

TRAINING SENIOR EMPLOYEES FOR ICT SKILLS ENHANCEMENT THROUGH “REFOCUS”: THE EUROPEAN PROJECT

Marinos Themistocleous, Information Systems Evaluation and Integration Network Group (ISEing), School of Information Systems, Computing & Mathematics, Brunel University, UK
Marinos.Themistocleous@brunel.ac.uk

Alan Edwin Serrano-Rico, School of Information Systems, Computing & Mathematics, Brunel University, UK
Alan.Edwin.Serrano-Rico@brunel.ac.uk

Muhammad Mustafa Kamal, Information Systems Evaluation and Integration Network Group (ISEing), School of Information Systems, Computing & Mathematics, Brunel University, UK
Muhammad.Kamal@brunel.ac.uk

Abstract

Declining fertility rates and the ageing of the European population represents a major challenge to many governments within the European Union (EU) and its neighbouring realms, in the present and for the forthcoming decades. The increasing ageing workforce within several United Kingdom (UK) and the EU private and public organisations is an evident manifestation. The workforce comprised of senior employees are often seen by employers as less mobile and flexible with low performance and thus, less able to deal with the rapid changes occurring in their organisations; as rapid developments require flexible and responsive workforce. The mobility of the senior employees is therefore a topical theme in the workforce market. The necessary knowledge and skills required for the senior employees can be taught through various Information and Communication Technologies (ICT) related training systems within an organisation. However, it appears that the development of training systems required for senior employees need careful investigation into the requirements of the problem situation. The reason is that the design of senior employees training systems should be more carefully planned, as literature indicates that it is significantly time consuming and is harder to train senior employees on ICT applications. This paper presents a European project – REFOCUS (oldeR Employees training on inFOrmation and CommUnication technologieS), an initiative undertaken by the EU for enhancing the ICT skills of the ageing workforce. This project also aims at designing a new electronic learning (e-Learning) method that focuses on the needs of senior employees of 40 years of age and over – who can become a strategic resource for the European economy.

Keywords: REFOCUS, Training, Senior Employees, ICT competencies, European Project.

1 INTRODUCTION

Private and public organisations form a substantial constituent of the global economy, however there was limited knowledge available surrounding the adoption of ICT by organisations whereby it is only recently that interest in the relationship between organisations (e.g. SMEs and large organisations) and ICT has begun to be explored in great depth (European Commission, 1995; Iacovou *et al.*, 1995; Lauder and Westall, 1997). This is because the importance of ICT for organisations (e.g. private and public) cannot be questioned and has lead several organisations to design and support ICT implementations (Van Weert and Pilot, 2003; Agostinho *et al.*, 2002; Buckley *et al.*, 2000). However,

to further augment the adoption and use of ICT and to maintain a professional relevance, it is important that employees undergo a process of continuous learning and training within the organisations (Sambrook, 2003; Agostinho *et al.*, 2002). Researchers usually refer to this recurrent learning process as, workplace-related learning or on-the-job training (Beaver and Hutchings, 2005; Sambrook, 2003; 2001) that is learning related to work that takes place in and at organisation, as well as outside the workplace. Figure 1 exhibits the term work-related learning that signifies all forms of learning activities that take place within the work context.

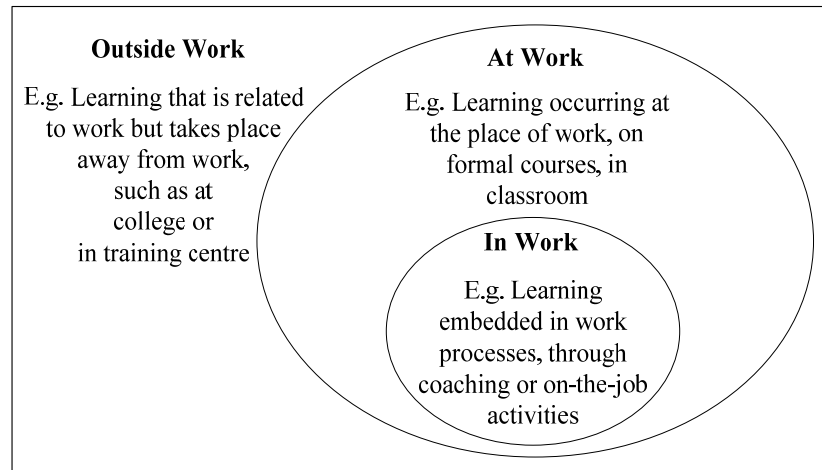


Figure 1. Work-related Learning – Source: (Sambrook, 2001)

