PROFESSIONAL EDUCATION IN THE CONTEXT OF KNOWLEDGE BASED ECONOMY

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INTRODUCTION

'Education is what remains when,
what was learnt, was forgotten'
Burrhus F. Skinner

Education and *economy* seen as two separate areas of human activity are becoming a certain whole joined by *knowledge* that is all the information about the surrounding reality together with the ability to use it. Without any doubt this integration is favoured by shaping, since the beginning of the XXth and XXst centuries, a new model of economy referred to as *knowledge based economy*, in which knowledge – created, distributed and put into practice – becomes a certain product, independent entity being a base for the world's development. Education is still important for its creation, especially *vocational education*, however in a changed form as opposed to the following words '*a human being learns throughout his life, apart from school years*'.

Any phenomena and processes connected with the development of knowledge based economy can be analysed both from the perspective of school and out of school (extracurricular) system of education; they refer to both young people and adults. As P.F. Drucker writes, in the new economy: '*People (...) will be forced to acquire: the ability of personal development, learn how to keep energy and activity of mind through the whole period of their lasting fifty years time of work. They will be forced to decide about what to change in their work and when to implement these changes to be able to act effectively in the changing work environment*'[1]. Education, especially vocational one should prepare for such a management of oneself in the conditions of civilization changes. It can be thus assumed that it has to adjust itself to the needs of the knowledge economy.

The pointed above areas were the base for starting reflections in the environment of pedagogy which resulted in this publication.

[1] P.F. Drucker, *Zarządzanie XXI wieku – wyzwania*, Warszawa 1999, p. 171.

In the presented book initiated were problems of chances and threats of vocational education resulting from the development of knowledge based economy. The contents of the book presented to the reader involve both theoretical considerations, as well as some empirical research results conducted by the Authors, interested in these problems, from Poland, Bulgaria, Russia and Ukraine.

The book was divided into three complementing parts.

The first one entitled '*Civilization challenges and vocational education*', introduced by reflections prepared by *A. Bogaj* concerning the change of vocational education paradigm and *R. Gerlach*, who analyses education in the light of civilization changes. With respect to the first of the texts it has to be highlighted that the assumptions concerning new paradigm of vocational education concern mainly integration between vocational education and general education, preparation of human beings who understand the environment, building competencies as well as shaping European citizenship. On the other hand R. Gerlach by writing about global changes in the area of work at the base of which there is the development of knowledge based economy and areas in which employees will be sought, calls for the necessity to develop vocational education which will follow these changes. Further on emphasis was put on notions connected with: the change of the model of workplace being a challenge for vocational education, as it is the workplace that is the basic organizational unit conditioning the development of knowledge based economy (*R. Tomaszewska-Lipiec*); barriers and chances for the development of vocational education in the perspective of knowledge society; taking into account the fact that the present system of education was built in the culture of Enlightment, in the conditions of XIXth century industrial revolution and remained until now in slightly changed form (*M. Bogaj*), as well as structural-functional model of education seen as European challenges of knowledge economy of the XXIst century (*Krasimir Spirov, Inesa Babenko*).

In the second part of the book entitled '*Directions of vocational education development in the conditions of the new economy*' a multispectral problems of the system of education and the youth attending schools, including university students, were undertaken. This part of the book includes issues such as: pedagogical and psychological training in vocational education of teachers (*E. Sałata*); the role of pedagogical practice in the system of future teachers' professional training (*Mykola Ivanovych Smetans'kyi*), as well as theoretical and practical areas of cooperation of vocational schools with employers (*A. Pogorzelska*). Attention was also paid to the educational and vocational choices of students in the perspective the professions of the future (*A. Suchorab*) as well as the need to conduct research on career paths and professional suitability of graduates as the way of determining tertiary education results with respect to the development of the system of education and institutions, as well as job market and individuals facing the choice of educa-

tional-professional path (*K. Ludwikowska*). What was also highlighted in this part was the possibility of using latest IT technologies in vocational education, exemplified by the use of e-learning, which seem to be a necessity due to the social-economic development (*D. Goltz-Wasiucionek*). Attention should be paid to articles by: *K. Symela*, who presents chosen issues concerning the development of the modular concept of vocational education and training in Poland from the perspective of taking part in projects and initiatives completed in the last 20 years; *K. Sławińska*, who presents Polish, Romanian and Italian experience as partners completing Leonardo da Vinci's programme in the years 2011-2012 – transfer of innovations in vocational education and training as exemplified by the SkillsUp Project.

The third part '*Adults' vocational education a condition for building new economy*' concerns issues connected with adults' functioning in the roles of employees in the system of school and extracurricular vocational education. The first are *Z. Wołk* considerations devoted to continuing vocational training in the process of implementing professional biographies in a post-industrial knowledge society. This author pointed to the key meaning of this type of education connected with needs and expectations of the job market influencing the flow of contemporary man's life. He also mentions one of the future forecasts – third industrial revolution by highlighting the meaning of education, including vocational education, as a way to overcome new problems, to change and flexibility in the individual and social scope. Further on *B. Pietrulewicz* undertakes the problem of professional development, which is a special category of development, in the context of global, organizational and employee development. He pays special attention to the problems of preparation and professional development, professional advisory, social environment of work and educational-professional support of employees in the workplace. *J. Stochmiałek* refers to another important problem of adults' education in the organizations based on knowledge by highlighting that at present one of the most important conditions for the organization to be successful is getting a certain amount of knowledge and the ability to use and update it. The condition to get advantage over other companies is education of employees. Considerations presented in the third part are completed by reflections by *W. Łozowiecka* devoted to psycho-pedagogical aspects of employee's professional development. The author pays attention to the fact that preparation for real life professional challenges cannot concentrate only on equipping with knowledge, but most of all on shaping certain skills and attitudes. The presented reflections are closed by *Ł. Brzeziński* article, which accents the issue of age management in the professional development of employees and substantiates, from the perspective of economy, the use of this type of adults' education.

All of the problems undertaken in the book make a set of interdisciplinary issues for which *pedagogy of work* remains a core discipline. It is pedagogy of

work that refers to both theoretical considerations, as well as empirical research concerning the relationships between education, knowledge based economy and job market. Professional education seems to be the factor which connects all these issues.

I would like to thank all the Authors who contributed to the publication of this book and at the same time I hope that this publication does not deplete the subject and the notions undertook will give rise to reflection and scientific discussions.

It seems necessary to point to the meaning of pedagogical sciences, including work pedagogy, in undertaking research concerning education and economy as well as developing interdisciplinary works on current problems concerning the mentioned areas.

Renata Tomaszewska-Lipiec

I. CIVILIZATION CHALLENGES AND VOCATIONAL EDUCATION

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The change of the vocational education paradigm – necessity or utopia?

Introduction

Everyone who is interested in education knows that it is constantly criticised for its disfunctionality and results which are far from the social expectations.

The system of education is alleged with most of all low effectiveness in building civil society, recapturing and even making the social and educational inequalities deeper, marginalizing many groups (children and the youth) and social environments, erosion of individual's identity; reforms which brings results contrary to the assumptions, too low quality of education including vocational one.

Those insufficiencies of education result from many sources. Some are connected with the existing needs, experience and possibilities of the country – more widely with its condition and socio-economic aspirations, others with its anthropological basis rooted deeply in history and culture.

