

CHAPTER 6

Intergenerational learning in organisations – A research framework

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The purpose of this chapter is to lay the groundwork for a large-scale design-based research ⁽²⁴⁾ programme on how intergenerational learning can help mitigate some problems associated with an ageing workforce by capitalising on the abilities of older employees, especially those working in knowledge-intensive organisations. To remain competitive, organisations need to improve continually and build their capacity, but threats from changing demographics might impede these processes. The project started in late 2010 and will run for at least four years. It includes several different types of organisations as research partners, both in the public and private sector. In the private sector research will focus especially on SMEs; one research stream will look at how family businesses deal with knowledge transfer and learning in general and during succession between family generations in particular. In the public sector, secondary and tertiary educational sectors will be participating in the research. Preliminary results should be available by autumn 2012. Insights gained from ongoing research may require revisions or extensions to the framework. An introductory review of literature on ageing in organisations showed that there are three emergent themes; one dealing with how to retain critical skills by stemming (early) retirements, one concerned with retaining critical organisational knowledge and one looking at how generations within organisations learn together to increase organisational capacity. This chapter serves to give some insight into these themes to start developing a more comprehensive research framework based on the third theme, which is termed intergenerational learning. This research is original in that it approaches intergenerational learning as a two-way relationship between older and

⁽²⁴⁾ Design-based research is a prescriptive approach to management research that concurrently produces new knowledge for research and new insights for practice (van Aken, 2004).

younger workers. A model for guiding the research and some preliminary research questions are presented at the end of the chapter.

6.1. Introduction

According to numerous studies published by policy research centres in the EU and other developed countries, the pool of available workers is diminishing at an alarming rate due to retirement and an ageing population ⁽²⁵⁾. For example, in a report published by the Dutch Ministry of Interior and Kingdom Relations, predictions were showing that in 2020 there will be gaps of 30% or more in the employment pool for teachers and policemen, and even higher gaps for nurses (BZK, 2010). The same report states that due to combined budget cuts and a shrinking labour pool, an estimated seven out of 10 current public servants will no longer be in service by 2020. Similar projections have been made for other fields, especially those where highly-educated knowledge workers are employed. Government policy-makers are aware of this problem and have started taking measures to combat it. However, government interventions such as increasing retirement age, giving tax incentives for workers who remain in service, and other measures that attempt to stymie (early) labour force exits, are not expected to be powerful enough to compensate for the demographics of an ageing society. This could be a realistic expectation, considering the years of effort most EU countries have put into developing incentives, that have proven rather efficacious, for workers to exit the labour force early (Borsch-Supan, 2000). Now, current workers need to be convinced to remain in the labour force longer than the previous generation. But why would they? Will threats of reduced pensions or the possibility of higher wages due to labour shortages be stimuli enough to keep older workers in the labour force?

If government measures that delay labour force exit prove to be at all effective, or if other factors such as threats to pension or higher wages are strong enough to keep people working longer, then work organisations will be faced with an ageing staff. Consequently, organisations will be forced to understand how older workers can be utilised efficiently and take appropriate measures if they are to remain competitive. A scenario where organisations need to keep their existing workers for a longer period is especially believable

⁽²⁵⁾ Bureau Bartels (2010); European Commission (2007; 2009); Stam (2009).

for highly experienced, highly educated, and technically proficient workers, or what we call knowledge workers (Ropes and Stam, 2008). Older knowledge workers, the focus of this research, are often irreplaceable and so organisations will need to focus on keeping this specific type of employee in service.

While there is quite some work on the problems expected to arise due to an ageing population, reports in scientific journals and practitioner literature fail to present much empirical work on the specific topic of how organisations can capitalise on the knowledge and innovative capacities of an older worker (INNO-Grips, 2008). Mostly one finds government reports and studies that further define the problem and speculate about future negative consequences like those mentioned above. Other literature, much of it coming from the fields of occupational health, gerontology and cognitive psychology, concerns the changing capabilities of the older worker in regard to physical and cognitive abilities (see also Cedefop, 2010).

