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OCCUPATIONAL AND PROFESSIONAL DEVELOPMENT: OECD POLICY ANALYSIS ON SKILLS

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ABSTRACT: *The OECD has a long history of engagement with major United Nations (UN) processes on human development and well-being. Through its policies and important official texts, it has contributed to shaping the framework of international and national policies regarding people's evolution and development. These policies are of great importance given that the working environment is becoming more and more global, dynamic, multidimensional and complex. Consequently, the effectiveness of human resources is a matter of major importance, leading most organizations and enterprises to pursue employee's professional development and the comprehensive improvement of their skills. This study, through the qualitative analysis of the OECD's text "OECD SKILLS OUTLOOK 2017: SKILLS AND GLOBAL VALUE CHAINS" comes to examine the types of skills proposed by the OECD and their characteristics, the benefits of developing and cultivating these skills, the ways they are planned and whether their planning is influenced by the spirit of corresponding international and European policies. The analysis of the text shows that there is a strong demand for mixed skills. In addition it seems that the design and development of the right and appropriate skills is a complex and multidimensional issue, as several agents are called upon to work together and contribute to both international and national levels. Regarding the benefits, one of great importance is that right skills help countries integrate into global markets and specialize in the most technologically advanced industries. Besides they help individuals face the potential of unemployment, job losses and lower job quality.*

KEYWORDS: Skills, Professional Development, OECD, Education Policies

INTRODUCTION

The Organization for Economic Co-operation and Development (OECD) provides a forum in which countries can collaborate and find solutions to common universal problems. Its mission is to measure productivity and global flows of trade and investment, to analyze data and predict future trends, to re-establish healthy public finances, to foster and support new sources of growth through innovation and to ensure that people of all ages can develop the skills to work productively and satisfyingly in the jobs of tomorrow (http://www.oecd.org/about/). Jobs of tomorrow bring about stress and uncertainty, given that technological and digital developments provoke rapid changes in production systems, administration, management and employment. Billions of people feel threatened by the enormous possibilities robotics have: the Internet of Things, autonomous vehicles, artificial intelligence, 3-D printing, biotechnology, energy storage, nanotechnology bring about (Karanikola & Panagiotopoulos, 2018).

Though, training and education can have a positive impact on the creation of a healthy working environment, increasing employee loyalty, satisfaction and effectiveness (Bartlett, 2001; Schwepker, 2001). In addition, according to the OECD (2018: 3-4), "*education can make the difference whether people embrace the challenges they are confronted with or whether they are defeated by them.*" What is more, "*education has a vital role to play in developing*

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knowledge, skills, attitudes and values that enable people to contribute to and benefit from an inclusive and sustainable future. Learning to form clear and purposeful goals, working with others with different perspectives, finding untapped opportunities and identifying multiple solutions to big problems will be essential in coming years. Education needs to aim to do more than prepare young people for the world of work; it needs to equip students with the skills they need to become active, responsible and engaged citizens".

It seems that skills are now the key driver to development, since they are linked with employability, with the acquisition of knowledge and attitudes, with the preparation of individuals to become active citizens (Dearing, 1997; Hillage and Pollard, 1999). "*The 21st century is the century of skilled people where survival depends on the quality of personal skills. In the current era, the Darwinian 'fittest' needs to be skilled in order to survive and a Shavian 'Superman' needs to learn skills in order to be distinguished. Mastering a variety of skills can be a distinguishing mark of an individual in this era of competition, multiculturalism and globalization (*Riaz, 2016).

The need to develop skills and connect with the development of the worker is also reflected in the drafting of many texts by international and European organizations (UN, OECD, UNESCO, European Commission). Most of the texts pre-empt the need for appropriate skills, as there are skill gaps, shortages and mismatches (UNESCO, 2012).

THEORETICAL UNDERPINNING

Occupational and professional development of human resources

Human resources is defined as the set of employees' talents and dispositions in a business that can contribute to creating and completing a mission, vision, strategy and goals of an organization (Jackson & Schuler, 2000). Management through education is called to develop its human resources and combine them in such a way as to create a sustainable competitive advantage by focusing on the cultivation of knowledge, skills and abilities in order to implement the strategy it has chosen effectively (Byars & Rue, 2006). The education policy of an organization, however, is not only aimed at occupational education but also in the professional development of human resources, having as major objective worker's development, change of attitudes and behaviors (Mullins, 2007).