Among those traditional educational paradigm is of a great importance, it is connected mainly with so called traditional Herbart's school, which until now is the base for the process of education, both general and vocational one. The beginnings of the present system of education are rooted in another era, school somehow does not notice that it was shaped as – K. Robinson writes – in the culture of the Enlightenment and in economic conditions of the industrial revolution[1]. In too little extend we take into account in the contemporary educational processes the fact that the world is changing, becoming more and more complex and its transition from the industrial civilization to the IT one is done (among others due to globalization) in the conditions of the clash of different visions of nature and history, different systems of values, different concepts of the human being.

[1] K. Robinson, *Zmiana paradygmatu edukacji*, [in:] J. Szomburg (ed.), *Edukacja i rozwój. Wielkie przewartościowania*, Gdańsk 2011, p. 61.

The results of the available research show that overlooking those changes leads to 'non vitae, sed schole discimus' instead of 'non schole, sed vitae discimus' – as the ancients use to say.

It is thus obvious that at present it is necessary to change the paradigm of education including vocational one, which I will try to prove it in this article.

Traditional paradigm of general and vocational education – its assumptions and consequences

Paradigm in general is a pattern, model. If we refer it to the science it thus means a certain set of basic assumptions according to which we describe research and explain a certain part of reality. In social sciences, including pedagogy, paradigms are sentences describing different aspects of social life (among others education), as well as noticed and empirically checked and explaining them regularities.

Traditional educational paradigm, including vocational education, assumes standardization of both work, employment (employment contracts, place, time of work), as well as services, production and even culture (the manifestation of behaviour, ideas, language, and styles of life).

A good illustration of the thesis 'non vitae, sed schole discimus' is that it is the process of education which complies with exam standards, which in practice means the shift of the focus from the process of education to its result. This approach restricts motivation to learn and cognitive activeness of the learners, and in consequence it leads to restriction in the school's function[2].

The researchers of the civilization and social changes reasonably highlight (A. Toffler, U. Beck, K. Robinson), that mass education – based on the industrial era educational paradigm – was and is shaped on the base of the factory model, education was similar to the process of production. The rhythm of work was conducted by the bells, day divided according to age, sex and specialization in certain subjects. As A. Toffler highlights since the half of the XIXth century in the educational systems there was a certain 'progress': younger and younger children started learning, the school year was becoming longer. Family and factory shaped school were parts of the unified, integral system focused on preparing the youth to typical roles played in the industrial society[3].

This picture of education and school, especially vocational school, in certain extend survived until now. Not long ago we treated work and profession as

[2] As cited in: A. Bogaj, *Współczesne wyzwania edukacyjne a polityka oświatowa*, [in:] A. Bogaj (ed.), *Kierunki i uwarunkowania przemian oświaty w związku z reformą*, Kielce 2010.

[3] A. Toffler, *Trzecia fala*, Warszawa 1986, p. 70.

determinants of our lifestyle, even our biography, and wider our social status. The economic, social and cultural changes connected with the globalization, however make that the core of work and professional career change (destandarization of work), and also their meaning for individuals. According to A. Giddens work in the contemporary meaning, apart from being the source of upkeeping, is an important factor of psychical construction of an individual, is a form of social contacts, regulates the rhythm of people's life, activates people and makes self-esteem stronger[4].

The process of work changes is accompanied by the wave of consumerist individual's attitudes and primitive standards of mass culture, fascination by the 'have' rule, atrophy of higher feelings, loss of moral sensitivity, 'displacing from school' especially vocational school, culture of book, literature and esthetical culture, and too slow in the polish society process of regenerating of the ethos of work.

Those unfavourable changes cause that individual social status of an individual becomes completely work market dependent. U. Beck is right in highlighting that connected with the institution individual's situation causes the upraise of, depending on the economic and work market economic situation, generated disabilities or privileges in certain group situation[5].

Challenges that a contemporary school faces – necessary changes of the vocational education paradigm

Transfer of the contemporary world from the industrial civilization to the IT one, from the industrial society to the knowledge society forces education and school face numerous challenges connected mainly with the changes of the issue of work and professional career. The meaning of those changes is mainly based – according to M. Strykowska – on:

– putting more and more pressure on elastic work, allowing fast reaction,
– work to a greater extend is based on cooperation,
– the attitude towards work is becoming more fluent (fluent working hours divided work, working part-time),
– it is becoming more and more visible that individuals are trying to get more satisfaction from work by changing its core,
– the number of employed having the status of permanently employed is lowering, the percentage of pert-time employment is raising,

[4] A. Giddens, *Socjologia*, Warszawa 2004, p. 396.
[5] U. Beck, *Społeczeństwo ryzyka*, Warszawa 2002, p. 200.

– there is the end of so called line careers which started before education was finished, before employment, gradual promotion until retirement[6].

Bengtsson J. – OECD exert – highlights also other, crucial changes:
– many forms of work organization and the structure of skills are growing older
– strong pressure is put on the quality of work and shorter life cycle of products and services,
– smaller percentage of routine based works and growing number of actions demanding higher level of qualifications, including qualifications crucial in personal relationships,
– organization of work is becoming more flexible, the comprehensiveness of employees is getting more importance[7].

Those crucial changes in the issue of work and employment are accompanied by equally important changes in – education: its aims, themes, methods and social functions.

Their core is in going away from the traditional character of educational processes i.e. from teaching to putting pressure on learning, individual's effort, individual's self-efficiency and self-fulfilment, individual's changes in the changeable conditions of IT civilization and humanistic values of its development.

The results of research and discussions concerning the state of education show that the fulfilment of the above assumptions is still not easy because:
– school and education are changing in defiance of the reforms demands and assumptions, they are still places – as in the traditional F. Herbart's school – of inculcating facts, schemata, teaching canons;
– the process of upbringing is facing a crisis which concerns all the stages of school education,
– different groups of children and the youth are more and more marginalized and excluded (the threat of exclusion is of the highest rate in EU, inheritance of poverty and repeating by children of poor parents both way of life and social status),
– school stigmatizes poor children and makes it difficult to overcome defects and deprivation,
– schools makes the social inequalities deeper,
– there is a visible change in relationship between general and vocational education,

[6] M. Strykowska, *Globalizacja a kariery zawodowe*, [in:] Z. Blok (ed.), *Społeczne problemy globalizacji*, Poznań 2001, p. 120 and subsequent.

[7] J. Bengtsson, *Rynek pracy przyszłości. Wyzwanie dla praktyki*, „Nauka i Szkolnictwo Wyższe" No 7/1996.

– more and more young people, including vocational school graduates are looking for their place abroad (not only financial migration)[8].

Certainly, the above mentioned phenomena – without any doubt socially unfavourable – are crucial challenges for the contemporary education and school. They depend not only on the educational politics and other internal educational system's factors – but also as I wrote before – on many external factors which are connected with economic (globalization), social and cultural changes

That is why – as R. Gerlach postulates – it is necessary to look for new paradigms (including as I suppose – professional education, A.B.), upon which new development visions of the contemporary socio-cultural and economic order will be based[9].

New vocational education paradigm – assumptions

If we take into account the fact that the process of changes which we experience is fierce, almost abrupt, it is understandable that is difficult to grasp and state the borders of changes pointing at vanishing of the 'old' and creating a 'new socio-economic and cultural order'. We are now at this stage of history. That is why to some extend precise definition of the new vocational education paradigm, in the era of the 'third wave' of the civilization development, is not fully possible.

Let's thus try to establish its core reservations. Let's pay attention mainly to the fact that changes – according to Z. Bauman – are connected mainly with vanishing of traditional forms of social order, which is characterized mainly by uncertainty, unpredictability, ambivalence and living life in the conditions of anxiety[10].