The important points just raised will be considered during the research. However, this research endeavours to study the situation from various theoretical approaches explained later. By using a multidisciplinary approach, realising the goal of this research will be possible. This is directly related to the complexity of the organisational contexts in which research will be done. It is also directly related to the goal of the research, namely to develop concrete policy measures using intergenerational learning for organisations to assure older knowledge workers maintain a positive contribution to the development and effectiveness of the organisation. These concepts have been cited regularly in the recent report by the European Commission on the new European strategy (Andriessen, 2004; European Commission, 2010).

This chapter focuses on what an ageing population means within an organisational context. It looks at three themes found in the organisational and management science, knowledge management and human resource development literature: (a) dealing with how to stem (early) retirements to keep critical skills; (b) retaining critical organisational knowledge; and (c) how generations within organisations learn together to increase organisational capacity. These themes are introduced to show the logic behind the research model pertaining to theme number three.

6.2. Theme one: retaining critical organisational skills

This first theme explores how organisations can reduce levels of stress to keep older workers from retiring (early) ⁽²⁶⁾. Loss of critical skills can be devastating for an organisation and workers leaving for early retirements take these critical skills with them. One main reason for workers leaving has to do with the stress they experience in their relationship with the work organisation.

Stress is a powerful mechanism for leading older workers to leave the work organisation and can be caused by different reasons, mostly linked to organisational demands and individual capability. For example decreases in physical work capacity and mental changes can result in stress. Regarding the former point, most research shows that physical capacity is not a serious issue for white-collar workers below the age of 70 (Barnes-Farrell, 2006). Mental changes on the other hand are pertinent to this research and so are discussed in some detail below, especially in regard to how these changes affect the older employee's relationship with the organisation.

6.2.1. Mental changes accompanying the ageing process

Mental changes accompanying the ageing process can be linked to changes in mental functional capacity – considered to be the ability to perform different tasks using one's intellect. Research in geriatrics often points towards decline in functional capacity for persons above 70 years of age in regard to cognitive functions such as learning, understanding, memory, communication, etc., or the relationships between individuals and their environments (Ilmarinen, 2001). Occupational health literature also looks at cognitive functioning, but for people still part of the labour force. This is important because although geriatric studies point towards severe decreases in cognitive abilities, occupational health studies show something different.

Studies on declines in cognitive ability have shown the adage 'you can't teach an old dog new tricks' is highly dependant on the age of the dog and the type of trick one tries to teach (Korchin and Basowitz, 1957; Nauta et al., 2005). The ability to learn new tricks is crucial to a knowledge worker who must regularly process new information to solve organisational problems. Although some aspects of information processing such as speed of perception, memory and the ability to realise the outcomes of the decisions

⁽²⁶⁾ Barnes-Farrall (2006); Bureau Bartels (2010); Ilmarinen (2001); Kanfer and Ackerman (2007); van der Heijden (2001).

made do slow with age, the [...] actual functions of information processing change very little in the course of one's career. Moreover, some cognitive functions such as control of use of language or ability to process complex problems in insecure situations, improve with age (Ilmarinen, 2001, p. 548). So, what does this mean in regard to how older workers experience stress and consequently leave the work organisation (early) because of it? The link to this question lies in the way older employees experience their changing relationship with the organisational environment. In organisational psychology research, person/environment fit models have been consistently used to help understand how workers experience their work environment in regard to norms, values and individual abilities (Edwards, 1996). According to person/environment fit models, incongruence between person and environment leads to stress. Incongruence can be in the form of differing expectations about workflow organisation, but it can also be in the form of role ambiguity, role conflict, and other psychosocial stressors coming from the organisation.

Organisational climate can also be a stressor and as such is also pertinent to the changing roles older employees have (Schultz and Wang, 2007). For example, stressors such as lack of intergenerational solidarity, negative stereotypes about older employees' abilities or workplace expectations about appropriate career trajectories can seriously influence a workers' decision to retire early.

6.2.2. Organisational policy issues

There are several different types of organisational policy actions aimed at keeping workers in service longer. It seems that most policies on this topic come from the management literature and have to do with developing interventions based on changing reward schemes that try to make remaining in the work organisation more attractive than retirement.

Other policy recommendations, mostly coming from organisational psychology research, accent how organisations might rethink work flows and organisation of work processes for older employees in the hope of reducing the impact of organisational stressors. For example, older workers have a need for flexibility with personal workflow organisation. Allowing older workers to plan their own work schedules is one way organisations do this.