One basic function of human resources management that can contribute towards this direction is programming. Through programming, capability gaps (the lack of sufficient skills, people or knowledge), capability surpluses (the field for skills and human resources and opportunities), poor workforce utilization (the existence of inappropriate practices requiring redefinition and change), and finally talent pool development (ensuring a ready internal source of supply of workers capable of promotion) can be spotted (Torrington et al., 2014: 95-96).

Purcell et al. argue that practices that can contribute to worker development are the provision of education and training opportunities, the ability of workers to influence their own work, the design of attractive jobs, regular evaluation, involvement in decision making, ensuring a balance between personal and professional life (a.c. Torrington et al., 2014). Education, in addition, covers the need to harmonize employees with current changes, which may be external but also internal. External changes are economic, social, cultural and technological, while internal ones are related to changes within the organization, employees' performance,

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institutional and legal changes, relations and working conditions. Fill and Mullins' survey (1990) showed four levels of needs: output training, task training, performance training and strategic training (a.c. Papaconstantinou & Anastasiou, 2013).

Human resources education and development policies and model

Based on the typology of Giloth, five general factors are proposed for the development of labor education policies. Initially, labor market policies are separated from the broader management of the economy and are linked to offsetting social policies, which have as their primary objective the provision of equal opportunities to vulnerable groups. In addition, they focus mainly not on demand-side strategies but on supply-side ones and they are usually under-funded. Last but not least, they are fragmented with multiple sources of funding (a.c. Jacobs, 2013).

Contemporary, however, policies for the development of work education have as a reference framework the human development and skills-building. Development is a process of economic and social transformation, while at the same time increases the reading and analysis of problems, contributes to individual, social and economic development in a complex, fluid and dynamic way (Escrigas, 2008). It is not just a goal or a simple quest but a continuous improvement process where education, research and innovation play an important role primarily through the change of individual and societies (Obanya, 2002).

The human development approach has been supported by the United Development Program through the annual Human Development Reports, which were the brainchild of Mahbub ul Haq, who wanted to see global economic and social progress determined not only by economic criteria, as was the case with the World Bank's annual World Development Reports, in which economic development was defined as a sustainable increase in living standards that encompass material consumption, education, health and environmental protection (Alkire & Deneulin, 2009). The first human development report was published in 1990. Ever since there have been published many reports covering all aspects of life: economy, policy, culture, education, health, freedoms, poverty, security. Though, it is acceptable that development must put people and their needs at the centre, since its purpose is to widen people's choices and the level of their achieved well-being (UNDP, 1990: 9). The issue of values is critical in this approach and there are reported four core principles by Mahbub ul Haq: equity, efficiency, participation and sustainability. In addition, the ability of people to be agents of their lives is crucial as well. People are not regarded as being passive objects of generous welfare provision. Instead they are active and free to make decisions about their lives (Alkire & Deneulin, 2009).

Building up and using fully human capabilities and investing in their talents are issues of great concern. Capability refers to a person's freedom to promote or achieve valuable functionings. It may also relate to things near to survival, or even less important things, e.g. the capability to eat sweets. Basic human values are an array of components of human well-being. Nussbaum's basic human capabilities consist of life, bodily health, bodily integrity, senses, imagination, thought, emotions, practical reason, affiliation, other species, play, and control over one's environment. The capability approach is often mistaken as a theory of justice. Though, it is not a theory that can explain poverty and inequality. Instead it rather provides a tool and a framework within which to conceptualize and evaluate these phenomena (Alkire, 2002).

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METHODOLOGY

Research Aim

This study, through the qualitative analysis of the OECD's text "OECD skills outlook 2017: Skills and global value chains" comes to examine the types of skills people need to have in order to be employable and capable of participating in a globalized labour market. Particularly, it is examined:

- What types of skills are being promoted by the OECD and what are their characteristics?
- What are the benefits of developing and cultivating skills?
- In what ways can skills be designed and developed?
- Does the design and application of skills arise from the spirit of corresponding international and European policies?

Presentation of research material

The development of this edition of the Skills Outlook report was based on the Skills strategy Advisory Group and is a product of a collaborative effort among several directorates in the OECD Secretariat (Directorate for Science, Technology and Innovation). The Skills Outlook puts emphasis on the fact that the heart of global value chains are people. People are those who conceive, design, produce, assemble and transport a product. People are the consumers of this product. However, whether they can participate in these processes or not, it depends on their skills.