The first assumption concerning the new vocational education paradigm refers to the relationship between the vocational and general education. The analysis of contents and social functions of general and vocational education proves that there is a process of their integration, general education more and more visibly is devoted to developing vocational competencies of students and vocational education strengthens the competencies making up person's general education. This integration requires without any doubt changes in the organization and substantive models of the contemporary school and enterprise.

[8] A. Bogaj, *Szkoła w społeczeństwie obywatelskim*, [in:] A. Bogaj, S.M. Kwiatkowski (ed.), *Szkoła a rynek pracy*, Warszawa 2006, p. 89 and subsequent.

[9] R. Gerlach, *Pozaszkolna edukacja zawodowa wobec zmian cywilizacyjnych*, Bydgoszcz 2012, p. 111 and subsequent.

[10] As cited in: Z. Bauman, *Życie na przemiał*, Kraków 2007.

The second assumption concerns the anthropological foundations of general and vocational education. It is about preparing a human being who understand environment, open to new values, new meanings, new ways of experiencing the world, and also well prepared for civic participation, to cooperate with others, to use the modern media and technologies, and not only acquiring the knowledge[11].

Meanwhile, modern theories of education put emphasis on constructed knowledge, so acquired by the student in the course of solving certain scientific and social problems. Its durability is greater and – as the research proves – it is the base for our functioning in social life.

The third assumption concerns the fact that nowadays the core of learning is building student competencies, and not just gathering and remembering the given knowledge. We also differently perceive and determine the effects of educational processes. The place of traditional term teaching is taken by a new one – student's competencies: civilization, connected with the education ethos, ethos of work, interpersonal communication, upbringing to values[12]. Social competencies become a very important category of educational effects. Especially clear is this assumption in connection with the education in higher schools, resulting from the introduction of The National Framework of Competencies.

As we know The National Framework of Competencies shifts the accent from the process of education to its effects, which makes that especially important are declared aims, knowledge, skills and students' competencies. In the syllabuses we also have – described in charts – declaration concerning knowledge, skills and competences that are assumed to become certain grades.

The fourth assumption of the new paradigm concerns, as I suppose, shaping European citizenship of the youth.

This thesis is especially highlighted in the report Education for Europe (1999)[13]. Its authors accent that the European citizenship is most of all the humanistic idea, and at the same time normative referring to the notion of civilian society as well as its moral and ideological defence. The superior aim of such upbringing should be: inculcation of shared European civilization values, respect for differences, developing creative activity, shaping the readiness for employment.

Implementation of these assumptions and the paradigm of vocational education is not going to be easy as it requires a new way of thinking of different environments, new social and educational policies, and new organizational solutions within the system of education.

[11] As cited in: A. Bogaj, *Kształcenie ogólne między tradycją a ponowoczesnością*, Warszawa 2000; A. Bogaj, S.M. Kwiatkowski (ed.), op. cit.; Z. Kwieciński, *Demokracja jako zadanie edukacyjne i problem dla pedagogiki*, Toruń 1995.

[12] A. Bogaj, *Kształcenie ogólne*...

[13] *Edukacja dla Europy. Raport Komisji Europejskiej*, Warszawa 1999.

It seems that in order to improve the current situation, the current state and effects of vocational training, we must pay attention to:

– upbringing through work which is certainly a neglected area of upbringing,
– rebuilding the ethos of work, bringing back its pedagogical sense,
– preparing the youth to life without permanent employment which reaches nowadays some worrying changes,
– employee, as well as the citizen, who should act for the 'common good' (Poland), as well as create civilian society.

Bibliography

Bauman Z., *Życie na przemiał*, Kraków 2007.

Beck K., *Społeczeństwo ryzyka*, Warszawa 2002.

Bengtsson J., *Rynek pracy przyszłości. Wyzwanie dla praktyki edukacyjnej*, „Nauka i Szkolnictwo Wyższe" No 7/1996.

Bogaj A., *Kształcenie ogólne między tradycją a ponowoczesnością*, Warszawa 2000.

Bogaj A., *Szkoła w społeczeństwie obywatelskim*, [in:] A. Bogaj, S.M. Kwiatkowski (ed.), *Szkoła a rynek pracy*, Warszawa 2006.

Bogaj A., *Zaniedbane obszary wychowania w kształceniu zawodowym*, „Edukacja Ustawiczna Dorosłych" No 1/2010.

Bogaj A. (ed.), *Kierunki i uwarunkowania przemian oświaty w związku z reformą*, Kielce 2010.

Bogaj A., Kwiatkowski S.M. (ed.)., *Szkoła a rynek pracy*, Warszawa 2006.

Edukacja dla Europy. Raport Komisji Europejskiej, Warszawa 1999.

Gerlach R., *Pozaszkolna edukacja zawodowa wobec zmian cywilizacyjnych*, Bydgoszcz 2012.

Giddens A., *Socjologia*, Warszawa 2004.

Kwieciński Z., *Demokracja jako zadanie edukacyjne i problem dla pedagogiki*, Toruń 1995.

Mayor F., *Świat przyszłości*, Warszawa 2001.

Robinson K., *Zmiana paradygmatu edukacji*, [in:] J. Szomburg (ed.), *Edukacja i rozwój. Wielkie przewartościowania*, Gdańsk 2011.

Strykowska M., *Globalizacja a kariery zawodowe*, [in:] Z. Blok (ed.), *Społeczne problemy globalizacji*, Poznań 2001.

Toffler A., *Trzecia fala*, Warszawa 1986.

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Economic scope of civilization changes a challenge for vocational education

Change is currently one of the most commonly used terms which characterizes a number of different phenomena that are happening in the world. By accepting the inevitable character of changes one can refer them to a number of different spheres of human life. One of them accented in this article is economic sphere.

Writing about the economic scope of changes one has to highlight a meaningful, even strategic, role of education in showing changes, understanding, following and creating them. It is difficult to imagine the functioning of economy of a country, or certain organizations, in the period of fast changes in all spheres of life, and especially in the economic sphere, without high qualifications and employee competencies. One can acknowledge education, especially vocational one, both school and extracurricular, as well as economy as a close-coupled system. That is why the necessity to include the needs of a job market in education should not raise any doubt. The article tries to show a job market which needs need to be considered in education as well as whether the job market should be the only criterion for planning and programming the subject of education.

Changes within economic life

The aspect of changes in economy can be analysed by some characteristic for globalization processes megatrends. Generally speaking the main tendencies of a contemporary economy are capital mobility, the changeability of a job market and means of production, changes in organization and technology of production, competitiveness, liquidation of trade barriers, the growth of meaning of the 'intellectual capital', descending meaning of mass consumed and produced goods, and the growth of meaning of individualised goods. Among these phenomena one can mention at least a couple that as I think are of a key meaning:

1. The economic collapse of national countries, and the growth of meaning of international corporations. Releasing economy from political custody brings many both positive and negative results. Making a balance of 'profits' and 'losses'

of international corporations on the side of profits one has to consider among others the benefit directly coming from foreign investments that involve technological advancement, the growth of expenditure on research and development, better and more effective use of intellectual, material capital, integration. The weakening of the country's role in correcting market mechanisms may cause also the threat of financial crisis, trade deficiency as well as uncontrolled growth of companies and social groups income. Another sphere of 'loss' can be referred to the socio-economic aspect. Without any effort one can show that a too strong influence of international corporations on the economy of a country may cause numerous fusions, acquisitions which cause negative social results: uncontrolled sacking, financial disproportions, lack of professional and life stability of employees[1].