It is interesting to note the subtle differences between conceptions of learning at work and learning in work (Sambrook and Betts, 2001). For example, at the second conference on Human Resource Development Research and Practice (HRDRP) across the Europe, the sub-title was ‘*Perspectives on learning at the workplace*’ (<http://www.ufhrd.org>). Several papers focused on (more formal) learning activities conducted at the place of work (rather than off-site). Others explored how (more informal) learning could be integrated with the actual process of working, thus helping to remove the barrier of workplace learning being viewed as solely ‘*going on courses*’ and helping to recognise the value of ‘*finding things out on-the-job*’. However, the workplace training and learning can support employees not to fall behind in the constantly changing business market, but also to take part in tasks within their companies where innovation processes are involved (Beaver and Hutchings, 2005; Agostinho *et al.*, 2002). Literature also indicates that while on workplace training and learning has the benefit of maximising transfer of knowledge, it is also deficient in that the supervisor may not be an expert trainer and evaluation of effectiveness is much more difficult (Beaver and Hutchings, 2005). On the contrary, several organisations also do not train their employees adequately in the use of ICT (Neville, 2004). This is sometimes due to the: (a) mobility of employees, (b) expense of providing training and (c) loss in productivity when employees are absent for training purposes (Neville, 2004; McCormack and Jones, 1997). It appears that organisations face the difficulty of developing and implementing adequate ICT training programs (Bocij *et al.*, 1999).

The training process becomes ever more complicated, while considering the changing structure of societies due to demographic changes as well as the changing habits of senior persons (in most studies referred to as “40 years and older”) towards learning and training (European Commission, 2006; Bocij *et al.*, 1999). Since ICT rapidly evolves and impacts the business processes and practices in organisations, senior employees are not flexible or resist to these changes (Collins *et al.*, 2003). According to sociological studies carried out in western countries, the process of professional development begins to rapidly slow down from the age of 40 onwards. Moreover, it is reported that senior employees do not respond to the training (e-Learning activities) that takes place into

organisations (Beaver and Hutchings, 2005). It is stated that the senior employees' training provides significant advantage for both the company and the employee, as the innovation, instead of relying on external parties, is brought about and carried on by those who know the organisation's history (Beaver and Hutchings, 2005; McCormack and Jones, 1997). The aforesaid brief literature review highlights the: (a) workplace training and learning practices, (b) ICT training programs development and (c) increasing ageing workforce challenges confronted by the organisations.

This paper presents a European funded project – REFOCUS. This project aims at designing a new e-Learning method that focuses on the needs of senior employees of 40 years of age and over – who can become a strategic resource for the European economy. The remainder of the paper is as follows: section 2 (sub-section 2.1) provides an analysis of the normative literature on the research area. The purpose of this section is to highlight the benefits and limitations in the existing training approaches as theorised in the normative literature. Furthermore, in other sub-sections, the authors discuss on: (2.2) e-Learning, (2.3) training for senior employees and (2.4) defining the problem area and sub-section. Sections 3 and 4 describe and discuss on different projects, case studies and best practices within the UK and Europe. The purpose of this section is to highlight the on the benefits and limitations in the existing projects, case studies conducted and best practices in providing workplace training/learning to the ageing workforce. Section 5 discusses on the research methodology used to investigate the problem discussed in earlier sections. In section 6, the authors discuss on the REFOCUS project and finally, summarising the conclusions in section 7.

2 LITERATURE REVIEW ON THE RESEARCH AREA

The focus of this section is to investigate the training needs of employees aged over 45 years, who are highly affected by the demographic and social changes, thus the authors review: different training approaches from the normative literature, e-Learning activities in the organisations and the types of training provided to senior employees in the organisations.

2.1 Training Process

Several researchers have proposed and evaluated approaches to support training activities. Including among other training approaches, some are analysed in the following sub-sections.

