with family members who want to watch TV or play games. Time spent in the office building may require balancing pressures to maintain informal contacts with co-workers with the need to get things done. In short, some places of work pose challenges of isolation and detachment, while others entail managing contacts with family, colleagues and strangers. The diversity and fragmentation of workplaces requires not only coping with a range of demands but also slipping easily from one place to the next.

These changes have profound implications for the texture of everyday life. The times and places of family, friends and employment are no longer clearly marked out and differentiated. Week days are no longer framed by the predictable commute to and from the office. Weekends are no longer times away from work. Nor can holidays be regarded as time taken out from the pressures of work. In response, workers have to devise their own work-life balance in the context of unclear boundaries and competing pressures from managers, colleagues, clients, spouses, children and friends. Workers, therefore, have more discretion over the construction of their daily routines but also need to mobilize high levels of self-direction, self-management and self-motivation. This also has consequences for the pattern of learning at work since workers are physically at a distance from one another making becoming an accepted work colleague as well as learning particular working practices more of a challenge.

The aim of this review is three-fold. First, it charts the extent to which work is being detached from place in the UK. Previous studies have tended to compare the demographic and employment profiles of 'homeworkers' or 'teleworkers' with those working in the conventional workplace (Felstead, 1996; Hakim, 1998; Felstead et al, 2001; Huws et al, 1999; Mitel, 1999; Hotopp, 2002; Haddon and Brynin, 2005). These studies have done much to focus attention on the home as a place of work. However, they have failed to report on other changes to the spatial location of work such as the spaces individuals occupy while working on employers' premises and the spaces they use while 'on the move', travelling from place to place. The first aim of this review, then, is to chart with available data, the shifting locations of work – both outside and inside the office – and to identify which types of people and jobs have been most affected. The review reports on the changing proportions and numbers of people carrying out work away from the conventional physical boundaries of the office or factory. It also examines the past, current and future use employers are making of techniques intended to effect this change for office workers in particular. In so doing, it adds new statistical evidence to the debate by updating data presented elsewhere (see Felstead et al, 2005a and 2005b) and analyzing data sources not previously examined from such a perspective. Secondly, the review extrapolates some of these trends forwards to the year 2025. Thirdly, the review discusses some of the consequences these changes may have for how and what individuals learn at work in the future. The review is structured around these three key questions with summary answers provided in the conclusion.

**Keywords**: work, employment, internet, technology, business

## What are the trends?

A key feature of early factories and offices was that they gave individual workers a spatial fix. The allocation of each person to a place and each place to a person was the foundation of regulation and control embedded in the physical construction of assembly lines and 'personal offices'. 'Placing' workers made the security of materials and regulation of work flows much easier to achieve. More subtly, it made possible the introduction of disciplinary devices associated with panoptical surveillance, the

normalizing gaze and the regimentation of time. The design of offices played an important role in the emergence of this regime of discipline, policing and control. A cube of space in the workplace (desk, bench or machine) became synonymous with a unit of labour on the payroll. 'The industrial and engineering metaphors of so much organizational theory have been mirrored by the functionalist design dogma of Modernist, hard-edged, rectilinear offices' (Turner, and Myerson, 1998, p20). Tayloristic management practices were applied in, indeed constituted by, Taylorized buildings (Baldry, 1999; Baldry et al, 1998). The term 'office', which had once meant a position or function, increasingly referred to a place. Furthermore, in the 'personal office', an individual worker became synonymous with a designated space.

One consequence of industrialization was that the majority of workers became engaged in work activities outside the home. In the years before industrialization households were simultaneously places of social reproduction and production. Farms, workshops, manor houses and palaces were household economies. As a result, domestic and economic relationships were closely integrated; home and workplace were not separate spheres of social life. Farmers and rural labourers occupied the same buildings as agricultural machinery and livestock. Apprentices slept beside their benches in artisans' workshops. Industrialization also raised the speed and flexibility of travel leading to the compression of time and space: that is, greater distances could be travelled in a given amount of time (Harvey, 1989). Despite frequent cries that urban travel speeds have reduced as road traffic has grown, the overall picture of the contemporary world is one in which time and space have become more compressed and journeys longer. Whereas in 1950 the average person in Britain travelled five miles per day, half a century later it was 28 miles and by 2025 it is forecast to double (Adams, 1999). At the same time, the pace of travel has quickened. Car speeds on trunk roads and motorways have increased, rail journey times have shrunk and jet aircraft transport people across the globe in a matter of hours. Modern travel, then, allows links to be made between places inaccessible in the recent past and in timeframes unimaginable even a few decades ago.

Set against this backdrop, recent developments in information and communication technology (ICT) have led to a weakening of the spatial fixity of the workplace with workers increasingly detached from their personal cubes of space. This has made it possible for professional and managerial workers to share space and facilities in 'collective offices', allow more work to be done at home, and permit work to be carried around and completed wherever and whenever possible. This section, therefore, examines the statistical evidence on the spread of ICT in the workplace. It then goes on to outline recent historical evidence which shows the extent to which work is being detached from place.

