



technology, children, schools and families

Family structures and intergenerational transfers of learning: changes and challenges

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February 2009

Introduction

In spite of the range of formal education that is available, much of our learning occurs informally in a variety of contexts. Among these contexts is the family. For young children this is especially important in terms of what it offers at a time when influences can be long-lasting and of a formative nature. Older generations can also be influenced by, and learn from, younger members of the family. Traditionally, the family has provided a setting where children, their parents and other close relatives such as their grandparents have lived together under the same roof, or household. In the home setting people can spend time together and the range of activities occurring within this setting are influenced by, and in turn influence, a wider cultural milieu. The family and the household are, however, entities that are subject to change and in turn these changes can have profound influences for those who are part of it. In this article I will outline what is understood by home and family and how the home and family are changing within the UK as a result of a variety of demographic changes that are associated with factors such as an ageing population and migration. I will then consider the contributions by those who have studied learning going on in the home, also taking account of the possible influences of present day developments in science and technology. I will then consider more speculatively some possible developments over the next few decades and the challenges that arise from these.

Keywords: ageing, population, demography, education, family, migration, generations

Family structures and the opportunity for intergenerational contact

Children and their parents

For many years in the UK along with other Western Countries a family could be thought of in terms of a household where children, their married parents and, on occasion, other close relatives such as grandparents live together. However, a number of factors have more recently converged and changed the 'shape' of such families and households and led to alternatives to the nuclear model outlined above.

Demographic factors such as population ageing and migration, an increase in the breakdown of parental relationships, together with same-sex couples attaining equal rights to those enjoyed by married ones, have all had an impact on household and family structures and living arrangements (Ermisch and Murphy, 2006).

Lone parent families.

Over the 30-year span between to the 1960s and the mid 1990s the number of nuclear families in the UK fell from 38 to 25% of all households (Clarke, 1996; Office of National Statistics, 1999). Although children living in two-parent households still form the majority, the proportion living in lone parent households (most of which comprise lone mothers) has doubled to around 23% over the last thirty years (Ermisch and Murphy, 2006).

While divorce is regarded as the main cause of lone parent families (Ermisch and Murphy, 2006), further effects on the number of lone parent families also arise from the large number of births to unmarried mothers. The proportion of women who cohabit in their first partnership has risen from about 25% for those born in the 1950s to around 80% for those born in the 1980s (Ermisch and Murphy, 2006). The number of children born outside of marriage has risen dramatically from 9% to 43% 1975 to 2004 and, importantly, the likelihood that cohabiting mothers will eventually form a longer lasting married relationship is less than for women without children. This has implications for intergenerational contact bearing in mind that, since the 1960s, one-parent families have tended to live solo rather than communally (Ermisch and Murphy, 2006). Even if some relationships do remain stable and monogamous, the occurrence in those who choose to 'live apart together' can also contribute to restricted parental contact.

The increase in divorce rates and cohabitation also gives rise to more complex arrangements such as reconstituted family households in which some children are the natural offspring of both parents, while in other cases are from just one (Ermisch and Murphy, 2006). On the one hand, an increase in step parenting could suggest a move away from norms expressed through kinship or marriage and could be seen as a social problem or deficit in terms of moral values and any stability that might be associated with these. On the other hand, it is also possible to see such alternatives to the nuclear model as a development of a different kind of social order (Silva and Smart, 1999; Smart, 2004). In terms of the potential for intergenerational contact, McCarthy et al's (2003) work with step families or 'clusters' found that the wellbeing of children was nevertheless maintained in different ways. For example, while some working-class parents formed new non-kinship groupings within single households, middle class parents might maintain kinship links across different households. In all cases there was a sense of sustained relationships with children's needs at heart. Although parental separation on the one hand can reduce the opportunity for intergenerational encounter, on the other hand, if parents split up and form new relationships this can also increase the range of adult contact available (Dench and Ogg, 2002).