2.1.1 *Traditional Training Approach:*

The traditional training approach takes place in the training rooms and encourages passive learning. The main disadvantages are that the traditional learning does not develop problem-solving skills and ignores the needs of the individuals (Beaver and Hutchings, 2005). Smith and Vaughan (1997) support that traditional learning is often isolationist i.e. it is not commensurate with awareness, openness, resourcefulness, which are the very qualities needed for an organisation subscribing to customer-driven ethos.

2.1.2 *The On the Job Training Approach:*

Among other approaches, this is the most common training approach. The reasoning for this approach is that, having obtained the job an employee can train while doing the job (Dickson *et al.*, 1997). Small businesses usually use on-the-job training because of its low cost and the knowledge transfer increase (Neville, 2004). Argyle (1994) argues that research shows that it is an ineffective approach to training as an employee could be doing the same job for years and not acquire appropriate social skills. The perception that something will come with experience is fraught with misconceptions (Maguire *et al.*,

1978). However, the main limitations of this approach are the following: (a) the supervisor may not be an expert trainer, (b) therefore the evaluation of effectiveness is much more difficult and (c) the trainee might develop survival tactics rather than work related skills (Beaver and Hutchings, 2005; Dickson *et al.*, 1997).

2.1.3 The 'Model the Master' Training Approach:

This follows a type of mentoring the new employee from an experienced one. However, Maguire *et al.*, (1978) discovered limitations to this approach, as the experienced employee might have bad habits.

2.1.4 The Direct Training Approach:

The approach is referred to as directed training, which consists of 'thinking', 'feeling' and 'doing' training methods (Philips and Fraser, 1982; Irving, 1995). Thinking involves a didactic approach as the learners, are required to understand the content (Philips and Fraser, 1982). The feeling based approach involves group discussions on the topic to be taught and the doing approach involves action learning such as 'role playing' (Irving, 1995). Table 1 summarises the training approaches with their advantages and disadvantages.

Training Approach	Description	Advantages	Disadvantages	Reference
'Traditional Training'	Takes place in the training rooms	(a) encourages passive learning	(a) does not develop problem-solving skills and (b) ignores the needs of the individuals	Beaver and Hutchings, (2005); Smith and Vaughan (1997)
'On the Job Training'	The employee can train while doing a job	(a) low cost and (b) increase of knowledge transfer	(a) the supervisor may not be an expert trainer, (b) therefore the evaluation of effectiveness is much more difficult and (c) the trainee might develop survival tactics rather than work related skills	Beaver and Hutchings, (2005); Neville, (2004); Dickson <i>et al.</i> , (1997); Argyle (1994)
'Model the Master Training'	Follows a type of mentoring the new employee from an experienced one	(a) employees' cooperation	(a) the experienced employee might have bad habits	Maguire <i>et al.</i> , (1978)
'Directed Training'	Consists of the 'thinking', 'feeling' and 'doing' training methods	-	-	Philips and Fraser, (1982), Irving, (1995).

Table 1. Training Approaches

An effective training system must combine different approaches to obtain the goal of the corporate training strategy, which is a skilled workforce (Naidu *et al.*, 2002). Technology is used in training to support the needs of the employees (Neville, 2004). Application of ICT and web-based technology can be didactic, support problem-solving activities and provide a collaborative environment (Philipson, 2002). Therefore, training can be delivered directly to the learners and the learners can collaborate with one another through online discussion forums.

2.2 E-Learning

Literature suggests that there has been a shift to e-Learning that is defined as the application of ICT to develop, manage and deliver training across an organisation (Philipson, 2002; Honey, 2000). E-learning has become a significant component of training and development within the corporate environment and can provide significant benefits, (Ben-Jacob, 2000; Naidu *et al.*, 2002), as it:

- Produces significant changes in educational practice,
- Provides new opportunities for learning and training,
- Supports the needs of the employees
- Provides accessible, flexible and affordable solutions, addressing organisational, functional and individual factors that appear to inhibit learning
- Delivers training directly to the learners
- Supports learners' collaboration through online discussion forums and
- Supports problem-solving activities

In a recent survey, 90% of users claimed e-Learning was useful, and 81% of providers and 66% of employers agreed it would bring huge benefits to organisations' capacity to train its employees (Honey, 2000). It appears that learning can be successfully handled online (Naidu *et al.*, 2002) to support a combined training model to incorporate both online and offline training. Johnson and Aragon (2003) shared that a powerful online learning environment should combine the following principles:

- Address individual differences
- Motivate the student (i.e. the organisations' employees)
- Avoid information overload
- Create a real-life context
- Encourage social interaction
- Provide hands-on-activities and
- Encourage student reflection

While the evaluation of adult learner in online courses in the academic environment has received some attention (Johnson and Aragon, 2003), very little is known about how the adult learner in e-Learning is valued within corporate settings.