Presentation of methodological tool

The methodological tool used in this study is the qualitative content analysis, which is part of the wider effort of the social sciences to create alternative research qualitative examples, which are not characterized by the philosophy of the positivists. According to Krippendorff (1980: 21), "content analysis is a research technique to extract valid and repeatable conclusions from the data, according to their context". Krippendorff refers both to the objectivity, validity and systematicity of the method, and to the relationship between the content of the data and its institutional, social and cultural context (Weber, 1990).

The symbolic unit "theme" is used to answer the research questions set as a logging unit. This unit "constitutes a proposition, a statement, an assurance, an idea, an argument, a finding regarding some of the assumptions of research" (Bonidis, 2004: 54). Due to the fact that the subject is a complex logging unit (Berelson, 1971), it is also necessary to define a unit of content that will be the basis for defining meaning (Crano & Brewer, 2002). As the content unit we have defined the "word" which means skills and not any other verbal combination.

FINDINGS

Regarding the type of skills, it is found that at a first level six skills domains are proposed: information and communications technologies skills, management and communication skills,

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self – organizing skills, marketing and accounting skills, science, technology, engineering and mathematics (STEM) skills, and readiness to learn. Information and Communication technologies (ICT) skills consist of all describe tasks associated with ICT use, from reading and writing emails to using word-processing or spreadsheet software, or a programming language. The factor is strongly associated with office jobs, as indicated by negative loading on physical activities. ICT skills play a key role in improving companies' performance. Firms with high ICT capabilities tend to outperform comparable firms in the same industry on a sustained basis (Bharadwaj, 2000; Santhanam and Hartono, 2003). ICT investment seems to pay off for some companies but not others, because of organizational learning and ICT competencies in particular (Tippins and Ravipreet, 2003) (a.c. OECD, 2017:79).

In addition, management and communication skills gather a more diverse set of items, from teaching people to planning others' activities. All these activities involve communicating and managing other people, whether they are co-workers or not. Self-organizational skills, like readiness to learn, consist of items such as "Work flexibility – Speed of work" or "Work flexibility – Sequence of tasks". Marketing and accounting skills is a newly constructed indicator that does not correspond to any indicator in the normative typology. "Reading financial statements", "calculating costs or budgets" and "selling products or services" are associated with this factor, as well as "using a calculator". Although the last item also loads on "ICT contents" and "STEM contents" it seems that calculators are mainly used for marketing and accounting purposes (OECD, 2017:79). Regarding STEM skills, they have not been present in the normative typology. Like Marketing and Accounting Skills, it involves numeric tasks such as "Use Simple algebra or formulas" or "Use advanced math or statistics", but they are more complex and less specific than those loading on the previous factor. This factor is interpreted broadly as skills necessary for Science, Technology, Engineering and Mathematics (OECD, 2017:79). Readiness to learn consists exclusively of items designed in the Survey of Adult Skills to measure this dimension, e.g. "Relate new ideas into real life" or "Like learning new things" (OECD, 2017:79).

In addition, reference is made to general cognitive skills, which partly reflect the ability to learn, help predict the occupational level workers attain their job performance and their ability to benefit from training (e.g. Schmidt, 2002; Schmidt and Hunter, 2004). There is strong empirical evidence that cognitive skills, rather than the level of schooling reached, influence individual earnings, the distribution of income and more generally economic growth (Hanushek and Woessmann, 2008). Numeracy and mathematical skills are directly conducive to business success, particularly in technologically advanced industries (Hoyles et al., 2002). Many of the fastest growing occupations and emerging industries require numeracy, knowledge of scientific and mathematical principles, as well as the ability to generate, understand and analyze empirical data and solve complex problems (UKCES, 2011). These skills make technological breakthroughs possible (OECD, 2017:76).

Along with cognitive skills, a wide range of personality traits matter for economic performance (Heckman and Rubinstein, 2001). Some authors argue that for many outcomes, these skills are just as important as cognitive skills, or even more so (Kautz et al., 2014). Many researchers group personality measures under five key factors: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (Goldberg, 1990). Agreeableness includes skills like empathy, perspective taking, co-operation, and competitiveness. Conscientiousness includes grit, perseverance, delay of gratification, impulse control, achievement striving, ambition, and work ethic. Emotional stability includes self-

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evaluation and self-esteem, self-efficacy and optimism. Many of these are a mix of traits that individuals are born with and abilities that can be learnt and improved over time (OECD, 2017:76).