Ethnic diversity

Further scope for diversity in families arises from immigration. For example, Prout (2008) cites a nine-fold increase in the total number of migrants in Western countries

from 1965 to 1990 (International Labour Office, 2003, p26) with general agreement that this is an increasing trend (eg, Commission of the European Community, 2001; Ermisch and Murphy, 2006). However, interpreting sources such as UK census data is problematic. While 8% of those living in the UK are recorded as non-white ethnic minority, this could be an under-estimate because many, in particular younger, ethnic minorities are unlikely to register this affiliation (Harper and Levin, 2003). There is also the further issue regarding estimates of the age-distribution of minority groups (Harper and Levin, 2003). In short, the growth in ethnic diversity and concomitant effects of religious affiliation can be seen to have implications for diversity of childhood, children's lived experience and formation of identity (Connolly, 1998; Garcia-Coll et al, 2004; Orellana et al, 2001 – all cited in Prout 2008,) Family size is a further factor that can vary substantially by ethnic group as suggested from data in the Second Survey of the Millennium Cohort Study. For example, 'children in Bangladeshi families were most likely to have three or more siblings (32.6%) while White (8%), Mixed (8%) and Indian children (4.8%) were least likely (Hansen and Joshi, 2007).

Effects of an ageing population

It is well known that longer life expectancy coupled with a decline in birth rates have resulted in an ageing population. A recent analysis based upon data from the Office for National Statistics (Falkingham and Grundy, 2007) indicates that in the three decades from mid-1971 to mid-2004 the proportion of people under 16 fell from 25% to 9% while those aged 65 and over increased from 13% to 16% of the total population. It was also reported that while declining fertility played an initial part in population ageing for the UK, increased lifespan has now become a major factor. This is apparent in the current relatively large increase in number and proportion of those aged 85 and over. In addition to the above trends, age distributions are also modulated by earlier fluctuations in birth rates such as the bulge in the late 1950s and early 1960s. This will mean an increase in the numbers of the 'younger elderly' who will be in their 60s by around 2020 and who will, of course, eventually become the 'older old' (Falkingham and Grundy, 2007).

More specifically and with regard to opportunities for intergenerational encounters, using data from the 1998 *British Social Attitudes Survey*, Dench and Ogg (2002) have also noted that women giving birth to children in the late 1960s and early 1970s did so at a relatively early age. This has led to a high proportion of young grandparents with more than half of the British population becoming grandparents by the age of 54. When this is taken together with women currently having fewer children a living family can span a number of generations while the number of members belonging to each generation is relatively few. This demographic 'beanpole' effect (Hagestad, 2000) is also reflected more generally across Western societies (eg, Letablier and Pennec, 2003).

The availability of grandparents

Although parents and children may be seen as the centrepiece within families, other important roles have been ascribed to other close relatives, in particular grandparents.

In 2003, 26% of all dependent children in Great Britain received childcare from their grandparents (Social Trends, 2006, cited in Broad, 2007). Because grandparents live longer and healthier lives and parents are having children when they are younger, the role of grandparents is increasing (Jerrome, 1993). This also has the effect of increasing the length of time spent as a grandparent, often to around a third of the lifespan (Dench and Ogg, 2002).

Crucial factors influencing the role and level of involvement of grandparents have been identified as being proximity and lineage. Clarke and Roberts (2004) found that the distance grandparents lived from their children was the main factor relating to contact. Furthermore, they found that lineage, regardless of whether the grandparents were maternal or paternal, was more significant than family type in predicting contact: paternal grandparents generally seeing less of their sons' children, particularly in cases of family breakdown.

The availability of grandparents is also influential in that today's working mothers often do not have mothers who themselves have careers of their own. If women continue to take on greater career responsibilities and this is coupled with increasing population mobility, then the activity of grandparents in the role of childcare is likely to diminish (Broad, 2007).