2.3 Training for Senior Employees

It appears that the development of a training system requires careful investigation into the requirements of the problem situation (Checkland and Scholes, 1990). Especially, the design of senior employees training system should be more carefully planned, as it has been reported that it takes significantly longer and is harder for older people to be trained on ICT applications (Bosman and Charness, 1996). The developer of a training system must consider factors e.g.

- The methods employed by employees to learn,
- Incentives to ensure use,
- The identification of goals, objectives and the different roles that are needed to support this new approach to training.
- Consider motivational factors, cognitive factors and instructional design principles prior to the development of the system.

In parallel senior employees are familiar to ICT based learning and increasingly express their interests to use technologies for learning purposes. Moreover, there is an increase in the average age of the economically active population in the EU. Over the next 10 years the age structure of the population of working age will change significantly: those aged 20-29 will fall by 9 million (2 17%), whereas the numbers of persons aged 50-59 will grow by 5.5 million (1 12%) and the 60-64 age group will grow by 1 million (European Commission, 1996).

In addition, the growing importance to develop more suitable learning settings for older persons is even more pervasive, considering the continuously increasing number of people participating in e-Learning activities as well as the changing learning settings at the workplace. There is a constant pressure in most business sectors to keep the know-how up-to date, to compete on the labour market. Most training of these learners therefore is focused on training activities centered around work related issues. On a very basic level the following principles should be put forward and guide designers while creating learning environments for older persons:

- Self-concept and motivation to learn, as adults need to be involved in the planning and evaluation of their instruction
- Experience (including mistakes) provides the basis for learning activities
- Readiness to learn, as adults are most interested in learning subjects that have immediate relevance to their job or personal life and
- Orientation to learning, as adult learning is problem rather than content-oriented

To get effective motivation, the learner should be put in the centre of learning: the starting point must be a question from the learner (Otero and Mcchosan, 2005). The learner must be allowed to decide about important elements of the training structure, as well as for the learning process itself (communication, collaboration, even co-instruction). To keep the learner motivated, modularisation of the learning is an essential element, as well as customisation of the material.

2.4 Problem Definition

An important aspect that contributes to the definition of the analysed problem is represented by the connection between professional aging and employment policies supporting workers over the age of 40 and the consolidation “of obsolete” competences, both in terms of social investment and continuous training. Community policies have been dealing with this problem for several years. The European Committee has underlined in its numerous reports concerning this topic the delay of some countries, among which Italy, in achieving the objectives of Lisbon, concerning the raising of occupation rates for workers over the age of 40. A recent study commissioned by the European Council (the so-called “Kok report” of November 2004) has put emphasis on an “extraordinary” demographic evolution in Europe, which is characterised by two dynamics: the fall of birth rate and the increase of life expectancy. These two trends interact producing a radical transformation of the composition of European population over the next ten years.

According to the same report, by 2020 the population of the European Union will radically decrease; besides, by 2050 it is expected an 18% decrease of the population that is still in its working age (15-64 years), while the number of people older than 65 is expected to increase by 60%. As a result, the ratio of retired people to people in their working age will move from the present 24% on European scale to about 50% in 2050, with strong territorial differences affecting our country in particular. Europe tends to favour system projects aiming at identifying common strategies to support active aging policies: “methods applied to the workplace and to the labour market”. This contributes to make the technological project more global, focusing the attention on some aspects that, according to the EU, may foster the over-40s’ permanence in the labour market:

- Work organisation and safety improvements;
- Permanent learning (above all trainings in the workplace);
- The adoption of flexible work plans, which may give the possibility to work part-time in order to permit a gradual retirement from work.

For instance, the project EQUAL favours the promotion of active aging policies through the spotting and the spreading of effective methods for age factor management. The Union increasingly supports education programmes for adults through two fields of intervention: (a) the development and the promotion of active labour market policies and (b) the improvement and the promotion of policies supporting education and permanent training, in order to favour the recruitment of workers over the age of 52.