Figures for the spread of ICT are startling. The mobile phone, for example, has become a mass consumer product within the space of two decades. Worldwide, in 1990 there were 11 million mobile phone subscribers; by 2001 this had risen to 961 million, with 3,305 million by the end of 2007 (ITU, 2003 and 2007). In Britain, ownership of a mobile phone was relatively rare twenty years ago, but by 2001 official figures showed that 67% of adults owned one. The penetration level has continued to rise; in 2003 it stood at 75%, with 21% of adults using their mobile as their main method of telephony (ONS, 2004).

Clearly, mobile phones are used for work as well as pleasure (Wacjman et al, 2008). Unfortunately, it is only relatively recently that surveys have asked specific questions about the use to which they are put. For example, a random survey of 2,466 workers in 2000 found that around half of all professionals and managers used a mobile phone in the course of their work (Taylor, 2002a: Table 7). Data series which chart the use of ICT for work purposes more generally, however, have a longer genealogy. They strongly suggest that there has been a rapid increase in the use of computers at work. In 1986, two-fifths (40.3%) of employees reported that they used computerized equipment in the course of their daily activities. By 1992 the proportion had risen to over half (56.0%) and by 2006 it was more than three-quarters (77.4%). Furthermore, by 2006 it was very rare for nonmanual workers to report that they did not use computers at all in their work.

Indeed, their use was regarded as 'essential' to the conduct of non-manual work activities by around two-thirds of those surveyed (Felstead et al, 2007, pp95-99, Tables 5.1, 5.2 and 5.5).

As with the fixed line telephone, the computer has also become mobile with the invention of the laptop. These developments have opened up the possibility that office workers can do their jobs in a much wider variety of locations and times. There is no technical necessity for most non-manual workers to be in a particular building, office or desk for most of the time. This is not to suggest that we are entering the era of the paperless office or the virtual meeting; there are circumstances where presence in a designated place is desirable and/or required. However, the number of such instances is drastically reduced by the mobile phone and the laptop (Worthington, 1997; Zelinsky, 1997).

Unfortunately, surveys that carry questions on where people work are few and far between. Moreover, data collection processes lack subtlety and may not always detect the fine grain changes to people's working lives that the mobile phone and laptop bring. However, in what follows we try to piece together currently available data.

One source of evidence is the Change in Employer Practices Survey (CEPS) (White et al, 2004). This survey was carried out between July-September 2002 and comprised telephone interviews with 2,000 senior human resource/industrial relations managers in a nationally representative stratified random sample of workplaces in Britain. The CEPS covered all sectors of the economy and was constructed to collect evidence from both large and small establishments provided they employed at least five workers. Around two-thirds of managers approached took part in the survey with interviews lasting around 30 minutes (Taylor, 2002b). The survey was designed to assess recent changes in employer practices and indicate expected changes in the near future. Respondents were accordingly asked to report on 'change over the last three years' and plans for change 'over the next 12 months'. The topics covered included numbers and types of employees, promotion and recruitment, staff working conditions, employee involvement, the use of information technology, the legal and regulatory environment, and last but not least, the management of space at work. With respect to the latter, respondents were asked: 'Over the last three years have any of the following things happened at your establishment?' Options included: 'Increased use of open plan offices' and 'The use of hot desking'. They were also asked: 'Are you planning to introduce/extend use of [each practice] during the next 12 months?'

In this survey, around one in six establishments reported an increase over three years in the use of open plan offices (17.4%) and hot desking (15.6%) (hot desking was defined in the survey as the situation where 'staff have no fixed personal workspace and use any available desk as needed'). A smaller number of managers said they intended to extend or introduce such changes in the next twelve months. These proportions are sizeable and are indicative of substantial changes to the physical layout of offices and factories (cf. Vallentine, 2008 on changes to the layout of formal educational settings). In reviewing this evidence one commentator was moved to concede that 'we are going through a radical transformation in the physical shape of offices and plants' (Taylor, 2002b, p12). Furthermore, the authors of the survey conclude that 'not only have recent changes in workspace been substantial, but it is relatively easy to predict that they will continue' (White et al, 2004, p82).

CEPS was an establishment-level survey. The Location of Work Survey (LWS) was conducted at an organizational level. The LWS polled the views of 128 senior facilities/property managers in large organizations in the first six months of 2002 (see Felstead et al, 2003b, 2005b). The information gathered provides a high level organizational view across many establishments of past, current and future changes to the physical layout of workplaces and offices in particular. This does mean that organizations are more likely to report change occurring in at least one establishment under their ownership, even though this change may only affect a small proportion of the total workforce.