In spite of the above concerns recent studies indicate that the level of involvement and frequency of contact of grandparents with their grandchildren is generally far greater than might have been expected. Dench and Ogg (2002) found that 95% of grandparents had seen their grandchild within the last two years and 73% were in physical contact at least once a month, whilst Clarke and Roberts (2004) found that 60% of grandparents saw their grandchild on a weekly basis and 60% also reported having other types of contact including telephone, letter and e-mail. A study carried out by Quadrello et al (2005) has examined the different forms of contact between grandparents and grandchildren between 10 and 15 years of age in the UK, Finland, Spain and Estonia. Face-to-face and landline phone contact were found to occur more frequently in comparison to contact using mobile phones. Texting, letters or cards and e-mail were used less frequently, although e-mail was used more often in the absence of face-to-face contact. Overall, however, the take-up of new communication modes between grandparents and grandchildren was in the minority, about one in eight, and less than might be expected in terms of technological availability. In view of the increasing availability of different channels of communication afforded by new technologies and the control that both young and old have with regard to their use, the effects of these as well as proximity of grandparent-grandchild contact may need further investigation.

Roles taken by grandparents

The roles undertaken by grandparents within the family are varied and their significance has been recognised for some years (DfES, 2003). Clarke and Roberts (2004) have put these into three main groupings: practical, emotional and financial. They found from their survey that childcare, especially with working parents, was a key practical feature with over half of the grandparents babysitting their grandchildren and around 60% looking after a grandchild aged under 15 in the daytime. According to Age Concern (2004), one in four grandparents care for their grandchildren on a regular basis, again, when the children's parents are working or studying. Looked at from the point of view of children whose mothers are in employment, grandparents take a 34% share of informal childcare, followed by 'other relatives' (8%), 'friends or neighbours' or childminders (each 7%) (ONS, 2002). This has also been reflected in the first survey of the Millennium Cohort Study (Dex and Ward, 2004) where 33% of parents said that grandparents look after the first child all or most of the time whilst they were at work and carry out 78% of childcare at other times. Grandparents can play a number of important roles such as keeping wider sets of relatives connected and providing a bridge to the past by acting as a source of family history, heritage and traditions; the latter often carried out by telling stories that keep grandchildren aware of their own family experiences and culture (Ross et al, 2005).

While much of the care that is evident for children in their early years may decline as grandchildren get older (Dench and Ogg, 2002; Soule et al, 2005), there is evidence for the importance of the continuing support that is provided by grandparents (Hodgson, 1992). From a more recent study involving young people between the ages of 10 and 19 and their grandparents ranging from their early 50s to late 80s it was found that relationships were more likely to revolve around talking, giving advice and support as grandchildren grew older (Ross et al, 2005). Listening to grandchildren was generally regarded as a key role with many of the young people reporting that they could share problems and concerns with their grandparents who could also act as go-betweens in the family when there were disagreements with their parents (Ross et al, 2005).

Geographical proximity, as noted by Smith and Drew (2002), has been found to be a key factor, not only in the frequency of contact, but also in the closeness in grandparent-grandchild relationships. For example, Hodgson (1992) examined this by comparing those grandparents and grandchildren living within 25 miles of each other (almost half) with those living up to and beyond 500 miles away. A similar finding with grandfathers and grandchildren was obtained by Kivett (1985). Some indication of the prevalence of this closeness might be gained from figures reported by The National Centre for Social Research (1999) which suggest that, in the UK, between 30 and 40% of grandparents lived less than 15 minutes away from a grandchild. However, the extent to which physical distance alone reflects the degree of upbringing and emotional closeness is less clear and Ross et al (2005) have noted that, regardless of proximity, some children contact their grandparents independently of their parents. A further consideration is that it is middle class families who tend to be more geographically separated. While this may result in less frequent contact the deficit is offset by shared holidays, gifts and financial support. Moral values are also shared across generations in these cases (Dench and Ogg, 2002). Again, our knowledge of the effect of the increasing availability of new communication technologies such as e-mail mobile phones on the nature and role of grandparent-grandchild contact may benefit from continued review.