Interventions aiming at supporting the work of people over the age of 40 should also take into consideration the experiences of profit for companies employing or reemploying elderly workers, underlining however that it is necessary to have specific means, not only financial, to promote the recruitment of less competitive subjects. It would be advisable to reflect not only upon companies' career promotion plans, but also upon employment policies, thus understanding what are the inducements to the employment of elderly workers, who contribute massively to reverse the common trend privileging young workers' recruitment in the involved companies. In other interventions, a particular attention has been focused on public centres for employment, territory and local politics. For example, it has been found out a high incidence of recruitment of workers between the age of 55 and 64 and the effective role of regional jobcentres as far as the recruitment function is concerned. In particular, as pointed out by EURISPES, Emilia Romagna, Tuscany and Veneto are the three Italian regions with a more advanced expertise in this field.

The greatest problems which are to be faced within the European Union's projects aiming at establishing a strategy for active aging concern the specialization of public jobcentres offering services to elderly workers; the opening of new counters specifically devoted to workers over the age of 40, with the intention of contributing to the realization of projects for the updating of competences, through an individual training aiming at the reintegration into the labour market.

3 PROJECTS AND BEST PRACTICES IN THE UK

This section highlights the project, case study and best practices undertaken in the UK. The Age Barriers Project was launched in April 1994 and was funded by the European Foundation for the Improvement of Living and Working Conditions (EFILWC). The project focused on retention, reintegration, and retraining of senior employees and involved the following Member States: Belgium, France, Germany, Greece, Italy, Netherlands, UK, Finland and Sweden (Walker, 1999). This was the first European research to concentrate on good practice in the recruitment and training of senior employees.

A two-year research project funded by the National Assembly for Wales and conducted at the Centre for Learning Development at the University of Wales Bangor between 1998 and 2000 (Sambrook, 2003). The aim of this project was to evaluate the quality of computer-based learning materials. The learning materials employed during the study were all relevant to the SME context, including an introduction to information technology, more advanced computer skills, e-commerce, book-keeping, project management and team-building (Sambrook, 2003). The key barriers to implementing e-Learning in SMEs, include among others the lack of time, resources and hardware, difficulty in identifying the full cost, lack of hardware, lack of trust, lack of e-Learning expertise and differences in terminology.

Similarly, 11 different factors that affect the e-learning quality in SMEs were identified. These factors are the following: (a) user-friendliness, (b) presentation, (c) graphics, (d) engagement, (e) information, (f) knowledge, (g) understanding, (h) level, (i) type of learning, (j) language and (k) text. The most significant factor was user-friendliness, and this is especially important in the context of ICT based learning materials where the learner could be alone and isolated (Sambrook, 2003).

The UK government developed a national infrastructure for lifelong learning, namely Learndirect (Daelen *et al.*, 2005). Learndirect was established to help enhance the competitiveness of British industry by stimulating demand for lifelong learning among businesses and individuals and improving access to relevant high-quality learning resources. In doing so, the UK government did the following: (a) established Learndirect centers, which are located in public places such as libraries, local colleges and hospitals, and (b) commissioned computer-based learning materials that are used in these centers. The subjects mostly offered from Learndirect are the following (Daelen *et al.*, 2005):

- ICT (Microsoft applications)
- Customer Care skills
- Communication Skills (Face to face, writing and telephone)
- Staff development (Appraisals, team working, managerial)
- Legislative Skills (Health and Safety, Office legislation)

By providing such centres in local communities, existing and potential employees would be able to access personal and work-related information, to enhance both their attitudes to learning and their personal knowledge and skills (Daelen *et al.*, 2005). A key issue is the ability to provide Learndirect centres in local communities where there is little other opportunity for learning or training provision, particularly in rural, peripheral areas (Daelen *et al.*, 2005). A key element of the Learndirect initiative is the use of electronic learning. As e-learning is becoming increasingly important to UK training policy, at the European level, researchers are now critically evaluating the European policy for e-learning (Daelen *et al.*, 2005).

The main benefits for the companies that use e-learning are the following:

- Employees can learn at a time, place and pace to suit them and their work commitments.
- Staffs do not need to go off-site, so there is less down-time and travel costs.
- Quality on-line support with all courses, to help their staff get the most out of training.
- Management reports providing progress information.
- Courses are subsidised, offering a cost-effective solution.
- More positive attitude to learning.
- An increase in training undertaken.