6.2.3. The role of guidance and counselling

A literature search on the specific topic of guidance and counselling of ageing workers employed in knowledge-intensive organisations was rather fruitless,

especially in regard to empirical studies. However, there was some conceptual work that called for a change in the way guidance is given in the changing world of work. Bimrose (2006) brings up the idea that differences between counselling, guidance and coaching are becoming blurred. Sultana (2003) points to a needed shift in the provisions of guidance from that of skill-based improvements to career-based ones. This latter model for guidance would probably be more appropriate for ageing knowledge workers whose skill-sets are based more on metacompetences (such as learning to learn) than on vocational ones. And while this research project deals with ageing workers currently employed, McNair (Chapter 7 in this volume) emphasises the need for creating career awareness among these 'insiders' due to possibilities of redundancy caused by organisational changes or technological advancements – both factors can lead to increased stress.

6.2.4. Research possibilities

The section above is about the relationships older employees have with the organisation in which they work and how stress negatively affects this relationship. According to literature, this is a two-way relationship (Griffiths, 1997; Hansson et al., 2001).

This section uses this concept as a basis for developing specific research possibilities to contribute to our understanding of intergenerational learning: there are strong links between learning, knowledge transfer and retention and organisational development.

There are five emergent possibilities for research on this theme:

- (a) existing policy analysis: there is little or no exploratory research on what knowledge transfer and retention strategies organisations actually have developed in regards to an ageing workforce. This is important to begin developing structured comparisons and methodologies for evaluative research on the effectiveness of strategies;
- (b) evaluating effectiveness of policies: linking knowledge management initiatives to results – improved innovation, increased organisational capacity, etc. – is difficult and so is rarely attempted. New methods for understanding effectiveness of initiatives are needed to show if they are valuable and accomplished their goal;
- (c) new research methodologies for understanding knowledge retention policies: Stam (2010) did structured comparisons among firms who use specific interventions to elicit and retain expert knowledge from leaving employees. In the research, he used a specific methodology for trying to show understanding of how the interventions worked and the mechanisms

behind their working. However, this was a first attempt at using that particular methodology and needs further work;

- (d) new interventions for stimulating knowledge transfer and retention: as in the first theme, prescriptive, design-based research can be done here as well. This can lead to practical knowledge about how organisations can transfer and retain crucial knowledge older employees have;
- (e) developing new guidance and counselling models: as mentioned above, guidance and counselling models directly related to ageing knowledge workers have only recently started to emerge. Research is needed to understand the differences between knowledge workers' needs and employees in other sectors.

6.3. Theme two: retaining critical organisational knowledge

This theme comes mainly from knowledge management literature and explores how organisations can retain and reuse critical organisational knowledge in face of an ageing organisational population. This theme too is based on the idea that, considering demographic predictions of labour force make-up, organisations will be faced increasingly with an ageing worker population. In turn it means they will lose, at an increasing rate as well, not only critical expertise, but also critical knowledge. Such a situation will be especially problematic for knowledge intensive organisations because they are dependent on using and reusing critical knowledge and know-how to remain competitive. Because of the complex and rapidly changing nature of the competitive environment in which firms operate, highly-skilled knowledge workers are crucial to a firm's success. In organisations where intricate skills and knowledge are difficult to codify, the knowledge worker forms the basis for both organisational knowledge retention and transfer. Knowledge management systems are just not advanced enough to deal with the complexity alone. From a knowledge management perspective, organisations will not only be challenged to keep their knowledge workers in service longer, they will also need to develop ways in which organisational knowledge, located in the minds of older workers, is transferred and subsequently retained for reuse. The two concepts of retention and transfer are closely tied together; without the latter, the former cannot really occur.

Knowledge retention is problematic for most knowledge-intensive firms, but an ageing population confounds this further, making retention the biggest

knowledge management challenge (Stam, 2010). Because more workers will be leaving the labour force, organisations will need to find ways to assure that expert knowledge does not leave with them. However, not all knowledge is critical, nor does it necessarily reside in one particular person. So deciding what knowledge is critical, and then finding which employees have that knowledge, needs to be the first consideration when developing a knowledge retention strategy. Another consideration is that one must understand how knowledge is approached in the organisation; is it a good that can be packaged and transferred, or is it more fluid and depends on who has it and who uses it? Corporate epistemologies thus play a major role in developing a knowledge management strategy based on either codification or personalisation (Hansen et al., 1999). This, in turn, has an effect on knowledge transfer strategies.