LWS respondents were asked at the beginning of the interview to think 'about the staff that work for your organization in the UK' and to answer a series of questions. These

included whether they had introduced a number of new ways of reconfiguring office space, the extent to which these internal changes to the layout of their offices had occurred over the last five years, and whether they had plans to roll-out these changes throughout the organization's offices. The results suggest that many large organizations have already experimented with some reshaping of their office real estates. The penetration of collective office arrangements was high and almost half of large employers expected to institute these changes in other offices under their control in the near future. For example, 'hot desks' (that is, 'desks which workers have to book in advance to use') were present in three out of ten (31.3%) large organizations, rising to almost two out of five (39.6%) large private sector employers. However, the extent of their use was quite modest – in almost all cases less than 5% of office staff were actually reported to be hot desking. Nevertheless, a sizeable proportion (30.0%) of hot desking employers had a formal policy or guidelines on the use of bookable desk space which, in many cases, they were willing to share with the research team. Furthermore, backwards and forwards-looking questions suggest that hot desking has recently become of interest to large employers. A quarter (27.8%) reported increased use over the last five years; nearly half (44.6%) planned to make greater use of hot desking in the near future. A similar, if slightly more pronounced, picture emerges with regard to the use of 'touchdown desks' (that is, 'desks that are set aside for drop in use by anyone in the organization'). According to the LWS this arrangement was used to some extent, albeit in only a limited way, in two-fifths (43.3%) of large organizations. Many expected to roll-out their use even further in the next few years. Overarching redesign of office space was also being considered by almost two-thirds (64.6%) of the organizations surveyed. Almost half of these organizations (47.2%) had formal plans in place at the time of the interview. Respondents explained in some detail what these redesigns entailed. They ranged from equipping particular areas such as restaurants, cafés and breakfast bars with internet access and laptop plug-in points, through to wholesale reviews of space usage and identification of ways in which space per office worker could be reduced. Respondents who reported that the organization had changed the location of work in the last five years or planned to do so in the future, were asked to indicate the main drivers behind these decisions. Two factors were prominent: the need to economize on property costs, and the desire to promote greater work flexibility and social interaction. The latter was cited by over half of respondents whose organizations had increased or planned to increase use of touchdown desks. This reflects other research findings that suggest the further apart people sit and the greater the physical barriers between them, the less likely they are to interact. In personal office environments workers are four times more likely to talk to someone sitting six feet away than they are with someone sitting 60 feet away; any further away and they are unlikely to interact at all. Similarly, personal offices reduce the chance of chance meetings taking place – research suggests that two people working on different floors in the same building where individuals are allocated their own desk space have only a 1% chance of meeting in the course of a day (Nathan and Doyle, 2002). The need to save on property costs was also a strong factor driving the introduction of collective office arrangements, particularly among respondents who reported recent increases or planned extensions to their hot desking programmes. Almost a half of these respondents cited property costs as one of the main drivers behind such programmes.

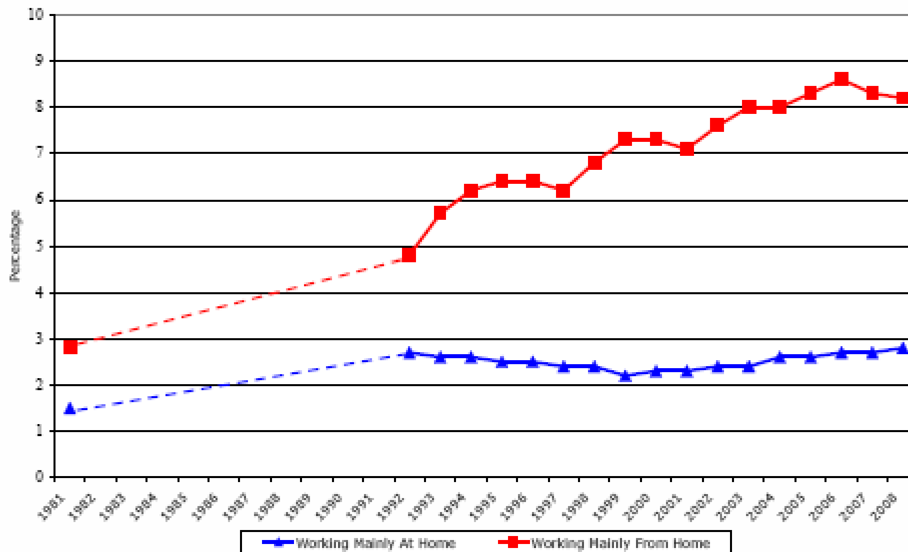
Fortunately, we are blessed with more historical individual-level data on the extent to which work is carried out at or from home. The key one is the Labour Force Survey (LFS). Each LFS contains data on a random sample of individuals throughout the UK. Almost 60,000 households are contacted and information is collected on a total of 150,000 people, of whom around 65,000 are aged 16 and above and are in work at the time of interview. The LFS series benefits from the regularity with which the relevant data are collected. In 1981, the LFS carried its first question on the location of work. Respondents were asked 'do you work mainly' in one of four locations: in your own home, in the same building or grounds as your home, in different places using home as a base, or somewhere quite different from home. Despite offering a unique perspective on the location of work, and providing a sift survey for a study of 'home-based' workers

(Hakim, 1987), eleven years were to pass before the question was repeated. It reappeared in 1992 and has been asked quarterly in every LFS since. Further questions were added to the Spring 1997 quarter, which identified those who worked at least one full day at home in the week before interview. Respondents were also asked whether the use of a computer and telephone was necessary for them to work in this way (see Felstead et al, 2000: Table A1).