4 PROJECTS AND BEST PRACTICES IN THE EUROPE

This section highlights a project, case study and best practices in the Europe. The Aldini Valeriani Foundation's research project (Activity of Research on Workers over the age of 40) aims at calling attention to the formative demands of workers over the age of 40 with medium-low professional profiles. In order to define the field of research, analysts have chosen to work on 40 companies dealing in the most representative productive sector of the region - engineering industry - and to limit the research to the provinces where the two formative structures work, that is to say Bologna and Modena.

European best practices concerning the analysed topic do not include only recent projects showing similarities to REFOCUS, but also activities or initiatives dealing with the professional promotion of

workers over the age of 40, such as initiatives of associationism. The following project do not aim at giving a complete analysis of European case study, however it is a significant example of carried out best practices that may interact with Refocus project.

- Association Over 40: This is an association of workers over the age of 40 who have established an association of professional competences and skills in order to give political and social representation to the problem of qualifying work for people over the age of 40 who have been expelled from the workforce market and who have problems of professional reintegration. The greatest strengths concern: (a) the creation of business and professional networks in the regional territory and in other contexts; (b) the establishment of collaborations and partnerships in European projects aiming at promoting mature workers' professional competences; (c) the participation in public initiatives concerning this topic and (d) networks of exchange with similar initiatives e.g. Other Italian associations.
- EQUAL Project – Investing in People: The project has been promoted and carried out by the Councillorship responsible for active work policies, professional Formation and Equal opportunities of the Province of Macerata (Region Marche). The projects involves, besides the Province of Macerata itself, territorial companies such as the Falc, which produces children's footwear; the Fileni, whose meat-based products can be found in the supermarkets throughout Italy; and the Lube kitchens, producing kitchens and wood furniture; the provincial section of the Confederation of Italian Industry (Confindustria), the National Union of Italian Cooperatives, the Universities of Macerata and Camerino, the Eurocentro S.r.l of Jesi, experienced in the management of European projects and the CEDRIS, a Dutch association that coordinates the activity of protected laboratories and structures favouring the employment of disadvantaged categories. The project has also taken advantage of a transnational partnership with organisations located in France, Holland and Slovenia.

5 RESEARCH METHODOLOGY

The IS research is characterised by methodological pluralism and the selection of an appropriate research methodology is a topic that attracts researchers' attention (Galliers, 1994; Yin, 1994). Moreover, Galliers (1992) states that the study of information systems is a complex topic, and very much a social, rather than a wholly technical subject. Therefore, a researcher in the IS field has to choose among a variety of research methods, approaches and techniques to develop an appropriate research framework. The methodology used in this research related to workers over the age of 40 follows mainly the approaches of the action research and of usual requirements analysis (e.g. detailed interviews with human resources managers; analysis of the organisational processes, analysis of industrial development plans, questionnaires and focus groups). The main focus is on tools favouring the receivers' active participation, understanding the fundamental role played by the group members in the definition, in the structuring and in the close examination of the analysed problem. It is necessary to underline the importance of the researcher who directly and intentionally takes part in the social processes of change, thus stimulating the analysis of what should be done in order to reach specific social objectives, providing data that could prove to be important for the analysis of a prefixed political choice and of its effects on the community. The research techniques applied for the requirements assessment concern the background research, the techniques of interview (primarily semi-structured), and the focus group.

6 REFOCUS: THE EUROPEAN PROJECT

REFOCUS is a project on innovation in training. The expected innovative contribution of REFOCUS relates to the method in the training, particularly focused on e-Learning on one hand and on the other

to the target population of the training, which is a specific category of workers, those aged over 40 years, who are highly affected by the demographic and social changes in Europe. REFOCUS is a transactional project involving three universities, five vocational training institutions and four organisations with a strong link with the local industry from the UK and Europe.

REFOCUS is an EU funded research project (Ref: proposal n° 2006/VP021/30137.) that aims at responding to the priority sub-topic of “raising the awareness of the potential of senior employees” by delivering training activities that emphasise the professions strongly based on ICT competencies and by helping trainees in improving their profiles within their companies and / or assuming new professional roles. The purpose of the REFOCUS project is therefore to:

- develop a replicable framework for the training of workers aged over 40, by means of an experimentation in which a model of a Learning System (LS) will be designed according to the most innovative teaching approaches and technologies available;
- re-qualify and enhance the value of this specific category of workers, paying particular attention to the development of the ICT skills required to manage core processes within companies and
- to identify the current training needs in the field of ICT within different companies.