However, through the analysis of the text it is obvious employees need to mixed skills in order to integrate and grow in global markets, workers need to have not only strong cognitive skills, including literacy, numeracy and problem solving, but also emotional skills, such as managing, communicating, self –organizing, readiness to learn. These skills complement cognitive skills. A country with a skills mix that is aligned with the skills requirements of technologically advanced industries can specialize in these industries on average 8% more than other countries. While there is no broad agreement on a typology of skills, skills that matter for job performance can be considered as a continuum, with some skills having mostly a cognitive component (e.g. literacy and numeracy), some mostly linked to personality traits (e.g. conscientiousness and emotional stability) and others arising from the interaction and the combination of these two components (e.g. communicating, managing and self-organizing) (OECD, 2017:27). The lack of interpersonal skills can create a strong barrier to employment, especially for low skilled jobs (Heckman & Kautz, 2013). These studies show that it is important for each worker to have the right mix of skills, rather than for firms to have a set of workers with each specialized in one skill (a.c. OECD, 2017: 93).

Regarding the second research question, one of the key benefits of developing skills is that they can help countries integrate into global markets and specialize in the most technologically advanced industries. This kind of industries require workers who can complete long sequences of tasks (OECD, 2017:12). In addition, skills can help individuals face the potential of unemployment, job losses and lower job quality. Investing in skills can ensure that all individuals understand the challenges and opportunities of globalization, feel more confident in the future, shape their own careers, and cast informed votes (OECD, 2017:20). In addition, investing in skills increases productivity, since firms need workers who can learn from technologies and who benefit from the exposure to more sophisticated goods and new work organization (OECD, 2017:25). When workers have the necessary skills, they can evolve their jobs or find it easier to adapt to changing needs. Skills are a fundamental determinant of economic and social success (OECD, 2017:32).

Another important benefit is also the fact that they help in assimilation of technology, its adaptation and improvement, quality and inventory control, monitoring of productivity, co-ordination of different production stages, and for the process and product innovations related to basic research activity. They also help establish technology linkages among enterprises, with service suppliers, and with science and technology institutions (OECD, 2017:55). Relevant researches show that levels of skills have prevented highly productive national firms from catching up with globally connected firms. Even if workers in national firms have strong cognitive and technical skills, they may lack foreign language skills, cultural understanding, and knowledge of ways of doing business (OECD, 2017:60).

Regarding the third research question, it seems that the design and development of the right and appropriate skills is a complex and multidimensional issue, as several agents are called upon to work together and contribute to both international and national levels. At first, countries need to invest in education and training, make use of better co-ordinate skills-related policies (education and migration policies and employment protection legislation) and align these policies with industry and trade policies. Governments, employers, unions and education and training providers need to work together to develop flexible on –the- job training

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opportunities, improve access to formal education for adults, and make it easier for workers to combine work and training (OECD, 2017:13). Policies to support a specific industry can be inefficient if country's skills do not match the skills requirements of the industry, and by misallocating skills they can lower the comparative advantage countries have in other industries (OECD, 2017:29). Co-operation in the design of education programs in a way to ensure quality is very important. In addition, countries should seek agreements to co-design some education and training and consider new financing arrangements that better reflect the distribution of benefits and costs coming from the internationalization of tertiary education and of the production process. An agreement can take various forms, from consultation on the skills needs and on how they can be met, to a more formal agreement in which the costs of some education programs can be shared. In addition more advanced countries can help design education programs in less advanced countries (OECD, 2017:33). Teaching the right skills requires innovative teaching strategies and flexibility in the curriculum choice in tertiary education (OECD, 2017:31).

Besides, recognition of skills acquired informally would help workers gain further qualifications and adapt their careers to working changes. Improving the recognition of skills acquired would help attract foreign students and foreign workers who can contribute to research, innovation and international context (OECD, 2017:33).

In addition, countries – in a national level- could foster the development of effective management practices, design employment protection legislation, and regulate non-complete clauses in ways that enable expertise and knowledge to be shared across the whole economy more effectively. Countries could also consider financing arrangements that better reflect the distribution of benefits and costs across countries in a world where both education and the production process have been internationalized (OECD, 2017:13). There are many advantages if skills characteristics are closely aligned with trade's skills requirements. To improve this alignment, education and training systems need to co-operate with the private sector, through vocational education and training with a strong work-based learning component. Local initiatives to link education institutions to the private sector and policies to foster the interaction between private sector, universities and research institutions (OECD, 2017:31).