6.3.1. Organisational policy issues

Like retention strategies, knowledge transfer strategies are developed in line with corporate epistemologies; they as well are contingent on how knowledge is understood within the organisation as well. Basically, if an organisation understands knowledge to be a packageable good, then transfer strategies will be focused on codification and storing of expert knowledge in systems such as databases, content-management systems, and libraries. However, organisations that understand knowledge to be inextricably woven into expertise typically choose strategies that rely on personalisation, or bringing people together. Depending on the corporate epistemology, different ways of explicating critical tacit knowledge are used. In the case of the older worker, who is usually considered to have a great store of this critical knowledge, organisations will be challenged to understand how complex, expert knowledge is explicated and subsequently transferred.

6.3.2. Research possibilities

Thus, from a knowledge management perspective, the relationship a worker has with the organisation also considers how knowledge is retained and transferred.

This section uses this idea as a basis for developing specific research possibilities that can be developed to contribute to our understanding of intergenerational learning: there are strong links between learning, knowledge transfer and retention and organisational development.

There are four emergent possibilities for research on this second theme, nearly identical to those in theme one, except that guidance models play a

lesser role due to the knowledge management perspective:

- (a) existing policy analysis: there is little or no exploratory research on what knowledge transfer and retention strategies organisations actually have developed in regard to an ageing workforce. This is important to begin developing structured comparisons and methodologies for evaluative research on effectiveness of strategies;
- (b) evaluating the effectiveness of policies: linking knowledge management initiatives to results – improved innovation, increased organisational capacity, etc. – is difficult. New methods for understanding effectiveness of initiatives are needed to show if they are valuable;
- (c) new research methodologies for understanding knowledge retention policies: Stam (2010) structured comparisons among firms who use specific interventions to elicit and retain expert knowledge from leaving employees. In the research, he used a specific methodology for trying to show understanding of how interventions worked and the mechanisms behind their working. However, this was a first attempt at using that particular methodology and needs further work;
- (d) new interventions for stimulating knowledge transfer and retention: prescriptive, design-based research can be done here as well, leading to practical knowledge about how organisations can transfer and retain crucial knowledge older employees have.

6.4. Theme three: (intergenerational) learning and organisational capacity building

Using older workers to develop organisational capacity is the focus of this research framework. To remain competitive, organisations need continually to develop and build capacity ⁽²⁷⁾. This is done in different ways. For example, organisations might invest in knowledge management systems, or try forging strategic alliances to gain important knowledge for developing new products or services. Or perhaps organisations invest in human resource development trajectories, such as (re)training schemes for improving (technical) skills. Another way is through learning. Organisations build capacity by developing new competences needed to remain competitive. This form of organisational

⁽²⁷⁾ This is true for both private and public sectors; while the former strives for increased market share and competitive advantage, the latter strives for more effectiveness, usually as a result of decreasing budgets.

learning considers that learning processes occurring at group, organisational and individual levels should lead to new organisational capabilities.

Learning at individual level is distinct from training in that it is not necessarily focused on becoming capable, or more capable, for a specific task or function, but rather is a part of the daily work of the knowledge worker. In this sense it is also more situated in the context of the work organisation than typical training programmes. Again, the logic is that if actors in the organisation become more capable, then so will the organisation.

Another form of organisational learning considers outputs of the learning processes, such as innovation. In this sense, learning is directly linked to innovation (Thölke, 2007). Most learning in organisations where knowledge workers operate is in the service of innovation, be that either radical or incremental in nature (Stam, 2007).

The first theme was essentially about how organisational structures can be developed to reduce stress for older workers. The second theme was about how organisations try to retain critical knowledge in different ways. The third theme differs in its perspective. Here the idea is to understand ways organisations can actually conduce improved productivity of older employees through learning-based organisational interventions. What literature there is on this theme focuses generally on questions such as: how work organisations can be developed that lead to more effective ageing workers in regard to learning and innovation (Jones and Hayden, 2009; Sprenger, 2007).

Learning in organisations is often seen as a cyclical process in which different levels within the organisation interact and consequently learn and develop new knowledge (Crossen et al., 1999). However, much literature regards the individual as a main catalyst for organisational learning and building capacity. This important point is especially true for knowledge intensive organisations and sets the stage of this research, which is how organisations can develop capacity by using the relationships between older and younger colleagues. The learning that occurs within this relationship can be called intergenerational learning.