Class, educational and economic influences

The above effects concerning the availability and roles of grandparents are modulated by class and education. For example, divorce rates for those less educated were found to be some 30% higher than for those more educated (Ermisch and Murphy, 2006). A further demographic factor currently influencing intergenerational contact has been identified by Newman and Hatton-Yeo (2008). In response to changing economies families are likely to move to areas where there are better job prospects. Moreover, such economic demands are also accompanied by the increase in single-parent and two-working-parent families.

In addition to the above overall trends, families, of course, vary. There are class, cultural and economic factors. The age of women at their first partnership has also increased from 22 to 25 but the extent to which marriage and motherhood occur later in life has been found to be greater for women who have a higher education (statistics to be checked). Less educated women have children younger (around 24) while more educated women tend to have children when older (median in excess of 30) (Ermisch and Murphy, 2006).

Intergenerational Programs

The scope for intergenerational exchange and support between families can be seen to be compromised in view of some of the above factors such as children with lone or working parents, migration and economic relocation. In view of this there have been

developments in provision aimed at purposeful extra-familial support that do not rely on the family. Newman and Hatton-Yeo (2008), for example, characterise these in terms of either educating the young or being concerned with the welfare of older adults. In particular they focus on the teaching and learning roles that can be played by bringing together the different age-groups. The perceived benefits of this enterprise include shared learning positive attitudes among generations and social cohesion (Newman and Hatton-Yeo, 2008)). The underlying theory is drawn from Erikson's (1963) idea that parallel developmental needs of young and old result in a special kind of synergy between these generations. In view of this participants in intergenerational programmes are usually populated by those who are younger and older while missing out a middle generation. The idea that a generational synergy can be developed outside the family setting is, of course, fundamental to such programs.

In their review of the literature, Springate, Atkinson and Martin (2008) detail the range of 'intergenerational practice' in the UK and the role of those who take part in it. Although, these are extrafamilial enterprises and therefore lie outside the scope of the present discussion, acknowledgement of these is due in that the outcomes may feed back, even if mainly indirectly through any effects that they may have on the social ambience.

The family and intergenerational learning

So far the nature of families and households today and the contact between different generations such as children, their parents and grandparents has been outlined. In view of the impact of the different demographic, social, economic and cultural factors there is considerable diversity in families and how households are formed. It is against this background that the kinds of learning exchanges and personal developments that might occur can now be considered.

The family can be a hub of mutual support, influence and learning in a multitude of ways. Although some of these may be systematic and intentional, much of what may influence each family member can be informal and incidental. Shared values, expectations, aspirations, knowledge, beliefs, skills, behaviours and the language we use develop around the variety of domestic activities that family members engage in. These activities can range from playing together and talking to each other about each other to more specific pursuits such as sport, gardening, reading, shopping and watching TV. We are also living at a time where new information and communication technologies are finding their way into homes and lives at many different levels.

In one sense it is easy to characterise the role that older family members can play in handing down knowledge and wisdom as if these are fixed entities that can be passed down through generations. While certain skills and knowledge may be passed from one generation to the next, other things are continually changing. Not only are we living at a time of rapid scientific and technological development but we are also living at a time of rapid social and cultural change. In turn the demands made by society change in relation to these and what is valued and seen as relevant can influence how each individual develops.

The above resources of networks and norms of shared values are among the individual and community assets underlying the concept of social capital (Balatti and Falk, 2002). Social exclusion and disadvantage result in negative social capital (Bostrom, 2002) and the importance of the family as the individual's initial source of social capital has been argued by Kerka (2003). She has registered concerns arising from social changes such as increased life expectancy, greater mobility, increased reliance on non-familial caregivers at both ends of the lifespan and a more age-segregated society such as

retirement communities and youth culture and the potential for inequities working against characteristics of positive social capital (Schuller et al, 2002, cited in Kerka, 2003).