2. Changes in organizations management. One of the tendencies within this sphere is seeking by organization some looser forms of management such that can be formed and disassembled and rebuilt whenever wished. The need for flexible organizations occurred together with the growth in meaning of environment as a factor that makes structures of organizations. Flexible structures imply the possibility of changing the composition. The first is pressure to raise the pace of organizational changes. It results from making the pace of changes in the conditions of companies functioning faster. The second one is a stronger need for perspective changes and unforeseeable conditions of functioning. The third is an external requirement to adjust to the surrounding environment. The fourth is based on a prerequisite that changes in a smaller scope refer to the previous experience and in a wider scope have to be of an innovative, creative character[2]. Among many contemporary models of management one can mention some which core is included in the answers to the above mentioned challenges. The firs is *benchmarking,* which can be defined as a continuous, systematic method of development and improvement of company's functioning, based on constant confrontation of own effectiveness measured by productivity, quality and experience with results of such companies which can be considered perfect. Another model is *outsourcing*, which is using external resources, deputing some processes, necessary for companies functioning, to specialised external subjects. Such processes will be completed more effectively than by a company itself. The subject of *outsourcing* can be IT, law services as well as employee hiring (*personal outsourcing*). Another management method is *Lean Management* that is 'slimming management'. Its idea is concentrating company's functioning on the process of producing value

[1] R. Gerlach, *Pozaszkolna edukacja zawodowa wobec zmian cywilizacyjnych. Nowe trendy i wyzwania*, Bydgoszcz 2012, p. 163.

[2] L. Clarke, *Zarządzanie zmianą*, Warszawa 1997, p. 8.

and not on the share of tasks and specialising the work places. The economic reality based on information technology introduced to dictionaries concerning management another new model – virtual organizations. These are networks of institutions, companies, teams and people located in different places, organized in a loosely connected, non-transparent structures which are joined by common aims – providing services for the same client[3].

3. Going away from fastidious and routine employee supervision to assigning decision making and responsibility to subordinates. New management style frees employee potential i.e. personal initiative, going away from schematic work based on the same standards. It requires a number of positive and negative results. Z. Bauman says: 'New system is comfortable not only for supervisors as it frees them from hard work that is setting tasks to employees, observing them to stick to the recommendations and being responsible for results. It is an employee who now everyday has to prove creativity sharpness of teeth and claws, flexibility – in other words usefulness for corporation which task is constant inspection of chances and possibilities. Extruding maximum effort from subordinates is replaced by the fear of poorness of own assets, charm fading and becoming common, in the effect – fear of falling out from market competition. The benefit for corporation is thus huge, but for the employee and wider for social relationships it is doubtful'[4]. The new character of work requires a more individualized and creative attitude, looser forms of time and space, common access to information and network of a global reach.

4. The change of ways and forms of employment, perceiving their personal and substantive competencies. The first of the tendencies in this sphere is without any doubt going away from the so called stable work, full-time employment to flexibility and fluency including an element of disorganization. The second one referred to by economists or sociologists is a fact that flexible employees are required who are described by A. Giddens as '*portfolio employees', people who have a number of professional skills, recommendations from previous work places which they are going to use in their professional life'.* The followers of this human resources solution show that such an employee may develop creatively and is not forced to work long years in the same job. In their case 'professional career', professional stability or professional development is a past. The third tendency refers to the sphere of employee competencies. Among many models of contemporary employees pointed are those who:

[3] R. Rutka, *Organizacje elastyczne*, [in:] A. Czermiński, M. Czerska, B. Nogalski, R. Rutka, A. Apanowicz, *Organizacja i zarządzanie*, Toruń 2001, p. 254.

[4] Z. Bauman, *20 pytań do…*, „Forbes" No 8/2010, p. 36.

– KNOWLEDGE, have intellectual qualifications in a general sense and theoretically know the subject of their activity,
– CAN DO, have enough practice in using their knowledge,
– Can BE, have both skills to cooperate with subordinates and with supervisors,
– WANT, have motivation to work,
– CAN, have all the positive features of availability to work in the conditions of company[5].

The signalled phenomena in a crucial way to influence functioning of the widely understood vocational education, both school and extracurricular one for adults. Having the above in mind it is necessary to ask about the profile of a vocational education graduate.

The profile of vocational education graduate

While establishing the profile of vocational education graduate: it is necessary to establish whether the person is to be professional with a narrow specialization, or a mobile dilettante who has some basic knowledge and skills in many areas but at the same time is prepared to fast adjustment to the changing conditions of a job market?

Not going into detailed explanation of certain attitudes it needs to be accepted that especially in the sphere of economy both the first and the second model has its supporters and antagonists.

The features characteristic for the XXIst century economy justify the narrow specialization in the process of vocational education. Its key determinant is the diversity of forms, high level of complexity, a number of competitive subjects or treating knowledge a stimulus for growth and development. It needs to be accented that difficult to be precisely defined changes within organization and technology of production (work-saving technologies, 'slim' production regimes), deepened specialization, more competition including the one not concerning process referring to the sphere of innovation and creation of new market niche, liquidation of trade barriers, the growth of meaning of the 'intellectual capital', descending meaning of mass consumed and produced goods, and the growth of meaning of individualised goods. This set should also include one important factor namely the growth of meaning of external environment in the production and service processes.

One has to agree with the point of view of a classic of economy P.F. Drucker who highlights that there are no people for everything, that a person can be perfect

[5] W. Kieżun, *Sprawne zarządzanie organizacją*, Warszawa 1997, p. 41.

in one strictly ascribed sphere and in the best case in not many areas. Thus employers should look for such employees[6].

The basic premise for the model of mobile dilettante is the spreading requirement for flexibility referring not only to the structure of enterprises but also to the way they are managed or to the numerous employees' situations.

Flexible structures 'assume the possibility to change the composition of human teams and the set tasks according to a situation in which organization finds itself without making permanent changes'[7]. In some extreme cases flexible organizations can take a form of organic structure named by A. Toffler[8] *ad hoc-creation.* In this system organization is based on creating *ad hoc* teams depending on the needs to solve certain problems.

Another problem requiring a deeper though and discussion is to define the needs of a job market that should be taken into account in the process of preparing vocational schools students for their professions.

Job market a challenge for vocational education

The processes of globalization, socio-economic changes, a chaos in the carrier and professional paths made it necessary to talk about many job markets. The changes are ascribed into the created in the 60's of the XXth century theory of job market segmentation within which concepts of a dual job market appeared[9]. Segmentation of job market divided it on many levels and areas. Among numerous division criteria one can point to the geographical one, demographic, psycho-social or economic one. In addition the specifics of a modern economy enforced such actions which influence the shape of a job market. Contemporary structure of companies' make that education received in the juvenility is not enough to be a qualified employee a couple of years later. Thus one of the most important problems is the fact that 'individuals are less and less attached to one profession and one place; they become contemporary nomads whose life achievements depend on the ability to adjust to new conditions in which they find themselves'[10]. Additionally the specifics of a job market connected with new technologies and globalized economy cause polarization of work places. There are two groups of

[6] P.F. Drucker, *Menedżer skuteczny*, Kraków 1994, p. 88.

[7] R. Rutka, op. cit., p. 245.

[8] A. Toffler, *Szok przyszłości*, Poznań 1988, p. 159.

[9] Pierwsze wzmianki o koncepcji segmentacji można odnaleźć w pracach Stuarta Milla i Johna Eliota Caimesa. Ewolucje teorii segmentacji omawia szczegółowo E. Kryńska, *Segmentacja rynku pracy. Podstawy teoretyczne i analiza statystyczna*, Łódź 1996.