6.4.1. Conceptualising intergenerational learning

While one standard definition of intergenerational learning does not seem to exist, it has been conceptualised similarly in different fields as an interactive process between groups of people from non-adjacent generations engaged in a relationship where one or both parties learn. However, from a learning-as-outcome perspective, different fields understand intergenerational learning differently. For example, sociology typifies traditional intergenerational learning

as taking place within the family unit at home. In this situation a grandparent is teaching a grandchild different things about society that leads to socialisation of the child in regard to customs and values. This type of intergenerational learning may be either intentional or unintentional. For example, sometimes public programmes are developed that intentionally try to replace traditional intergenerational learning that occurs in a family situation, because of breakdown of the extended family. Such programmes help reduce (negative) stereotypes on both sides, as well as help participants learn about the world around them. Other results of intergenerational social programmes are improved social skills, feelings of inclusion and feelings of empowerment (Newman and Hatton-Yeo, 2008).

Such outcomes are also found in reports on educational programmes based on promoting intergenerational learning. Other outcomes mentioned in educational literature are: improved competences, especially of the younger participant; improved networks for both participants; and valuable experiences in lifelong learning for older participants (Duvall and Zint, 2007).

In the few reports on intergenerational learning in organisations (Spanning, 2008; and www.eagle-project.eu) one finds references both to outcomes of the intergenerational learning process closely related to those mentioned above and passing (and thus retaining) critical organisational competences from the older worker to the younger one. Mentoring, which is the practice of linking older, more experienced workers with their younger colleagues, is a prime example of how organisations try to stimulate intergenerational learning.

In reports on intergenerational learning coming from sociology, education and organisational development, processes of learning between generations are similar; only outcomes differ and then not as greatly as one might think. Among other things, intergenerational learning seems to be effective in lowering barriers and breaking through negative stereotypes between generations in all different types of situations. Further, intergenerational learning is portrayed as a valuable way for building competence and retaining knowledge between generations.

6.4.2. Organisational policy issues

Intergenerational learning is a rather underdeveloped theme. The little work there is on the topic comes from a mixture of scientific and practical literature spanning the three disciplines mentioned above. In knowledge management literature, intergenerational learning is linked nearly exclusively to knowledge transfer and retention and mentoring is highlighted as a major instrument for doing this. Communities of practice, which are social collaborative learning

groups in a specific context, have also been shown to be effective knowledge management instruments for knowledge transfer and retention (such as learning and innovation) between generations (Ropes, 2010).

Intergenerational learning is also important for building social capital (Kerka, 2003), a main driver for innovation and learning in organisations (Akdere and Roberts, 2008) and a contributor to a positive learning climate – needed for continual renewal and development, especially for knowledge-intensive organisations.

Thus, although learning between generations might be an age-old, naturally occurring phenomenon, there needs to be more research on intergenerational learning within organisations and especially on how it can be implemented in the service of learning, innovation and knowledge retention to improve organisational capacity.

6.4.3. Research possibilities

The research framework aims to explore further and expand the concept of intergenerational learning within organisational contexts to achieve two goals. The first is to build knowledge and understanding of how intergenerational learning relationships resulting in innovation, learning and knowledge retention can contribute to organisational capacity development. This is important for both research and practice because it gives insight into how strategies and policies can be developed for implementing intergenerational programmes, which is the second and main goal of the research.