The benefits for the organisations participating in the REFOCUS project will be:

- a free assessment of their training programs.
- a free analysis of the training needs of their employees over 40 years of age.
- a free training of the employees of this category in the areas selected ICT related courses offered.
- a free access to REFOCUS results.
- improve the skills of their employees.
increase their competitiveness through training and ICT skills improvement.

7 CONCLUSION

The paper highlights the limitations in the existing training approaches, projects, case studies and best practices applied and conducted within the UK and Europe to enhance the skills of senior employees. However, the e-Learning system developed and experimented by REFOCUS delivers contents via web through a dedicated platform (an open source system) that allows the participants (i.e. the senior employees) from various offices spread over the entire national territory to use multimedia material, to communicate and collaborate at distance, to carry out the tasks assigned by teachers according to fixed and close deadlines, and to interact with the tutor, who moderates and monitors the processes. The distance activities are supported by face-to-face moments which aim at sharing the critical issues and verifying the results achieved. A point of strength of the framework is the close relationship between the training and the working context. In fact, the contents are chosen according to the company's needs, and they are related to real issues. Three classes out of the six scheduled by the project (three Italian and one from the UK) have already started and two of them, both Italian, have already ended their learning path. However, the remaining one class each from Italy and the UK are in progress.

This first application of the REFOCUS learning system has proved to be successful both in the achievement of the training objectives and in the high level of participation and collaboration among the senior employees, the tutors and the teachers. The phase preceding the training, whose main actors are the companies, the REFOCUS staff and the involved employees, has been fundamental for the success of the framework. During this phase, the REFOCUS team laid the foundations to motivate the participants to assume an active role in the training through the precise identification of the course contents/ learning objectives and the sharing of such information with the participants. Also the methodology used, based on e-Learning, has proved to be a winning choice because the senior

employees have benefited from the necessary flexibility of the scheduled tasks, together with the possibility to exchange and share experience also at distance from various offices spread over the entire national territory.

The research and experimentation activity carried out up to now has underlined that an effective learning system requires some investments to create and keep relationships which allow a real collaborative and motivational learning, by means of specific coaching, tutoring and monitoring activities, through the creation of contents for the training linked to the professional experience of the participants, and through tools like e-Learning, which can guarantee the flexibility required by working duties.

References

- Agostinho, S., Oliver, R., Harper, B., Hedberg, J., and Wills, S. 2002. 'A tool to evaluate the potential for an ICT-based learning design to foster high-quality learning', In A. Williamson, C. Gunn, A. Young & T. Clear (Eds.), *Winds of change in the sea of learning, Proceedings of the 19th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education*, Auckland, New Zealand: UNITEC Institute of Technology, 29-38.
- Argyle, M. 1994. 'The Psychology of Interpersonal Behaviour', 5th Edition, Penguin, Harmondsworth.
- Beaver, G. and Hutchings, K. 2005. 'Training and developing an age diverse workforce in SMEs: The need for a strategic approach', *Education and Training*, 47(8/9): 592-604.
- Ben-Jacob, M. G., Levin, D. S. and Ben-Jacob, T. K. 2000. 'The Learning Environments of the 21st Century', *Educational Technology Review: International Forum on Educational Technology Issues and Applications*, 13: 8-12.
- Bocij, P., Chaffey, D., Greasley, A. and Hickie, S. 1999. 'Business Information Systems', *Technology, Development and Management*.
- Bosman, E. A. and Charness, N. 1996. 'Age-related differences in skilled performance and skill acquisition', in Blanchard-Fields & T. Hess (Eds) "Perspectives on cognition in adulthood and aging" McGraw-Hill, New York.
- Buckley, P., Henry, P., and Gurmukh, D. 2000. 'Digital Economy 2000', Office of Policy Development, Available [online at: <http://www.esa.doc.gov/de2000.pdf>.]
- Checkland, P. and Scholes, J. 1990. 'Soft Systems Methodology in Action', Wiley, Chichester.
- Collins, C., Buhalis, D. and Peters, M. 2003. 'Enhancing SMTEs business performance through the Internet and e-learning platforms', *Education & Training*, 8(9): 483-494.
- Daelen, M., Miyata, C., Beeck, I., Schmitz, P., Branden, J. and Petegem, W. 2005. 'E-learning in continuing vocational, particularly at the workplace, with emphasis on Small and Medium Enterprises', *European Commission Report*.
- Dickson, D., Hargie, O and Morrow, N. 1997. 'Communication Skills Learning for Health Professionals', Chapman & Hall, London.
- European Commission. 2006. 'Ageing and Employment: Identification of Good Practice to Increase Job Opportunities and Maintain Older Workers in Employment', Warwick Institute for Employment Research, University of Warwick Economic Research & Consulting, Munich, Available [online at: http://ec.europa.eu/employment_social/emplweb/news/index_en]
- European Commission. 1996. 'The demographic situation in the European Union', Luxembourg: OOEPEC.
- European Commission. 1995. 'Telework and Small Business Networking', Directorate-General XIII-B, European Commission, Luxembourg.
- Galliers, R. D. 1992. 'Choosing Information Systems Research Approaches', Blackwell Scientific, Oxford, UK.
- Galliers, R. D. 1994. 'Points in Understanding Information Systems Research', *Systemist*, 16(1): 32-40.
- Honey, P. 2000. 'E-learning – could do better!', Available online at www.peterhoney.com/article/63