What is meant by 'transfer' and how this complements what else goes on between family members can lie at the heart of what is understood by learning. The phrase 'intergenerational transfer of learning' carries with it the idea that learning results from something that is transferred from one generation to another or, at least, a series of such acquisitions. Taken on its own this, of course, reduces learning to a quantitative increase in knowledge or procedures familiar to behaviourists; a one-way transaction thereby ignoring the agency of the learner. Constructivist or sociocultural approaches are well known in that they allow for learners acting on what they receive in their own way; building, modifying, and often discarding earlier mental structures so that learning can also become a way of seeing and understanding things differently; a qualitative change (eg, Fosnot, 1996; Wertsch and Tulviste, 1996). Acknowledging this creative potential in the learner not only transforms the idea of learning and what can go on amongst family members but also what society contributes to families as well as what families can contribute to society.

Family members respond to each other, each in their own unique way. In view of this there is a contribution that all family members, regardless of their generation, can make towards each other's development as well as to the family as a whole. Even if a more experienced other plays a scaffolding role (Vygotsky, 1978) so that with this assistance a task can be carried out by a learner that would otherwise not be attempted successfully alone there is still scope for mutually helpful collaboration. This is, for example, inherent in Rogoff's (1990) use of the term 'guided participation' which suggests a more active role played by children so they can collaborate with, as well as be guided by others. Intra-generationally, research carried out amongst siblings by Gregory (2001) suggests an evenly balanced interplay or 'synergy' where understandings can be developed mutually rather than primarily in one direction. If the idea of transfer is to be considered more generally in the family setting then, firstly, its scope as a multi-way intergenerational phenomenon should be taken into account and, moreover, its relationship to learning considered in relation to a creative interplay or synergy.

Dissatisfaction with the idea of learning as acquisition has been expressed by Hodkinson and his co-workers (Hodkinson, 2005; Hodkinson et al, 2007) who see this as separating the learner from the process of learning and what is learned. In particular, they argue that 'the processes and products of learning are deeply intertwined, and neither can be understood without considering the positions, dispositions, and identities of [the] learner' (Hodkinson et al, 2007, p14) with no clear separation between learning and identity. For some people, each is part of the other with learning not just about becoming but also about being. A more recent characterisation of this has been cited by Plumb (2008) in the phrase 'learning as dwelling'. Here it is also argued that learning is not about the intake of external knowledge into the mind of an isolated individual but a 'process through which learners forever weave themselves into the fabric of their natural, social and cultural worlds' (Plumb, 2008, p62).

A view of learning occurring as part of practice and the social interactions that take place in the associated settings has been developed by Lave and Wenger (1991). They argue a distinction between the approach to academic learning taken in schools or other education institutions and learning that occurs more naturally as part of day-to-day social activity. Academic approaches towards learning focus on representations of the world that have been abstracted from the real life setting where they would normally occur. These representations can then be manipulated theoretically and can be helpful in developing explanations and predictions about the world. As McCormick (1997) has noted, knowledge derived in this way is applicable more generally to a variety of situations whereas practical knowledge is limited to particular situations. While academic

approaches can focus on more conscious systematic forms of teaching, by way of contrast learning may arise within the practice occurring in an everyday setting (Lave, 1989). In this way learners engage less formally from their own perspective rather than from an external perspective that might otherwise characterise a teaching curriculum. In this way learning is situated within, rather than isolated from, the practical setting and the social relations that form part of this (Lave and Wenger, 1991).

Learning also occurs within a community comprised of participants who make a range of contributions. A key point is that the contributions can be at different levels depending on those who happen to be participating in an activity where understandings and purposes are shared. Lave and Wenger (1991) use the term 'community of practice' in relation to individuals who participate in a common purpose and share understandings about their actions in relation to this.

The family can be likened to a community of practice in the sense that there is mutual support with members playing complementary roles in the practice of day-to-day living without any external systematic learning agenda. Even with children growing up as part of a family in business their early experiences of the social practice within the family and the knowledge and skills associated within this are inextricably linked (Hamilton, 2006). On some occasions what is shared and learnt can be more systematic and focused while in many other respects learning can be incidental and informal.