Each LFS provides a snapshot picture of the state of the labour market. Stacking the results from each LFS alongside others in the series provides an insight into changes over time. Given the frequency with which questions on the location of work are asked, the analysis for this paper is based on 18 surveys – the 1981 LFS and Spring quarters for the years 1992-2008. However, some of the analysis reported here is restricted to shorter time periods given data availability. For example, the partial use as a workspace and the importance of ICT data were only collected from 1997 onwards.

According this evidence, then, where do people mainly work? The short answer is that around nine out of ten people – for most of the time at least – carry out their work somewhere separate from where they live. These locations include a shop, office or factory. However, the proportion doing so has declined over time. Those working mainly at home now accounts for one in forty workers (2.8% in 2008), rising from 1.5% in 1981, although it has changed little over the last decade and a half (see Figure 1 and Table 1). On the other hand, the proportion of workers mainly using their home as a base of work has increased every year until 2006 when it peaked at 8.6%. Nevertheless, in 2008 8.2% of workers (or one in twelve) carried out their work in a variety of places using their home as a base, up from 2.8% in 1981. Taking these two pieces of evidence together, we find that in 1981, 4.3% of employed people in the UK carried out their activities mainly at or from their own home. Over a quarter of a century later, this proportion had risen to 11.0%, representing 3.2 million workers who worked outside a conventional workplace, triple the number recorded in 1981.

**Figure 1: Main Location of Work, 1981-2008**




Since 1997 the LFS has added additional questions which make it possible to track the extent to which work is being carried out at home for at least one full day a week. This question is asked in order to identify those people who work at home occasionally rather than permanently. For example, a respondent who spends four days a week working in an office, but spends one day a week working at home would be captured by this question. However, working at home for periods of less than a full day would not be captured nor would several hours over the space of a number of days even if over the course of a week they amounted to a full day's work. As a result, the data captured by this question produce conservative estimates. Nevertheless, these data along with data

on those who work mainly at and those who work from home suggests that around one in seven (14.8%) workers in the UK use their home to some extent as their place of work each week. This equates to around 4.3 million people in 2008 (see Table 2 and Figure 2).
The analysis can be taken a step further by examining the trends in those who report that it would be impossible to work 'off-site' without the use of a telephone and a computer. When these results are examined, it is interesting to note the growing reliance and importance of these kinds of devices to this way of working. Whereas in 1997 a third (33.0%) of those working at or from home for least one day a week reported the centrality of information and communication technology (ICT) in allowing them to do so, by 2005 the proportion had exceeded a half and by 2008 it was nearer three-fifths (55.4%). This provides some empirical evidence for the ability of technology, via the 'electronic envelope', to stretch the reach of the conventional workplace well beyond its physical boundaries (Felstead et al, 2005a).

**Table 1: Main Location of Work, 1981-2008**

| | Working Mainly 'In Own Home' (i.e. at) (%) | Working Mainly 'In Different Places Using Home as Base' (i.e. from) (%) |
|---|---|---|
| 1981 | 345,920 (1.5) | 641,900 (2.8) |
| 1992 | 660,793 (2.7) | 1,201,102 (4.8) |
| 1993 | 618,605 (2.6) | 1,358,326 (5.7) |
| 1994 | 641,702 (2.6) | 1,497,994 (6.2) |
| 1995 | 616,955 (2.5) | 1,571,158 (6.4) |
| 1996 | 628,533 (2.5) | 1,565,887 (6.4) |
| 1997 | 611,835 (2.4) | 1,552,859 (6.2) |
| 1998 | 642,746 (2.4) | 1,828,318 (6.8) |
| 1999 | 609,366 (2.2) | 1,979,600 (7.3) |
| 2000 | 634,312 (2.3) | 2,006,683 (7.3) |
| 2001 | 637,387 (2.3) | 1,958,528 (7.1) |
| 2002 | 672,949 (2.4) | 2,130,458 (7.6) |
| 2003 | 669,807 (2.4) | 2,196,151 (8.0) |
| 2004 | 718,762 (2.6) | 2,230,075 (8.0) |
| 2005 | 723,223 (2.6) | 2,309,737 (8.3) |
| 2006 | 748,732 (2.7) | 2,410,401 (8.6) |
| 2007 | 781,565 (2.7) | 2,384,047 (8.3) |
| 2008 | 821,249 (2.8) | 2,388,128 (8.2) |

This table is based on the spring Labour Force Survey for each of the years which carried the work location question. For each year, the data have been weighted by the appropriate variable to compensate for differential response rates to the survey. Only those aged 16 or over and in paid employment have been selected and the percentages

are based on those who gave valid responses to the question. The table presents data for the UK.
Source: own calculations from the spring Labour Force Survey for the years 1981 and 1992-2008.