[10] J. Szacki, *Historia myśli socjologicznej*, Warszawa 2006, p. 917.

positions that do not interpenetrate. The first group includes positions requiring huge knowledge, skills or specific competencies. Employees within this group are well educated, specialist in their area, innovative, creative, wanted on the job market. The second group includes employees who are not required to have high qualifications; their work is simple and repeated valuing most of all involvement. 'This way there appeared a phenomena of duality of work which is the effect of polarisation of the needs for 'high' and 'low' skills, but lowering of the required 'low 'skills happens as a result of implementing effects of those 'high' skills'[11]. As a consequence such job market can be divided into two main parts: primal and secondary market. Within the first one there is so called higher job market where posts requiring higher education are offered, attractive places for specialists and people with high qualifications. The features of this part include stability of work, possibility to enforce employees' rights, assurance of promotion and raising qualifications as well as demand set to employees. These work places are connected with high income, prestige, acknowledgement and social respect. The second segment so called lower job market offers less attractive work places where people with lower level of education are employed. The secondary market is a market of low paid work which does not require preparation, very often performed in difficult conditions. Moreover, on the market there are tendencies which prove dehumanization of relationships not only between employers is employees, but also within the group of employees, as well as the phenomena of employing people below their qualifications. Secondary market is characterized by a high fluctuation; there is often liquidation of workplaces or employee leaving. The strength of such phenomena is determined by the changes in the structure of economy. 'Currently the duality of job market is a noticeable fact spotted by analysts and job market participants. The job market is to adjust to the knowledge based economy in which the highest values of a company are well educated, creative and innovative employees. In the theory of dual job market these are the primal market employees, comprehensively educated, aware of their value who however, despite these facts are the ones who continue education most often.

In the context of dual job market there is some consolidation concerning flexibility of such market. In Poland flexibility is seen as a remedy for a high level of unemployment and problems of a job market resulting from the cyclicity of economic situation[12]. Flexible use all of the sources of knowledge and even create new disciplines of knowledge which at a certain stage are answers to the demand

[11] K.B. Matusiak, J. Kuciński, A. Gryzik (ed.), *Foresight kadr nowoczesnej gospodarki*, Warszawa 2009, p. 57 and subsequent.

[12] M. Boni, M. Góra, K. Frieske (ed.), *Elastyczny rynek pracy w Polsce. Jak sprostać temu wyzwaniu?*, „Zeszyt BRE Bank-CASE" No 73/2004, Warszawa.

of reality (…). Flexibility is also required from secondary market employees – however in this case it means using flexible forms of employment and organization of work but one-way only – by the employer. The aim of using other than standard forms of employment contracts is lowering work costs. In this scope flexibility concerns only the demand for work[13]. Flexibility of the secondary market employees undergoes constant fluency and instability. Employees within their professional life will very often change their job which means not only the change of place, but also profession. It requires constant learning. Contrary to the knowledge of primary job market employees' interdisciplinary knowledge is not required. Education of the secondary market employees is restricted mainly to shaping abilities to adjust to the constantly changing work conditions, coping with stress and uncertainty. Job market specialists highlight that secondary market employees will be not only forced to change their employment very often but also to adjust to the situation of unemployment[14].

Thus right is the opinion of J. Habermas that contemporary civilization change is directed towards instrumental and economic-administrative rationale. Its direct result is 'making common, in the corporate consciousness, structures and schemas of deliberate-value thinking occurring in connection with values coming form the so called consumption world view. (…) Side effect of this process are: bureaucracy in human relationships, alienation of individuals, submission of all spheres of life to the requirements of rationality[15].

It seems that the suggested changes in the vocational education are more and more concentrated on such notions as: efficiency, profitability, competitiveness, cost calculation and employment. The task of creating conditions for development of students' creative power, open attitudes, updating of possibilities, autonomy and independency are marginally treated.

Vocational education not only for the job market

Considering functioning of vocational education one can form a thesis that its basic aim should be preparation for employment and the requirements of the job market should be a condition for programming topics and organization of the process of education in vocational schools. Some questions however should be asked: Should the job market be the only determinant for the development of vocational education? Are there any other important factors and if yes what are

[13] K.B. Matusiak, J. Kuciński, A. Gryzik (ed.), op. cit., p. 60 and subsequent.

[14] Ibidem.

[15] M. Szczepański, *Typy ideologii i ich status*, [in:] L. Witkowski (ed.), *Dyskursy rozumu: między przemocą i emancypacją. Z recepcji Jurgena Habermasa w Polsce*, Toruń 1990, p. 210.

they? Are within this education only professional topics important or general ones as well? Is providing knowledge or shaping professional skills or other skills the only important factor in vocational education?

These are only some questions that should be asked and answers to which should be sought. Not going into details it can be assumed that:

– considering education only in economic categories threatens its dehumanization and detachment form crucial task for cultural and social development of individuals[16];
– high qualifications and highly specialised as a result of 'tailoring' work requires having stable and wide cultural, literature, philosophical scientific base making foundations necessary to achieve new technical skills;
– treating job market requirements as the only criterion of setting aims and the choice of topics for vocational education is dangerous especially in the situation of high changeability of directions and pace of economic development as well as contrary and pro tem impulses from the job market[17].

It has to be assumed that the important task of vocational education is shaping cognitive skills of a higher level enabling the individual to solve problems and make decisions. As R. Pachociński notices '… the role of school no matter how it is shaped by work relationships will grow in shaping values, proper relationships between people, in sharing group and social knowledge, knowledge about culture. Individuals will want to get knowledge which will help to be happy and peaceful towards others. School will be less concerned with technical education and more with social one. Humanistic, social and cultural aspect of education of the XXIst century will be more visible'[18].

The task of education, both school and extracurricular one, should be preparation of students for completing professional tasks not only on the country's but also international job market, but also as Cz. Banach writes: preparation to the dialogue of cultures and values, to defence of humanistic culture values as well as opposition to relativity of values and common minimalistic options. That is why humanistic, philosophical, ethical and cultural education should provide not only modern and attractive knowledge but also life experience through action'[19].

Still current is the opinion of work pedagogy formed many years ago that in vocational education getting knowledge, skills and professional habits is as

[16] W. Rabczuk, *Dostosowanie systemu edukacji do potrzeb rynku pracy w krajach Unii Europejskiej*, [in:] S.M. Kwiatkowski (ed.), *Nowe uwarunkowania edukacji szkolnej*, Warszawa 1998, p. 6.

[17] R. Gerlach, *Edukacja zawodowa dorosłych nie tylko dla rynku pracy*, „Pedagogika Pracy" No 44/2004, p. 49 and subsequent.

[18] R. Pachociński, *Oświata i praca w erze globalizacji*, Warszawa 2006, p. 35 and subsequent.

[19] Cz. Banach, *Wartości w systemie edukacji* (www.wsp.krakow.pl).

important as shaping certain attitudes and values preventing discrimination, racism and xenophobia. Only people who are professionals in their job, but also independently and critically, able to make own decisions, work in a team, having high level of personal culture have a chance to work and live in the united Europe. As C.P. Snow said these must be people who have 'future in their blood'[20].

As it results from the research results sought by the job market are people who are critically thinking, are independent in their judgements, able to work in teams, decision making ones. Getting importance are skills which L. Resnick defines as ability to think on higher levels, enabling making precise solutions and analysis of situation with the use of different criteria[21]. Their shaping is a challenge for vocational education.

Acknowledging the necessity to shape in the process of vocational education not only the instrumental but also direct sphere one has to acknowledge that the demand of job market cannot be the only criteria for setting aims and topics of vocational education. One has to agree with those who acknowledge that treating vocational education only in economy categories threatens its dehumanization and detaches it from crucial cultural and social development of individuals.