From her ethnographic study of working class children between the ages of 8 and 10 Maddock (2006) has drawn attention to the unique range of experiences and opportunities provided by families for their children. Through this, children may come to value some activities rather than others. Underlying these differences, though, was a common but subtle agenda for children's learning linked to personal human concern into which children fit activities and experiences in terms of what makes 'human sense' (Donaldson, 1978). This she has contrasted with the more externally driven and overtly goal-directed learning agendas that can be imposed by adults.

Families are not formal learning institutions and although they are populated in part by adults the learning space can be very different from the more uniform and target-driven demands that have to be managed within the confines of a learning initiative. If intergenerational programmes and extrafamilial paradigms (Newman and Hatton-Yeo, 2008) are being implemented in response to a perceived deficit in some children's lives then a key challenge for the future is to preserve some of those qualities of the family learning space and the associated diversity.

Some insight into the learning dynamics that go on within families can be gained through the work carried out by Kenner et al, (2005) in homes in East London. Although there was a focus on the learning that evolved through interactions between children and their grandparents, the position of parents in this context was also considered. The focus was on the role of grandparents in view of the significant role they play in childcare.

Time constraints upon parents

In contrast to parents who were working and busy with a variety of day to day responsibilities, grandparents could spend more time with their grandchildren and develop a special bond (Weissvourd, 1998). Children and their grandparents each had their own vulnerabilities and were able to offer mutual support for each other. There was scope for a more relaxed and hands-on relationship when engaging in activities (Jessel et al, 2004). The home setting, then, could offer scope for a more evenly balanced learning relationship, or 'synergy' (Gregory, 2001) than might occur in more formal educational contexts. In particular, synergistic learning relationships occurred between children and their grandparents. This gave scope for reciprocal social relationships and

joint interaction in learning and contrasts with the role of the teacher as controller rather than as learning partner (Bruner, 1985). In the context of the family, mutual trust and respect for each member's perspective (Rommetveit, 1974, 1979) was regarded as important to this process. The value given to an activity within a culture in which learners identify can also influence learning interactions (Goodnow, 1990).

Reading and language

Families can play a key role in the development of literacy. A parent reading books to children is an everyday part of life in many families. Although this can involve both mothers and fathers, it has been found that mothers tend to do this more (Nichols 2000; Connie and Sharen, 2004). Grandparents also make important contributions to their grandchildren's education (Strom and Strom, 1995) and with regard to literacy performance, grandparents' reading skills and practices are reflected across generations (Parsons and Bynner, 2006). This was also evident from the work carried out by Kenner et al (2005). A further focus on the story-reading within Bangladeshi families revealed how the multiple worlds inhabited by a grandchild during story-reading were transformed 'syncretically' on a number of levels (Gregory et al, 2007). The idea of syncretism as a creative process where people reinvent culture, drawing on familiar and new resources is argued to be of central importance in that it allows for cultures to develop rather than remain frozen. This was evident within the books that were used, such as through the pictorial illustrations, as well as linguistically in the story reading (Gregory et al, 2007).

The role of new technologies

Although the parts taken by human beings as key players in family life have been outlined, there is another element that is finding its way into people's relationships: new information and communication technologies (ICTs). If we regard these solely in terms of such functions as storing and retrieving information and communication to others then they may not appear to be so new. However, what marks out the present day developments in this field are their portability, accessibility and affordability.

New technologies and family communication

The number of older as well as younger people using mobile phones and the internet to communicate has increased in recent years (Haddon, 2004; Age Concern, 2002; Mobile Data Association, 2005). Attitudes amongst elderly towards internet use have been found to vary from the 'users' who were open to learning something new regardless of their age and 'non-users' who did regard age as an obstacle (Blit-Cohen and Litwin, 2004). Health factors such as deteriorating eyesight also marked out users from non-users. Active social communication was found to take place over the internet. The extent to which people own and use technology also has a bearing on the availability of social support. From their European study Mante-Meijer et al (2001) found that in countries where the technologies have penetrated less there was greater reliance on settings where the relevant skills could be learnt formally. Informal learning, more evident in high-penetration countries, was found to take place in a variety of contexts such as within families and between work colleagues. Although Selwyn (2004) has found that the extent to which children influence their parents' take-up of computers was slight, children were able to play a more active part in this with their grandparents. The situation has, of course, been rapidly changing over the last few years as new technology has penetrated and proliferated. More recently, Gatto and Tak (2008) have

reported increasing use by older adults of computers for communication as well as entertainment and access to information.