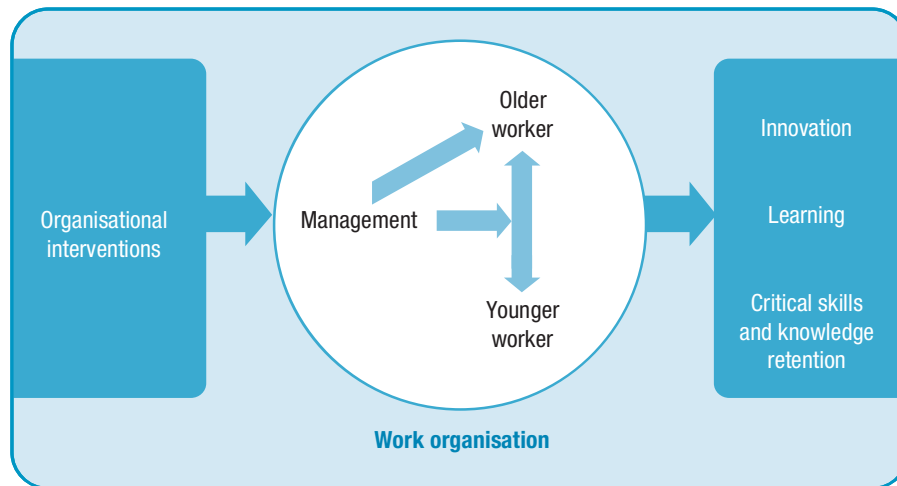
For the research proposed in this chapter, it is important to understand fully crucial differences of how and why older workers learn compared to younger colleagues. For example, we know that older workers have different motivations for learning (Carré, 2000; Knowles, 1974) and that their learning styles and abilities are also different (Ackerman, 1996; Korchin and Basowitz, 1957; Nauta et al., 2005). Once the aspects of individual learning within the organisation are understood, a start can be made to look at how different generations interact and consequently learn together. Approaching intergenerational learning as an interactive process in which learning goes both ways between generations has rarely been done (Baily, 2009; Tempest, 2003). This leads to the following specific possibilities for research on this theme:

- (a) explore learning relationships between generations: most research looks at how the young learn from the old. A possibility exists to look at how the opposite might take shape, as well as how the relationship between different generations might lead to improved learning, innovation and knowledge retention;

- (b) explore and compare workers in different sectors: literature on how ageing knowledge workers operating in different sectors learn, or what motivates them to learn, is scarce. For example, how management consultants in SMEs learn compared to university lecturers; are their learning processes different, or the same;
- (c) benchmark existing policies in different sectors: structured comparisons of current policies and practices, and their effectiveness, could be valuable additions to understanding intergenerational learning in organisations;
- (d) explore the role guidance can have on promoting intergenerational learning: older knowledge workers might not be aware of the added value of their participation in lifelong learning – one facet of intergenerational learning in organisations;
- (e) develop new methodologies for understanding intergenerational learning: other fields such as educational science and sociology have considerable bodies of knowledge concerning intergenerational learning and have developed methodologies for understanding the learning processes occurring. Desk research in these fields could develop knowledge useful to researching intergenerational learning in organisations.

6.5. Synthesising the three themes

The first goal of the research programme outlined in this chapter is descriptive in nature: knowledge needs to be developed and expanded to understand fully the complexity of intergenerational learning in organisations. The second – and principal – goal of the research is to develop and test organisational interventions promoting effective intergenerational learning. In this research, ‘effective’ implies that results of interventions lead to innovation, employee learning and critical knowledge retention, which in turn contributes to development of organisational capacity. Figure 6.1 shows a model representative of this main research goal. It will be used to guide design of the research, specifically related to developing and testing organisational interventions. As one can see in the model, the research will also consider the whole work organisation: management, ageing and younger workers.

Figure 6.1. **Conceptual research model**

Source: Authors.

Again, the link to improved organisational capacity, not pictured in the model, lies in the outcomes of the interventions, namely innovation, learning and knowledge retention.

From this model some preliminary research questions for helping to direct the research have been derived. These are given below.

Preliminary research questions

The following research questions were developed using the model pictured above. While they are preliminary and subject to revision, they give a clear idea of the direction the research will be taking. The main question is what measures, related to an ageing workforce, can management take to increase organisational effectiveness.

The answer will be a series of tested policy recommendations that can be used for designing organisational development trajectories in knowledge-intensive, service-based organisations. A mixed-methods approach to data gathering is probably the most suitable, due to the complexity of the research question (Gorard and Taylor, 2004).

The following subquestions have been formulated to help guide further research in its exploratory phase: what processes occur in the relationship between older and younger workers that have an affect on learning, innovation and critical knowledge retention? How do organisational contexts affect the

relationships between older and younger workers that contribute to learning, innovation and knowledge retention?

To answer these subquestions a combination of desk research and empirical work is needed. The research artefacts will be a set of general policy recommendations for different sectors.