**Figure 2: Use of the Home as a Place of Work and the Importance of ICT, 1997-2008**

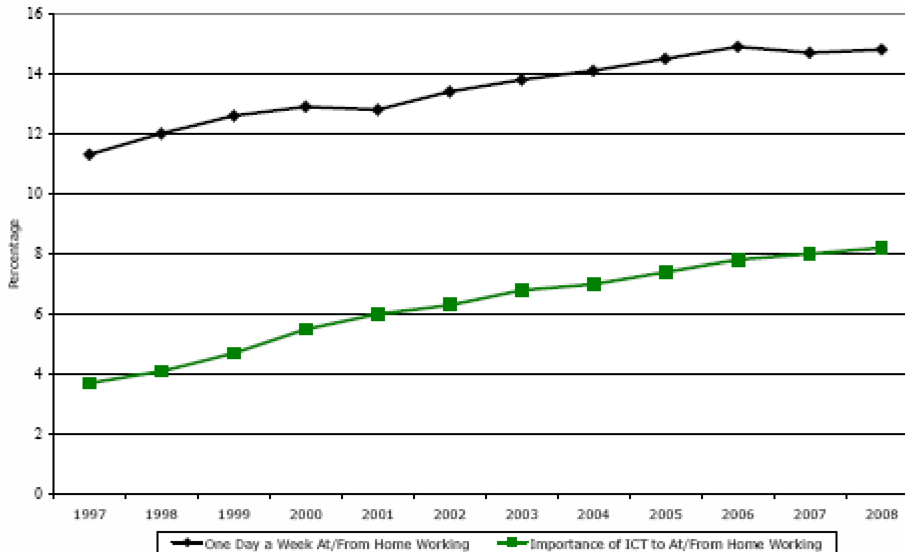



**Table 2:**
**Use of the Home as a Place of Work and the Importance of ICT, 1997-2008**

| | Working At Least One Full Day A Week At or From Home (%) | Impossible to Carry Out Work At or From Home For At Least One Day a Week Without the Use of a Telephone and Computer (%) | Percentage Whose Part Use of the Home is Dependent on ICT |
|---|---|---|---|
| 1997 | 2,986,725 (11.3) | 987,608 (3.7) | 33.1 |
| 1998 | 3,215,606 (12.0) | 1,109,082 (4.1) | 34.5 |
| 1999 | 3,427,147 (12.6) | 1,268,053 (4.7) | 37.0 |
| 2000 | 3,557,577 (12.9) | 1,502,804 (5.5) | 42.2 |
| 2001 | 3,565,889 (12.8) | 1,677,654 (6.0) | 42.2 |
| 2002 | 3,789,193 (13.4) | 1,780,022 (6.3) | 47.0 |
| 2003 | 3,822,867 (13.8) | 1,877,151 (6.8) | 49.1 |

| | | | |
|---|---|---|---|
| 2004 | 3,925,995 (14.1) | 1,929,135 (7.0) | 49.1 |
| 2005 | 4,044,668 (14.5) | 2,051,635 (7.4) | 50.7 |
| 2006 | 4,201,493 (14.9) | 2,189,963 (7.8) | 52.1 |
| 2007 | 4,246,192 (14.7) | 2,305,021 (8.0) | 54.3 |
| 2008 | 4,310,837 (14.8) | 2,389,525 (8.2) | 55.4 |

*Source: own calculations from the spring Labour Force Survey for the years 1997-2008.*

From this evidence, it is clear that changes are taking place in the location of work and that ICT is increasingly being used to bridge the physical gap between those working at home and the conventional workplace. However, the data we have relates to working at or from home and does not allow us to assess the extent to which the conventional workplace is itself being used differently – possibly as a base from which to visit clients or as a drop-in centre – or the full extent to which people are working on the move. This kind of data is not collected by the LFS. Instead, we have to rely on other sources of information – such as the employer data reported above – in order to gain insights into these issues.

One individual-level exception is the Skills Survey series (see Felstead et al, 2007). In 2001 and 2006, a couple of work location questions were added. These were designed to capture the main and occasional work locations of individuals – such as those discussed above – along with a number of additional response options. These included working in a variety of places (using either home or the office as a base) and working on the move. Neither of these options is fully captured by the LFS questions discussed so far. The results corroborate the conclusion that the conventional workplace is not the one and only place of work for a sizeable minority of those who work in the UK. Around two out of five workers (37.8%) reported working in locations outside of the conventional office, factory or shop in the week before interview. Moreover, in the space of five years this proportion had risen by a couple of percentage points.