There is another threat connected with restricting education only to the need of the job market. 'Impulses coming from the job market are often – as S.M. Kwiatkowski says – contrary to one another, and most of all pro tem which is caused by the current state of economy. This state undergoes dynamic changes which directions not always result from logical analysis of some basic data'[22].

We need to ask a question what are the chances for getting employment on the European market? It can be assumed that clear more and more often. The need for young employees, especially from modern branches, is growing. There is one condition – good education. 'Polish graduate will have a chance in Europe when will be equally well prepared for work as colleagues form Germany, Sweden or Great Britain. Prepared not only theoretically but having most of all practical skills of using foreign language, ability to use latest technology (computers, Internet, multimedia), open towards new people. Despite the high level of unemployment people having the above mentioned features will not have problem on the job market'[23].

[20] A. Toffler, *Szok przyszłości*, Przeźmierowo 2007, p. 347.

[21] A. Bogaj, *Kształcenie ogólne w szkołach zawodowych*, [in:] S.M. Kwiatkowski (ed.), op. cit., p. 106.

[22] S.M. Kwiatkowski, *Relacje między rynkiem pracy a systemem edukacji*, [in:] A. Bogaj (ed.), *Realia i perspektywy reform oświatowych*, Warszawa 1997, p. 49.

[23] T. Pomianek, A. Rozmus, *Czy nasza młodzież to szansa czy problem? – dylematy polskiego rynku pracy i polskiego szkolnictwa wyższego na tle krajów UE* (www.wsiz.rzeszow.pl).

Opening of the job market, resulting from globalisation as well as European integration causes that huge international organizations very often expect from their employees not only certain professional qualifications but also experience, knowledge of foreign languages and mobility[24]. Making vocational schools graduates aware of these demands is an important task which should not be avoided in the process of education.

Questions for the vocational education discourse

The described aspects of changes give the base for forming questions concerning the discourse on the aims, role or tasks of vocational education in the context of a job market. Among many issues and questions requiring thinking and some solutions some areas of a fundamental meaning can be pointed:

1. Question about the profile of a vocational school graduate, including professional profile. Is it going to be an educated specialist in a certain area who will be looked for on the job market and by employers, and who will be able to use effectively more and more modern technology? Is it someone having necessary skills from many disciplines and able to adjust to the changes which are forgotten by theoreticians in economy or social sciences? Thus the problem appears again whether school is to educate only in narrow or wide areas? Having in mind the changes within vocational education visible is the lack of regularity and continuity of such processes. The first phase of reforms was characterized by promoting a wide education, but now choosing some narrow vocational qualifications within one profession is promoted.

2. A question about the model of education ideology. Are vocational schools to educate everyone for everything and fulfil the widely understood social interest? Are they to select and profile activity for certain needs and expectations of professional groups? How to reconcile the problem of aiming at egalitarianism, making chances equal at the start as well as results at the end, and on the other hand reach the model of perfectionism and professionalism of behaviour that is expected by socio-economic reality?

3. Are often called for and valued economic-technical issues of vocational schools based on ethical fundaments? and do they undergo moral evaluation and control? If contemporary education is to be personality, dialogue based, respecting dignity and freedom, respecting law and duties, these features should come from

[24] M. Król, *Rynek pracy jako uwarunkowanie zarządzania kapitałem ludzkim*, [in:] A. Pocztowski (ed.), *Praca i zarządzanie kapitałem ludzkim w perspektywie europejskiej*, Kraków 2003, p. 218 and subsequent.

natural and authentic relationships between the teacher and students, between schools and social environment and supervising institutions. It seems that client orientation, aiming at avoiding loss and failure, especially material ones, does not serve education.

4. Needs of what job market or segment should be considered while designing vocational education? Should local perspective, in which financial supports for education as well as providers are local, or maybe a wider context be considered? Apart from that should we educate only for the needs of the primary market or should we remember also about the secondary one as in many opinions there is still demand for simple works not requiring high professional preparation?

5. Is system of vocational education and subjects responsible for it aware of the differences and complexity of the socio-civilization dimension of reality?

These are only some questions which should be asked and answers to which should be sought. It has to be remembered though that vocational education is not only school, but also some extracurricular forms as well. That is why these can be referred to adults taking part in education.

Final afterthoughts

Summing up it is worth reminding once more that he changes that are happening around us are of a continuous character. Their pace causes that:

– future cannot be treated as extension of present time;
– what was working in the past does not necessarily have to be useful in the future/company of the future;
– an individual has to be prepared for constant reorganization what was stable before must be replaced by some flexibility;
– The Chance on the job market will be for those who will have the skill of using knowledge and will be ready for changes[25].

The key issue of the XXth century economy is the diversity of its forms, high level of complexity, huge number of competitive subjects, or treating knowledge as a stimulant of growth and development and also and maybe its changeability. P.F. Drucker writes that: 'in the era of chaos in which we function changes have become norms. Each change is painful and risky and most of all requiring hard work, effort and sacrifice. But if and organization – company, university or hospital – cannot understand that its main task is to take part and anticipate the

[25] As cited in: K. Illeris, *Trzy wymiary uczenia się*, Wrocław 2006, p. 234; W.M. Grudzewski, I.K. Hejduk, *Kreowanie w przedsiębiorstwie organizacji inteligentnej*, [in:] W.M. Grudzewski, I.K. Hejduk (ed.), *Przedsiębiorstwo przyszłości*, Warszawa 2000, p. 75.

changes it cannot count on surviving. In the world of rapid and fast structural changes only leaders of changes will survive'[26].

That is why it has to be accepted that in the times when such slogans as post-industrial economy, IT or knowledge based economy stop being a utopia only and become real, the basic function of vocational education is preparation of people who can live and work in the conditions of constant changes.

Bibliography

Banach Cz., *Wartości w systemie edukacji* (www.wsp.krakow.pl).

Bauman Z., *20 pytań do…*, „Forbes" No 8/2010.

Bogaj A., *Kształcenie ogólne w szkołach zawodowych*, [in:] S.M. Kwiatkowski (ed.), *Nowe uwarunkowania edukacji szkolnej*, Warszawa 1998.

Boni M., Góra M., Frieske K. (ed.), *Elastyczny rynek pracy w Polsce. Jak sprostać temu wyzwaniu?*, „Zeszyty BRE Bank CASE" No 73/2004, Warszawa.

Clarke L., *Zarządzanie zmianą*, Warszawa 1997.

Czermiński A., Czerska M., Nogalski B., Rutka R., Apanowicz J., *Zarządzanie organizacjami*, Toruń 2001.

Drucker P.F., *Menedżer skuteczny*, Kraków 1994.

Drucker P.F., *Zarządzanie XXI wieku – wyzwania*, Warszawa 2009.

Gerlach R., *Edukacja zawodowa dorosłych nie tylko dla rynku pracy*, „Pedagogika Pracy" No 44/2004.

Gerlach R., *Pozaszkolna edukacja zawodowa wobec zmian cywilizacyjnych. Nowe trendy i wyzwania*, Bydgoszcz 2012.

Grudzewski W.M., Hejduk I.K., *Kreowanie w przedsiębiorstwie organizacji inteligentnej*, [in:] W.M. Grudzewski, I.K. Hejduk (ed.), *Przedsiębiorstwo przyszłości*, Warszawa.

Illeris K., *Trzy wymiary uczenia się*, Wrocław 2006.

Kierżun W., *Sprawne zarządzanie organizacją*, Warszawa 1987.