Once the exploratory part of the research is done, an experimental phase will begin aimed at developing knowledge about what types of interventions are effective (and why or why not) in promoting intergenerational learning in service of the organisation. Design of the interventions will be based on policy recommendations developed in the exploratory part of the research, theory and practice-based knowledge. Each intervention will be subsequently tested for both efficacy and effectiveness. A design-based research methodology will be used in this phase of the research because this specific methodology is a valid way for bridging the rigour-relevance gap mentioned above, and so often associated with organisational research (Andriessen, 2004; DBRC, 2003).

6.6. Concluding remarks

Focus of the research programme sketched out in this chapter is on helping organisations to develop capacity by capitalising on abilities of the ageing worker. The context of the research is in knowledge-intensive organisations employing large numbers of (ageing) knowledge workers. This makes designing programmes for stimulating intergenerational learning complex, as varying interventions will need to address three distinct levels within the organisation:

- (a) the greater collective, where awareness-raising programmes focused on eliminating negative stereotypes of older (and younger) employees might prove to be an important first step in an organisation-wide programme;
- (b) the individual worker, who might need guidance and counselling to understand the importance of lifelong learning within an organisational context;
- (c) group level, where interventions aimed at stimulating multiage (innovative), teams could be performed to raise social capital, breakdown generational barriers and generally improve innovative capacity.

Complexity of the organisational environment as a context for policy experiments will add value to the research in regard to practical relevance, but at the same time constitute a threat to the rigour of it. In any case, this study on intergenerational learning in organisations will help contribute to our

understanding of how ageing knowledge workers can be more than just active participants in organisational development, but can add considerable value to the processes as well, especially concerning learning and innovation.

References

- Ackerman, P.L. (1996). A theory of adult intellectual development: Process, personality, interests, and knowledge. *Intelligence*, Vol. 22, Issue 2, p. 227-257.
- Akdere, M.; Roberts, P.B. (2008). Economics of social capital: implications for organizational performance. *Advances in developing human resources*, Vol. 10, No 6, p. 802-816.
- Andriessen, D. (2004). *Making sense of intellectual capital: designing a method for the valuation of intangibles*. Burlington: Butterworth-Heinemann.
- Baily, C. (2009). Reverse intergenerational learning: a missed opportunity? *AI and society*, Vol. 23, Issue 1, p. 111-115.
- Barnes-Farrell, J.L. (ed.) (2006). *Encyclopedia of industrial and organizational psychology*. London: Sage.
- Bureau Bartels (2010). *Omgaan met Vergrijzing [Dealing with ageing]*. The Hague: SWZ – Ministerie van Sociale Zaken en Werkgelegenheid [Ministry of Social Affairs and Employment] .
- Bimrose, J. (2006). *The changing context of career practice: guidance, counselling or coaching?* Derby: Centre for Guidance Studies (Occasional paper).
- Borsch-Supan, A. (2000). Incentive effects of social security on labor force participation: evidence in Germany and across Europe. *Journal of public economics*, Vol. 78, Issue 1-2, p. 25-49.
- BZK (2010). *De grote uittocht: vier toekomstbeelden van de arbeidsmarkt van onderwijs- en overheidssectoren [The great exodus: four images of the future of labour market, education and government sectors]*. Den Haag: Ministerie van BZK [Ministry of Interior and Kingdom Relations].
- Carré, P. (2000). *Motivation in adult education: from engagement to performance*. Paper presented at the 41st adult education research conference, Vancouver, Canada.
- Crossen, M.M. et al. (1999). An organizational learning framework: from intuition to institution. *Academy of management review*, Vol. 24, No 3, p. 522-537.