- Iacovou, C. L., Benbasat, I. and Dexter, A. S. 1995. 'Electronic data interchange and small organisations: adoption and impact of technology', *MIS Quarterly*, 465-85.
- Irving, P. 1995. 'A Reconceptualisation of Rogerian Core Conditions of Facilitative Communication: Implications for Training', Unpublished Mphil thesis, University of Ulster, Jordanstown.
- Johnson, S.D. and Aragon, S.R. 2003. 'An instructional strategy framework for online learning environments', *New Directions for Adult and Continuing Education*, 10: 31-44.
- Lauder, G. and Westall, A. 1997. 'Small firms on-line', Commission on Public Policy and British Business: Issue Article No. 6, Institute for Public Policy Research, London.
- Maguire, P., Roe, P. and Goldberg, D. 1978. 'The Value of Feedback in Teaching Interviewing Skills to Medical Students', *Psychological Medicine Journal*, 8: 695-704.
- McCormack, C. and Jones, D. 1997. 'Building a Web-Based Education System', John Wiley & Sons, Inc. New York, NY, USA
- Naidu, S., Cunnington, D., and Jasen, C. 2002. 'The Experience of Practitioners with Technology Enhanced Teaching and Learning', *Journal of Educational Technology & Society*, 5(1): 23-34.
- Neville, K. 2004. 'A Government Crossing the Digital Divide to Promote ICT for Adult Learners', *Electronic Journal of e-Learning*, 2(1): 145-158.
- Otero, M. S. and Mcchosan, A. 2005. 'Study on Access to Education and Training', European Commission, Birmingham, UK.
- Phillips, K. and Fraser, T. 1982. 'The Management of Interpersonal Skills Training', Gower, Aldershot.
- Philipson, G. 2002. 'The ROI on E-learning: the Australian Experience', Click to Learn, Inc.
- Sambrook, S. 2001. 'Factors Influencing Learning in Work: a Comparison of Two Research Projects', *Second Conference on HRD Research and Practice across Europe*, University of Twente, Enschede.
- Sambrook, S. and Betts, J. 2001. 'Report on the Second Conference on HRD Research and Practice across Europe: Perspectives on Learning at the Workplace', paper presented at the University of Twente, Enschede, January, University Forum for Human Resource Development.
- Sambrook, S. 2003. 'E-learning in Small Organisations', *Journal of Education and Training*, 40(8/9): 506-516.
- Smith, D. and Vaughan, S. 1997. 'The outdoors as an environment for learning and change management', *Industrial and Commercial Training*, 29(1): 26-30.
- Van Weert, T. J. and Pilot, A. 2003. 'Task-Based Team Learning with ICT, Design and Development of New Learning', *Education and Information Technologies*, 8(2): 195-214.
- Walker, A. 1999. 'Combating Age Discrimination at the Workplace', *Journal of Experimental Aging Research*, 25(1): 367-377.
- Yin, R. K. 1994. 'Case Study Research Design and Methods', Sage, London.