While recognizing that a gradual shift has taken place in the location of work for many workers, one objection is that it has had the greatest impact on those with a long tradition of working outside the conventional physical boundaries of an office, factory or shop. The implication is that if the trends presented so far can be attributed to more of the self-employed working in this way, then there is little evidence that conventional workplaces are losing their centrality as places of work for employees.

It is true that a sizeable proportion of the people using their home as a place of work belong to categories of employment, occupations and jobs that have a long history of working in this way. Nevertheless, the majority of newcomers come from groups with far weaker traditions of this style of working. Between 1997 and 2002, for example, two-thirds of the rise in the number of people working for at least one day a week at or from home were employees – representing an additional half a million employees as opposed to an additional quarter of a million self-employed (Felstead et al, 2005b). Similarly, non-manual workers have been heavier contributors than their manual peers to the rise in the absolute number of people who use their home as a place of work. Depending on the measure used, it is estimated that between two-fifths and two-thirds of the 1997-2000 increase, for example, came from the managerial, professional and technical groups. Moreover, the proportionate changes are even more dramatic since the largest absolute increases in the number of people involved are among employment types, occupations and jobs that do not have long a pedigree of carrying out work away from the conventional workplace. Only one in thirteen employees, for example, regularly work at or from home, yet the number doing so has risen by almost a half over the 1997-2002 period. The number using ICT to do so has doubled over the same period (Felstead et al., 2003b: Table 3).

## What does the future look like?

In the past forecasters and futurologists have produced estimates of the numbers of people working at home which have failed to materialize. For example, back in 1999 and looking forward to 2010, it was estimated that '40 to 50% of the work activities of many managerial and professional activities (sic) are likely to be undertaken at home' (Scase, 1999, p28). According to some estimates around 32% would be doing so by 2006 (estimates reported by Lees, 1999, p14). Taking even the widest of interpretation of home-located working reported earlier in this review, it is difficult to reconcile these predictions with current estimates which put the use of the home as a place of work for at least one day a week at 14.8% for all workers rising to around a fifth for professionals (cf. Felstead et al, 2003b, Table 5). Nevertheless, predictions that the 'growing capabilities of communication technologies are likely to shift the emphasis towards the home' and that 'individuals will become more mobile in all spheres of life including work and employment (Scase, 1999, p28, p5) have been confirmed by evidence that has subsequently emerged, some of which has been reviewed above.
More recent predictions of the future, then, have been influenced by the proposition that the spatial fluidity of work will increase: 'for a substantial proportion of workers, work in 20 years time will be more about movement than staying put' (Moynagh and Worsley, 2005, p101; Urry, 2000, chapter three). However, at present, many of the data sources on which this review draws remain steeped in a tradition that sees a clear divide between home and work. We can, therefore, only catch a glimpse of these particular changes.

Nevertheless, the steady rise in the use of the home as a place of work and as a place from which to work is a notable development that has affected managerial, professional and technical workers in particular. These are the very occupational groups that are predicted to grow in number in the period up until 2014 (Wilson et al, 2006, pp67-72; Wilson, 2008). It is likely, therefore, that the trends presented so far in this review can be extended forwards to 2025. If we assume that historic data trends will continue into the future, the proportion using their home as a place of work for one day a week will rise to around a fifth by 2025. It may turn out to be even higher given that up to one in five managerial, professional and technical workers tend to work in this way and the occupations predicted to decline most are those which are least likely to use off-site working. However, based on historic data trends stretching back to 1992, the proportion using their home as the place of work is likely to rise by fraction of a percentage point (see Figure 3). These predictions are in line with others who have also ventured to speculate 20 years into the future (eg Moynagh and Worsley, 2005, pp101-106).