- DBRC – Design-based research collective (2003). Design-based research: an emerging paradigm for educational inquiry. *Educational researcher*, Vol. 32, No 1, p. 5-8.
- Duvall, J.; Zint, M. (2007). A review of research on the effectiveness of environmental education in promoting intergenerational learning. *Journal of environmental education*, Vol. 38, Issue 4, p. 14-24.
- Edwards, J.R. (1996). An examination of competing versions of the person-environment fit approach to stress. *Academy of management journal*, Vol. 39, No 2, p. 292-339.
- European Commission (2007). *Delivering lifelong learning for knowledge, creativity and innovation*. Draft 2008 joint progress report of the Council and the Commission on the implementation of the 'education and training 2010 work programme' (communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions). Luxembourg: Publications Office of the European Union (COM(2007) 703 final).
- European Commission (2009). *Dealing with the impact of an ageing population in the EU. (2009 ageing report)* (communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions). Luxembourg: Publications Office of the European Union (COM(2009) 180 final).
- European Commission (2010). *Europe 2020: a European strategy for smart, sustainable and inclusive growth* (communication from the Commission). Luxembourg: Publications Office of the European Union (COM(2010) 2020 final).
- Gorard, S.; Taylor, C. (2004). *Combining methods in educational and social research*. Berkshire: Open University press.
- Griffiths, A. (1997). Ageing, health and productivity: a challenge for the new millennium. *Work and stress*, Vol. 11, No 3, p. 197-214.
- Hansen, M.T. et al. (1999). What's your strategy for managing knowledge? *Harvard business review*, March-April 1999, p. 106-116.
- Hansson, R.O. et al. (2001). Stress and coping among older workers. *Work*, Vol 17, No 9, p. 247-256.
- Ilmarinen, J.E. (2001). Aging workers. *Occupational and environmental medicine*, Vol. 58, Issue 8.
- INNO-Grips (2008). *Innovation communities update: innovation and ageing*.
- Jones, B.; Hayden, J. (2009). *Mini study 07: innovation in an age-integrated society*. PRO INNO Europe, INNO-Grips.

- Kanfer, R.; Ackerman, P.L. (eds) (2007). *21st century management: a reference handbook*. London: Sage.
- Kerka, S. (2003). *Intergenerational learning and social capital* (ERIC digest No 244).
- Knowles, M.S. (1974). Human resources development in OD. *Public administration review*, Vol. 34, No 2, p. 115-123.
- Korchin, S.J.; Basowitz, H. (1957). Age differences in verbal learning. *Journal of abnormal and social psychology*, Vol. 54, Issue 1, p. 64-69.
- Nauta, A. et al. (2005). De Invloed van functietype op het verband tussen leeftijd en inzetbaarheid [The influence of type of function on the link between age and employability]. *Gedrag en Organisatie*, Vol. 18, No 6, p. 326-337.
- Newman, S.; Hatton-Yeo, A. (2008). Intergenerational learning and the contributions of older people. *Ageing horizons*, No 8.
- Ropes, D. (2010). *Organizing professional communities of practice*. Amsterdam: University of Amsterdam.
- Ropes, D.; Stam, C. (2008). *Praktijkgericht Kennismanagement [Practice-based knowledge management]*. Amsterdam: Boom.
- Schultz, K.S.; Wang, M. (2007). The changing nature of mid- and late careers. In: Kanfer, R.; Ackerman, P.L. (eds). *21st century management: a reference handbook*. London: Sage.
- Sprenger, C.D. (2007). Knowledge inheritance in a knowledge-creating organization. *Develop*, No 3.
- Stam, C.D. (2007). *Knowledge productivity: designing and testing a method to diagnose knowledge productivity and plan for enhancement*. University of Twente (Thesis).
- Stam, C.D. (2009). *Knowledge and the ageing employee: a research agenda*. Paper presented at the 2nd European conference on intellectual capital, 28 and 29.4.2009, Haarlem, the Netherlands.
- Stam, C. (2010). *Retaining knowledge from ageing employees: a structured comparison of six KM interventions*. Paper presented at the 11th European conference on knowledge management, 2 and 3.9.2010, Famalicão, Portugal.
- Sultana, R.G. (2003). *Guidance policies in the knowledge society: trends, challenges and responses across Europe: a Cedefop synthesis report*. Luxembourg: Publications Office of the European Union (Cedefop Panorama series; 85).

- Tempest, S. (2003). Intergenerational learning: a reciprocal knowledge development process that challenges the language of learning. *Management learning*, Vol. 34, No 2, p. 181-200.
- Thölke, J. (2007). *Leren niet te weten [Learning not to know]*. Arnhem: Hogeschool Arnhem Nijmegen.
- van Aken, J.E. (2004). Management research based on the paradigm of the design sciences: the quest for field-tested and grounded technological rules. *Journal of management studies*, Vol. 41, No 2, p. 219-246.
- van der Heijden, B. (2001). Prerequisites to guarantee lifelong employability. *Personnel review*, Vol. 31, No 1.