Król M., *Rynek pracy jako uwarunkowanie zarządzania kapitałem ludzkim*, [in:] A. Pocztowski (ed.), *Praca i zarządzanie kapitałem ludzkim w perspektywie europejskiej*, Kraków 2003.

Kryńska E., *Segmentacja rynku pracy. Podstawy teoretyczne i analiza statystyczna*, Łódź 1996.

Kwiatkowski S.M. (1997), *Relacje między rynkiem pracy a systemem edukacji*, [in:] A. Bogaj (ed.), *Realia i perspektywy reform oświatowych*, Warszawa.

Matusiak K.B., Kuciński J., Gryzik A. (ed.), *Foresight kadr nowoczesnej gospodarki*, Warszawa 2009.

Pachociński R., *Oświata i praca w erze globalizacji*, Warszawa 2006.

Pomianek T., Rozmus A., *Czy nasza młodzież to szansa czy problem? – dylematy polskiego rynku pracy i polskiego szkolnictwa wyższego na tle krajów UE* (www.wsiz.rzeszow.pl).

[26] P.F. Drucker, *Zarządzanie XXI wieku – wyzwania*, Warszawa 2009, p. 83.

Rabczuk W., *Dostosowanie systemu edukacji do potrzeb rynku pracy w krajach Unii Europejskiej*, [in:] S.M. Kwiatkowski (ed.), *Nowe uwarunkowania edukacji szkolnej*, Warszawa 1998.

Rutka R., *Organizacje elastyczne*, [in:] A. Czermiński, M. Czerska, B. Nogalski, R. Rutka, A. Apanowicz, *Organizacja i zarządzanie*, Toruń 2001.

Szacki J., *Historia myśli socjologicznej*, Warszawa 2006.

Szczepański M., *Typy ideologii i ich status*, [in:] L. Witkowski (ed.), *Dyskursy rozumu: między przemocą i emancypacją. Z recepcji Jurgena Habermasa w Polsce*, Toruń 1990.

Toffler A., *Szok przyszłości*, Przeźmierowo 2007.

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The change of a model of workplace a challenge for vocational education

The shift from industrial economy to the knowledge based economy is accompanied by a widely understood '*change'* which involves all the aspects of running own business, and in consequence a general model of workplaces functioning. The notion 'change' referred to businesses can be understood as both a chance for growth and the improvement of businesses' competitive advantage as well as unplanned and unwanted events and processes the result of which may be failure in business activity. The article thus refers to the change of a model of workplace in the context of vocational education challenges.

Towards the knowledge based economy

Workplaces as subjects strongly connected with the nearest and further environments of their activity are built into the socio-economic system with which they remain in close interaction. The environment in which they function becomes more and more complex and its changes are happening faster and faster and do not undergo any control which makes that *change management* should be a basic competence of contemporary entrepreneurships[1].

The change in workplaces management is conditioned by the dynamics and worldwide reach of economic transformation processes, at present in a wider scope based on knowledge resources. These processes include mainly decisions made connected with a widely understood economy management, which aim is to reach certain goals, such as: gaining new markets, raising production, reaching new clients, finding more efficient ways of selling etc.[2] It can be thus stated that each workplace undertakes decisions of this type and what follows takes part in the economic process within a certain area.

[1] As cited in: J. Penc, *Przedsiębiorstwo w burzliwym otoczeniu. Procesy adaptacji i współpracy*, part 1, Bydgoszcz 2002.

[2] R. Smolski, M. Smolski, E.H. Stadtmüller, *Słownik encyklopedyczny: Edukacja obywatelska*, Wrocław 1999.

A crucial feature of the pointed processes is a general growth of the risk level of a workplace in completing any of its undertakings. The risk is determined mostly by the following factors:

– modern products include more and more highly advanced knowledge and the preparation stage of the production of such a product are higher costs of equipping and prepared to be explored resources of technical thought. That is why in the race on the global market the basic parameter is time of preparation of certain quality product and preparation of production powers. Any delay even symbolic compared to the competition in the presentation of a product, or time of completing supplies following orders is a risk of losing and a threat of losses;
– company's position on the market depends on the quality and completeness of knowledge understood as a meaningful part of the company's resources. The factor that finally decides about the current value of this knowledge is its up-to-date and at certain times its competitiveness. This rule makes that the company at once multiplies its value by getting knowledge that is market attractive and valuable today or in real future;
– the world of business became so transparent that each new product is visible and both new business partners and competition react immediately to every new product. Each product is thus endangered on the market because at any time and place on the earth there might appear a new offer that threatens company's position, its interest and future[3].

The above are factors which condition the flow of economic processes at the break of the XXth and XXIst centuries, and which contributed to the raise and development of workplaces of so called 'new economy' or 'knowledge based economy' which is based on four pillars:

1. Human capital which is its base namely highly qualified employees who are motivated to creative and efficient activity for the sake of contemporary economy.
2. Higher schools and science-research institutions that play the role of a supplier of knowledge without which new economy cannot be built.
3. Financial and credit giving institutions which provide capital for business enterprises of a high risk as well as supporting the liquidation of capital barriers for the subjects involved in building the knowledge based economy.
4. IT infrastructure due to which unrestricted exchange of information is possible[4].

[3] H.P. Kolka, *Firma we współczesnej gospodarce*, http://globaleconomy.pl/content/view/2100/21; Accessed 1 March 2013.

[4] Europejski Portal Integracji i Rozwoju, *Gospodarka oparta na wiedzy* http://www.europejskiportal.eu/id03.html; Accessed 20 February 2013.

The notion *knowledge based economy* was introduced to theory and economy practice in the 90's of the XXth century, and it is understood as new type of economy which: '*is directly based on production, distribution and using knowledge and information*'[5].

In the macroeconomic understanding it is highlighted that it is economy in which the basic driving force is knowledge and information, in the microeconomic scope accented is the role of micro subjecst i.e. businesses basing their competitive advantage on the knowledge and information. Another approach is also suggested that is a synthesis of the two previously mentioned ones. According to it knowledge based economy is a new civilization development phase which is based on knowledge and information. It is especially about two types of knowledge: individual knowledge so the set of experience, information and personal skills and collective knowledge which underwent collective and institutional verification by science. It is necessary to highlight that in all existing definitions a practical aspect of using knowledge for building modern economy is highlighted, not only having some knowledge potential[6].

The development of knowledge based economy is not without any influence of functioning of workplaces and it contributes to the change of both the paradigm of their management and a general model of existence and development which includes: organization structure, undergoing processes, existing rules and laws.

While analysing functioning of workplaces from the historic perspective on should pay attention to the fact that the time since 70's of the XXcentury can be referred to as so called: industrial '*static organizations'*. These had a stable, unchangeable structure, were acting in stable conditions, were bureaucratic in nature and were based on sharing work[7]. The key aspect of a traditional management paradigm was improvement of their productivity based on the available resources as well as:

– reduction of direct production costs;
– operations characterized and analysed as stable;
– products lines based on one especially important technology;
– long life cycles of products;
– managers were treated as decision making ones, and subordinates were only passive receivers of their orders;

[5] *The Knowledge-Based Economy*, OECD, Paris, GD (1996) 102, p. 7.

[6] A. Sadowski, *Przemysł wiedzy jako sektor gospodarki*, [in:] P. Borkowska, U. Feliniak (ed.), *Edukacja a rozwój społeczeństwa wiedzy*, Łódź 2007, p. 56.