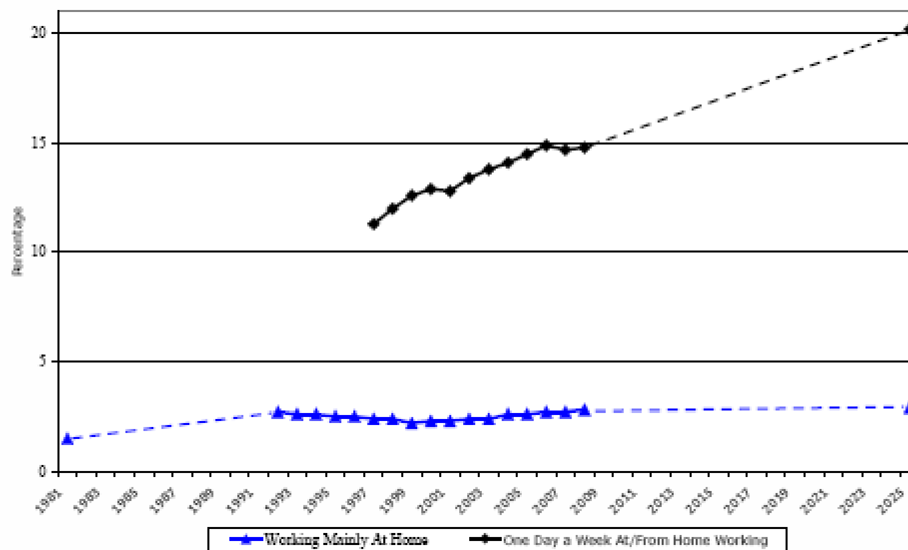


**Figure 3: Extrapolating the Future Spaces of Work**

Nevertheless, such predictions are highly sensitive to the period selected as the basis for extrapolating the future (see Table 3). For example, were we to take the 2003-2008 period as the basis for predicting the proportion of workers using their home for at least one day a week, then the predicted rise would be a couple of percentage points smaller than shown in Figure 3. This is because the rises over the last five years have been smaller than they have in the past. Even so, this prediction would still mean that by 2025 almost a fifth of workers would be using their home in some way as a place of work for one day a week or even longer. On the other hand, the prevalence of working mainly home has fluctuated up and down by a fraction of a percentage point since data collection restarted after an absence of eleven years. As a result, it began and ended the period 1992-2008 at more or less the same point (2.7% in 1992 and 2.8% in 2008). Based on this evidence, only a very small change in the numbers working mainly at home can be expected as we move towards 2025. However, predictions based on the longer time series (stretching back to 1981) suggest that the rise may be much greater. Similarly, using the last five years as the basis for future trends it is estimated that 4.2% of people will be working mainly at home by 2025. Having said this, the expectation is for a continuation of the muted growth experienced since the early 1990s (cf. Figure 3). This is because those who do most of their work at home is a narrow categorization which excludes the use of intermediate spaces which cannot be classified either as the home or the office, working on the move or working in a variety of places within the workplace by, for example, hot desking. Nevertheless, the ICT devices – mobile phones in particular – provide a 'digital umbilical cord', connecting those who work detached from a particular place of work to wider networks of relationships (Townsend, 2001, p70). It is these uses of space which have the greatest consequences and challenges for learning at work.

**Table 3:**
**Possible Futures for the Spatial Location of Work in 2025**

| | Percentages | | Percentage Point Change, 2008-2025 |
|---|---|---|---|
| | 2008 | 2025 | |
| *Working at Least One Day a Week At or From Home* | | | |
| Based on 1997-2008 trends | 14.8 | 20.2 | +5.4 |
| Based on 2003-2008 trends | 14.8 | 18.2 | +3.4 |
| *Working Mainly at Home* | | | |
| Based on 1992-2008 trends | 2.8 | 2.9 | +0.1 |
| Based on 2003-2008 trends | 2.8 | 4.2 | +1.4 |
| Based on 1981-2008 trends | 2.8 | 4.1 | +1.3 |

Extrapolations based on results reported in Tables 1 and 2.

## What are the consequences for learning at work?

Despite our somewhat patchy evidence base on the location of work, it is clear that the future of work will be spatially diverse. Greater connectivity will mean that workers will be able to maintain a virtual presence wherever they happen to be – on the train, in the car, a motorway service station or at home in the garden. This is what Gergen (2002) refers to as balancing 'absent presence' in one world, while being 'tele-present' in another. What consequences might this have for how and what learning goes on? This the question to which we now turn.

Increasingly, learning is conceptualized as comprising much more than simply counting the number of times someone goes on a training course, for how long and at what cost. Most notably, this is encapsulated in the term 'learning as participation' as distinct from 'learning as acquisition' (Sfard, 1998). The former refers to a conceptualization which views learning as a process in which learners improve their work performance by carrying out daily work activities via interacting with people, tools and materials. The latter perspective, on the other hand, views learning as a product with a visible, identifiable outcome, often accompanied by certification or proof of attendance. Nevertheless, empirical measurement still tends to concentrate on collecting data on 'learning as acquisition' with counts focused on qualification attainment, years spent in formal education, and the incidence and length of off-the-job training (see Felstead, 2008).

The detachment of work from place has consequences for how and what the workers involved have to learn to survive and prosper in such a world. Increased geographical dispersion of workers from one another, for example, makes the induction of newcomers into a community of practitioners more difficult, but not impossible, to achieve (see Jewson, 2008. for a fuller discussion). Physical proximity with co-workers facilitates serendipitous contacts and promotes non-verbal communication through body language, eye contact and touching rituals such as the handshake. However, this problem can be overcome, at least in part, by the scheduling of face-to-face interactions between colleagues, clients and superiors. Some organizations with 'location independent working' schemes have taken this a stage further by requiring employees to spend time on-site prior to being formally based off-site (Felstead et al, 2003a). However, difficulties remain. First, the impact and relevance of attitudes and information transmitted in the early stages of employment gradually diminishes over time. Initial on-site induction offers a fixed reference point that can become dated. Second, for on-site induction to be effective, a substantial proportion of the workforce – old timers needed to induct

newcomers – also have to be physically present. Third, a requirement that new staff report on-site for several months at the start of their employment may not helpful in wooing potential recruits attracted by the prospect of working without having to be physically present on a daily basis at a particular site. Without these constraints workers may be able to avoid relocating their families and households, thereby maintaining an acceptable work-life balance.