DISCUSSION

In this specific text of the OECD, it is noted that emphasis is put on mixed skills, skills of different types: information and communications technologies skills, management and communication skills, self – organizing skills, marketing and accounting skills, science, technology, engineering and mathematics skills, and readiness to learn. The design and implementation of the framework of these skills is in line with the spirit of other official texts of international and European organizations that seek to achieve global and universal goals. According to similar analysis of European texts, it is obvious that all countries should try to upgrade labour supply to meet new work evolutions. Emphasis is placed on the type of skills that are inevitably linked to the employability and to the needs of the citizens (European Commission, 2016; Panagiotopoulos & Karanikola, 2017a). Vulnerable groups need basic skills, while other categories of professionals need training that will enhance the skills they have already acquired (UNESCO Institute for Lifelong Learning, 2015).

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In addition, UNESCO puts emphasis on most of the skills proposed by the OECD: practical and digital skills, which increase the opportunities for information, communication and dialogue, life skills, which can help adults become more flexible, improve their life quality, mental health, solve problems, develop self-confidence, self-fulfillment, personal efficiency and performance, social capital skills that help the individual to participate in community and political life, to broaden their general knowledge, to become an active citizen and to maintain social connections (Grale III, 2016; Panagiotopoulos & Karanikola, 20717b). Achieving these skills involves, according to the OECD, activating not only the public and the private sector but also the individuals. This finding is in accordance with other researches, since, according to GRALE III, policies should be inclusive, holistic, and link all aspects of learning and education. In addition, according to the European Commission (2016) emphasis is placed on policies which are characterized by the cohesion and co- operation of many actors and partners (Karanikola & Panagiotopoulos, 2018).

CONCLUSION

In a human development context, proper education, which adheres to basic universal values, plays a key role in providing the right skills. According to the analysis of the OECD text, the right skills are those that will help the worker to join the global labor market but also to face the fear of unemployment or non-employment. Therefore, various types of skills, support and promotion policies are proposed, all in a context of synergy and partnership with all international and European institutions, in a context of achieving and implementing human development at a global level.

Future research

The results of this research are in the same spirit as those resulting from the analysis of the texts of the European Commission and UNESCO. It therefore enriches international data and its subsequent dissemination. As policymakers look to the future, they will need to develop a deeper understanding of the interrelationships of different policy solutions, and how different mixes of policies can increase healthy workplaces. However, a question emerges regarding the dispersal of these skills. Can they be delivered to different countries in the same way when there are significant differences in national policies, education provided, culture, experience? Can all these policies be implemented and not stay rhetorical? How easy is this goal to be achieved? These questions could be answered in future investigations.

REFERENCES

Alkire, S. and Deneulin, S. (2009) An Introduction to the human development and Capability Approach. Freedom and Agency. Earthscan: London.

Bharadwaj, A.S. (2000) A resource-based perspective on information technology capability and firm performance: An empirical investigation, MIS Quarterly, Management Information Systems Research Centre, University of Minnesota, 24 (1), 169-96.Available at the website: http://dx.doi.org/10.2307/3250983.

Berelson, B. (1971) Content Analysis in Communication Research. (Facsimile of 1952 edition), Hafner Publishing Company: NY.

ISSN: 2053-2199 (Print), ISSN: 2053-2202(Online)