New technologies and family learning

Based on a survey of the views of parents of children from 3 to 5 years of age attending nurseries in Scotland, McPake et al (2005) have identified three types of competence developed through the use of ICT: technical (basic operational skills), cultural (understanding of the social roles that ICT plays) and learning. The latter, seen to be of particular significance to young children, refers to their ability to use ICT for social and cultural purposes, including communication, self-expression and entertainment as well as their work. ICT was used in the home to support early literacy and numeracy, communication and musical skills, as well as in helping children learn how to learn. Importantly, the degree of competence children had acquired appeared to depend on such factors as access to equipment, support in learning to use it, and the particular interests and aptitudes of older family members. The authenticity seen to be afforded by technological activities can aid learning (Murphy and Hennessy, 2001). This has been followed up in the family context by Jane and Robbins (2004) who have also reported on the potential benefit of such activities to grandparents in that it allows them to revisit and explore technology in a new and fresh way as a result of interacting with their grandchildren. Kenner et al (2008) noted the role of the computer as mediating artefact (Crook, 2001) and participant in learning activities with grandparents and grandchildren. In this context, however, the importance of the role of the grandparent in structuring the approach to the activities was also noted (Kenner et al, 2008).

The future: changes and challenges

We can look into the future in different ways. At one level the predicted patterns of ageing might not surprise us. People will live longer and healthier lives and assuming the reduction in fertility rates continues, then in the coming decades over half the population in the UK will be over 50. Although there will be transient effects such as the 'age wave' resulting from the high fertility rates of the 1960s, there will continue to be a large representation of older people and different generations of families with relatively few offspring co-existing. We may also be unsurprised about the forecast that with continuing rates of migration, ethnic diversity will also become more widespread within the UK. We might also make a reasonable guess at the career involvement and the prevalence of working mothers as well as fathers increasing within the system with the consequent reduction of availability of within-family childcare. We might also be quite comfortable predicting that technology may not only change but become more available.

What may be more difficult to predict, however, is how the different trends might interact. For example, while there is more scope for ethnic diversity within families, the cultural effects are not certain. It is not certain, for example, to what extent immigrant groups will become assimilated, nor how acculturation will take effect, so that the values, the culture and the customs merge with the majority population with time. Conversely, some communities might retain a strong heritage and cultural identity. There may be further tensions in retaining identity if family members are dispersed geographically because of economic demand and globalisation. While information and communication technologies have the power to enable younger family members to become independent and lose their cultural identity they can also, at the same time, facilitate cultural contact within and across national boundaries. It is likely that the continued weakening of horizontal household ties through divorce and other instabilities in relationships will mean that vertical intergenerational links and influences will become

more important (Owen et al, 2004). However, this will also be in a context where an increased active lifespan together with employment rights for the elderly may mean that those family members who in the past have played this role may become more likely to take on the pivotal role of working and supporting those both younger and older than themselves (Dench and Ogg, 2002). We do not know how family members will continue to balance these demands and whether families can remain as coherent cohesive units. We do not know whether grandparents will continue to have the time for childcare and that special bond and, for that matter, whether grandfathers rather than grandmothers will have to play a greater role.

The challenge for some minority communities could be in terms of maintaining a heritage identity. Even if there are collective communal initiatives that support this, the role of the family could be crucial in this respect. While grandparents have been an active source of cultural knowledge and practice in the past, how this role might be picked up by future generations is less certain. In addition, particular occupations and the associated skills are less likely to remain stable within a given family and so learning needs could become less predictable. In turn this could affect the status of older generations as authoritative sources of information and skills. We are also living at a time when information is not only much more readily accessible but also is there in greater variety, quantity, detail and abundance.