Elsewhere (Felstead et al, 2005a; Jewson, 2008) we have identified three ideal types of spatial working arrangements: working in 'collective offices'; working at home; and working on the move. Like all places of work, each has its own set of 'learning affordances'; that is, 'opportunities for individuals to participate in activities and interactions' (Billett, 2004, p109). In each the physical distances from colleagues and clients together with the physical closeness to others such as family, friends and even strangers poses particular difficulties. We take each ideal type in turn.

Working in 'collective offices' requires that workers have to find a work station, whether it be hot desk, hot room, touchdown desk, seat in the atrium, couch in the lobby, or table in the coffee bar. By contrast workers in 'personal offices' have their own desk where their activities and interactions with others can be monitored and observed. The shift to 'collective offices', then, prioritizes 'change over stability, process over structure, mobility over stasis, and uncertainty over predictability' (Felstead et al., 2005a: 80). This means that workers from across the organization from different levels and from different departments are constantly bumping into one another as they move through the building seeking a place to work. The affordances of these workplaces are that informal and unplanned encounters between different types of workers become an institutionalized part of this place seeking behaviour. Individuals who succeed in such an environment develop the capacity to plan their work schedules, match their work tasks to appropriate places and anticipate their future spatial requirements.

Working at home, on the other hand, requires that workers learn how manage the twin pressures of isolation from co-workers and the need to fend off interruptions from family and friends who are brought into close proximity when work is brought home. Those who succeed in managing these pressures deploy particular practices that are self-imposed. These include marking spatial and temporal boundaries around workstations, using personal cues to switch between domestic and employment activities, defending working space and time from the invasion of other household members, and developing the ability to alter the plans of other household members in the light of their work commitments (see Felstead and Jewson, 2000, pp120-160).

A different set of practices is associated with working on the move. This involves the simultaneous occupation of transitional spaces that are shared with strangers and the completion of work tasks. These spaces include the means of transportation such as planes, cars, trains and stop-over points while en route such as hotels, service stations and departure lounges. Each has particular affordances that facilitates or hinders the execution of particular work tasks. Getting to know what can be done where is a crucial skill that needs to be acquired. For example, securing temporary access to a space that is wired to the electronic envelope is not always easy. Locations with good connections are increasingly provided in public places, such as railway stations, waiting rooms and intercity carriages. However, access is often limited, noisy and crowded. Moreover, connections while in transit may be frail and subject to disruption. Furthermore, once acquired, space itself needs to be defended from unwanted incursions from others travelling in the same shared space such as the train carriage or aircraft cabin. Social distance, too, has to be maintained and protected from intrusion. Books, newspapers, documents, laptops and mobile phones are often used to signal when interaction is not welcome.

Working in each of these unconventional workplaces calls for a distinctive repertoire of skills and practices that has to be acquired (Jewson, 2008). Increasing heterogeneity in the spatial and temporal contours of the future of work makes these challenges more pronounced since workers also have to learn how to switch between sharply contrasting work locations with different affordances to paid work.

## Conclusion

Discussion of the changing place of work tends to excite hyperbole, exaggerated claims and wild predictions. This type of reporting – often emphasized by attention-grabbing newspaper headlines – over-emphasizes the rapidity of change. However, the evidence reviewed here suggests that changes in the location of work are more gradual with work becoming increasingly, but slowly, detached from conventional places of work. This change is affecting office workers in particular who historically have been given individual and personalized cubes of space marked by a walled cell or by an allocated desk. Instead, office work can now, with the help of ICT and the mobile phone and laptop in particular, be carried out in a variety of different places – in the home, in an assortment of locations within the office and in 'third places' such as the train, the car and the plane. Faced with rising real estate costs, employers are reconsidering the value of 'personal office' space which is often left vacant while individuals are away from their desks. As a result, employers are increasingly turning to use of 'collective office' space in which facilities are shared and used on an as needed basis. This development is typified by 'hot desking' which has grown in the past and is expected to grow in the future. Evidence of change also comes from individual-level surveys of where people work. This shows that in 2008 around one in seven (14.8%) workers used their home, for at least one day a week, as a place of work or as the start point from which to work outside the conventional workplace. Back in 1997, when data on this issue was first collected in the UK, the proportion stood at 11.3%. Based on this trend, the proportion will have risen to around 20% of workers by 2025. Effective functioning in such multiple places of work requires heightened levels of self-discipline and the ability to make places amenable to work as well as doing particular work tasks in appropriate places. Both of these abilities require workers to learn about the affordances of particular places in order to understand what works where and how, and therefore cope with being 'always on, always ready, always connected' wherever they happen to be.

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