Bonidis, K. (2004) The content of school textbook as an object of research. Metechmio: Athens.
Byars, L, and Rue, L.W (2006) Human Resource Management, McGraw-Hill/Irwin: Boston.
Crano, W.D., & Brewer, M.B. (2002) Principles and Methods of Social Research. Second Edition, Lawrence Erlbaum Associates: Mahwah NJ.
Dearing, R. (1997) Higher Education in the Learning Society. Report of the National Committee of Enquiry into Higher Education. HMSO, London.
Escrigas, C. (2008) Forward in GUNI. Higher Education in the World 3, Palgrave Mcmillan: London.
European Commission. (2016) Next steps for a sustainable European future: European action for sustainability. Strasbourg.
Available at the website: https://ec.europa.eu/europeaid/commission-communication-next-steps-sustainable-european-future_en
Goldberg, L.R. (1990) An alternative description of personality: The big-five factor structure, Journal of Personality and Social Psychology, 59(6), 1216-1229.
Hanushek, E.A. and Woessmann, L. (2008) The role of cognitive skills in economic development, Journal of Economic Literature, 46 (3), 607-668.
Heckman, J.J. and Kautz, T. (2013) Fostering and measuring skills: Interventions that improve character and cognition, NBER Working Paper, No. 19656, The National Bureau of Economic Research: Cambridge, MA.
Heckman, J.J. and Rubinstein, Y. (2001) The importance of non cognitive skills: Lessons from the GED testing program, American Economic Review, 91(2), 145-149.
Heckman, J.J., Stixrud, J. and Urzua, S. (2006) The effects of cognitive and non cognitive abilities on labor market outcomes and social behavior, Journal of Labor Economics, 24 (3), 411-482.
Hillage, J. and Pollard, E. (1998) Employability: developing a framework for policy analysis. Research Brief No. 85. Department for Education and Employment, London.
Hoyles, C. et al. (2002) Mathematical skills in the workplace: Final report to the Science Technology and Mathematics Council, Institute of Education, University of London.
Jacobs, E. (2013) Principles for Reforming Workforce Development and Human Capital Policies in the United States, Governance Studies at Brookings, pp. 1-29.
Karanikola, Z. And Panagiotopoulos, G. (2018) Contemporary working dilemnas and European policies for transformation, Global Journal of Human Resource Management, 6 (3), 1-10.
Kautz, T. et al. (2014) Fostering and measuring skills: Improving cognitive and non-cognitive skills to promote lifetime success, NBER Working Paper, No. 20749, The National Bureau of Economic Research: Cambridge.
Krippendorff, K. (1980) Content Analysis. An Introduction to its Methodology. London: Sage Publication.
Mullins, J. L. (2015) Management and organizational behaviour, Utopia: Athens.
Obanya, P. (2002) Development-Oriented Higher Education Institute of Education at Olabisi Onabanjo University, Open Lecture Series, Nigeria.
OECD (2017) OECD Skills outlook 2017: Skills and global value chains, OECD Publishing, Paris.
Available at the website: http://dx.doi.org/10.1787/9789264273351-en
Panagiotopoulos, G. and Karanikola, Z. (2017a) Labour market and development: UNESCO research data on human resource training, European Journal of Training and Development Studies, 4 (3), 62-72.

ISSN: 2053-2199 (Print), ISSN: 2053-2202(Online)

Panagiotopoulos, G. and karanikola, Z. (2017b) Skills and sentimental intelligence: a new dimension in employability, European Journal of Educational and Development Psychology. European Centre for Research Training and Development, UK. 5 (5) 37-44.

Papakonstantinou, G. and Anastasiou, S. (2013) Principles of Human Resource Management. Managing the Human Resources of Education, Gutenberg: Athens.

Riaz, M. (2016) The importance of skills. Published in The Express Tribune, 25/4/ 2016.

Santhanam, R. and Hartono, E. (2003) Issues in linking Information Technology capability to firm performance, MIS Quarterly, Management Information Systems Research Center, University of Minnesota, 27 (1), 125-53.

Available at the website: www.jstor.org/stable/30036521.

Schmidt, F.L. (2002) The role of general cognitive ability and job performance, why there cannot be a debate, Human Performance, 15 (1-2), 187-210.

Schmidt, F.L. and Hunter, J. (2004) General mental ability in the world of work: Occupational attainment and job performance, Journal of Personality and Social Psychology, 86 (1), 162-173.

Susan E. Jackson, S.E and Schuler, R.S. (2000) Managing Human Resources: A Partnership Perspective, South-Western College Publishing.

Tippins, M.J. and Ravipreet, S.S. (2003) IT competency and firm performance: is organizational learning a missing link?, Strategic Management Journal, 24 (8), 745-761.

Torrington, D., Hall, L., Taylor, S. and Atkinson, C. (2014) Human Resource Management, Pearson Education Limited.

UKCES (2011) The supply of and demand for high level STEM skills, Briefing Paper, December 2011, UK Commission for Employment and Skills.

UNDP. (1990) The human development report. New York: United Nations Development Program.

UNESCO (2015) Recommendation on Adult Learning and Education. Available at the website http://www.unesdoc.unesco.org/images/0024/002451/245179e.pdf

UNESCO (2016) 3rd World Report on Adult Learning and Adult Education,The Impact of Adult Learning and Education on Health and Well-Being; Employment and the Labor Market; and Social, Civic and Community Life, UNESCO Institute for Lifelong Learning, Hamburg.

UNESCO Institute for Lifelong Learning / European Training Foundation / Centre Europeen pour le developpement de la formation professionelle. (2015) Global Inventory of Regional and National Qualifications Frameworks, I, II, UNESCO Institute for Lifelong Learning, Hamburg. Available at the website:

http://unesdoc.unesco.org/ images/0023/002330/233043E.pd

Weber, R. P. (1990) Basic Content Analysis. London: Sage Publications.

ISSN: 2053-2199 (Print), ISSN: 2053-2202(Online)