Work patterns will affect what goes on within families. Apart from the possibility of a longer active life which has career implications, the demands of the labour market in response to shortages of particular skills will mean that patterns in work, training and education will change when viewed from a life-long perspective. The blurring of boundaries between living, working and learning currently experienced may continue to progress; particularly as new technologies, mobile communications, and global business practices can keep people electronically connected at all times of the day and night regardless of whether they are at a place of work, at home, or on holiday (Harrison, 2008). Perhaps the biggest challenge to families in relation to this context is managing the balance between work and leisure – or, indeed, a new order of family life. Although flexible working patterns could assist this process there is also the possibility that the more traditional opportunities for family and intergenerational interaction, such as in the evenings and at weekends, may disappear.

A report carried out by the Future Foundation (2004), has suggested that up to 23 million people in the UK may be at risk of digital exclusion in 2025. While in the past a 'digital divide' has been framed in terms of a lack of availability of digital resources, more sophisticated notions of digital inclusion or exclusion also consider broader problems of social inclusion and engagement (Warschauer, 2004). Selwyn (2002), for example, argues that access to technology in itself is insufficient in promoting a digitally inclusive society and results from an adult continuing education survey carried out with his co-workers (Gorard et al, 2000) support his contention that access should be meaningful, functional, and of perceived relevance. In terms of social capital this also presents a challenge that belongs as much to the family as in the public domain. The use of ICT in the home can reduce the time that families interact as a whole. Sanger's (1997) work suggests that, in contrast to a family watching the same programmes on the one and only television receiver in the house, the increased availability of technology such as video games has segregated families; parents, for example, know very little about what their children are doing when they are each in their own rooms in different parts of the home. We are, perhaps, living at a time when families could be encouraged to negotiate rules around the use of new technologies. On this basis there is a need for parents to talk to children about the dangers of the internet and encourage them to look critically at the information they find on the internet and other media. Similarly, as more mobile phones become available, it is timely to address questions on how such technology is shaping family life and how families are shaping the use of technology.

While this article began with a characterisation of the family in terms of the space delineated by a household and relatively monogamous relationships, the possibility exists for the development of more complex relationships involving different generations including parents and children. What we regard as a 'virtual' space today may take on a more tangible coherent and connected life of its own as we are able, through communication technologies, to maintain, sustain and develop relationships. The space in which we live and learn may no longer be defined by four walls and a roof. In this context the challenge for 'family' members may be one of identifying and contributing to a group identity, even if this identity is dynamic in nature. The syncretic processes (Gregory, 2001) noted earlier could have a role to play here.

The implications arising from the possible blurring of chronological divisions of education (Harper, 2008) for intergenerational learning are widespread. Segmentation of education may be less distinct. For example, the role of the university could become a more continuous one where people remain connected as part of a life long learning community. With regard to children's learning and development, another challenge is for teachers to know more about the learning that goes on within families so that they can learn from this as well as allow their own institutional approaches (which will be different) to interface in a sensitive way. This is still an under-researched area. While studies such as the Teaching and Learning Research Programme's Learning Lives (Hodkinson et al, 2008) have begun to contribute to the literature on the kind of learning going on throughout peoples lives both formally and informally, further attention will still be needed in understanding the different kinds of learning, cultural practices and development taking place in a variety of out-of-school settings including the family.

Older people, of course, are not fixed entities. The older people of 2050 will have been the younger people of today who will have taken with them not only the practices we associate with young people today but also some of the attitudes to change and flexibility that we may consider a hallmark of our time. Assuming the infants of today will be the elders of the future then, to survive as a responsive and flexible community in a changing world, what they will take with them into that future will not just be the transferred remnants of yesterday but also the ability to play their part in creating the culture of tomorrow.

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This document has been commissioned as part of the UK Department for Children, Schools and Families' Beyond Current Horizons project, led by Futurelab. The views expressed do not represent the policy of any Government or organisation.