[7] M. Strykowska, *Zawód – Praca – Kariera. Dynamika zmian w funkcjonowaniu współczesnych organizacji*, [in:] M. Strykowska (ed.), *Współczesne organizacje. Wyzwania i zagrożenia*, Poznań 2002, p. 15 and subsequent.

– world markets were divided according to national criteria;
– domination of national businesses on national markets[8].

Due to the changeability of the environment in which contemporary businesses are functioning they are forced to act fast and efficiently that is why it can be assumed that they become in a wider scope so called '*dynamic organizations*'[9], that is such that are based on dynamic management of business processes. This management allows reacting quickly to the changing conditions of activity and individualized customer demands, based on the adaptation of processes completed while performing them by direct contractors who have access to codified business knowledge. Such workplaces join the everyday ability to create fast and verify innovations with their basic activity using the dynamism of their employees. Businesses managed according to such concept will be at the same time able to hyper competition[10].

The above cited notion of *dynamic* organization is not the only one which describes the essence of a workplace in conditions of a new economy. In the literature of the subject more commonly used is a term '*knowledge organization*' or '*knowledge based organization*'; in a narrower scope '*university of entrepreneurship'* is used. Apart from such a terminological diversity describing the core issue of such a business, there is no doubt that in the knowledge based economy that is being shaped, workplaces evolve towards such organizations, in which resources and high class knowledge dominates and products are characterized by a great share of this knowledge. Activity of such businesses is supported by equipment at workplaces that uses different contemporary electronic applications, and the forms of connections between people and companies are often referred to as networks. Moreover, such companies start to look like a complex system which more and more effectively uses the knowledge generated by itself which more efficiently lowers losses resulting from lack of information, not using abilities existing within cooperative connections, poor coordination, lack of resources or possibility to reach the clients[11].

[8] D. Jamali, *Changing management paradigms: implications for educational institutions*, „Journal of Management Development", vol. 24, no. 2/2005, p. 108, as cited in: A. Mazurkiewicz, *Paradygmaty zarządzania we współczesnym przedsiębiorstwie: wybrane aspekty*, [in:] *Nierówności społeczne a wzrost gospodarczy*, z. 19: *Modernizacja dla spójności społeczno-ekonomicznej*, ed. M.G. Woźniak, Rzeszów 2011, p. 411.

[9] M. Strykowska, op. cit., p. 15 and subsequent.

[10] Ch. Pettey, L. Goasduff, *Gartner Reveals Five Business Process Management Predictions for 2010 and Beyond*, Egham, UK, January 13, 2010; P. Byrnes, *BPM 2.0: Dynamic Business Process Management*, Ebiz 01/03/2007.

[11] H.P. Kolka, op. cit.

It is worth to highlight at this stage that together with the development of new type of organizations the dominating paradigm of management based on maximizing profits is exchanged by a pursue to reach a bunch of different aims resulting from expectations of certain groups of stakeholders. This is visible in such changes as i.e.:

– reduction of direct company's costs and at the same time improvement of competitiveness;
– flexible operations, constantly improved;
– products lines based on multifocal technology;
– short life cycles of products;
– managers treated as coaches who make work easier and subordinates employers of knowledge;
– global world markets and their concentration focused on international economic and political structures[12].

In practice of functioning of workplaces visible are gradual tendencies to change traditional approach to management, it is spotted in i.e.: creating 'strategies partnerships', implementation of 'human corporation management' and 'development of social capital'. Basic aims of contemporary workplaces are also redefined. These become: creating global value, value for the owner, employers, business partners, clients, country, society and other stakeholders[13].

Currently it is highlighted that for the company to survive and be successful it is necessary to master and use such rules of its existence and development which are preferred and demanded in new economic conditions. These include mostly:

– added value as a basic social obligation of a company,
– quality as a basic demand influencing competitiveness,
– reacting to changes in the environment and clients' needs,
– flexibility in communication and action,
– development of new ideas and using creativity and enthusiasm of employees,
– integration of the range of technology in order to achieve an outstanding competition advantage,
– creating multifunctional and multidisciplinary teams[14].

Together with the development of knowledge based economy the interest in theory and practice of managing workplaces has grown significantly. New paradigm, which could completely replace traditional views, has not yet been

[12] D. Jamali, op. cit., p. 108, as cited in: A. Mazurkiewicz, op. cit., p. 411.

[13] As cited in: B. Mikuła, *Wprowadzenie do gospodarki i organizacji opartych na wiedzy*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), *Podstawy zarządzania przedsiębiorstwami w gospodarce opartej na wiedzy*, Warszawa 2007, p. 28.

[14] D. Jamali, op. cit., p. 109, as cited in: A. Mazurkiewicz, op. cit., p. 410.

formed. However, new methods of competitiveness and running businesses toward more efficiency are being sought[15], as well as directing classical management functions i.e. planning, organizing, managing and control to non-material resources.

The canon of these functions recently also included one more fifth function namely – human development[16].

In order to come up to the raised expectations of the environment workplaces should have suitable employees. It concerns:

1. Firstly, employing right people and adjusting tasks to them.
2. Secondly, adequate use and development of skills and abilities of employees.

The progress of the fifth function of management results from the way of functioning of dynamic organisations based on knowledge, which structure is little formalised and directed at cooperation, advising and direct communication. At all levels of activity the meaning of the knowledge and the abilities to learn by employees is growing. Moreover, such businesses concentrate not only on employing right people and implementing them to new tasks but also directing their professional carrier[17]. As P.F. Drucker writes: '*Management is a social function and freed art*'[18]. Its main goal is: '*Allowing people to reach the chosen aims together and making use of their assets, and treating their drawbacks as something not really important*'[19].

Employee development in workplaces gets more and more meaning also due to the fact that innovation is the key area of knowledge based economy. The source of innovation is information changed into knowledge. A factor of high quality of human work is necessary to create them, which is why multiplying knowledge and ability to use it seems to be the greatest challenge that contemporary organizations are facing[20].

Summing up a conclusion can be formed that a change in the direction of developing knowledge based economy has become in our century an imperative of managing workplaces. Economy of tangible products and services is replaced by so called *new economy*[21] in which competencies and human knowledge are basic categories.

[15] R.W. Griffin, *Podstawy zarządzania organizacjami*, Warszawa 2007, p. 59.
[16] As cited in: P.F. Drucker, *Myśli przewodnie*, Warszawa 2008.
[17] M. Strykowska, op. cit., p. 15 and subsequent.
[18] P.F. Drucker, *Myśli…*, p. 15.
[19] Ibidem, p. 26.
[20] Z. Malara, *Przedsiębiorstwo w globalnej gospodarce. Wyzwania współczesności*, Warszawa 2006, p. 126.
[21] W. Furmanek, *Edukacja a przemiany cywilizacyjne*, Rzeszów 2010, p. 125.

Multi-sidedness of knowledge based organizations

The starting point for characterizing knowledge based organizations should be highlighting that the dominating model of workplace most commonly found in the practice of economic life is still hierarchical model, typical for industrial economy, based on control mechanism, having a multilevel stricture, division according to certain functions, diversity of job posts and pay spines as well as partial access of employees to information[22].

As the author of the concept '*knowledge organization'* highlights – previously mentioned P.F. Drucker – a company in which the basic economic resource is not its capital, natural resources or workforce, but knowledge, will become the only dominating form of organization in the post-capitalistic era[23]. To be called knowledge organization deserves such a workplace in which knowledge is of a strategic value and which actively inspires employees to develop, and this process is integrated with all the subsystems of management process. The essence of knowledge organization evinces in the ability to develop and learn and encouraging employees to educate and search for efficient problem solutions which may occur in the workplace[24].

Knowledge based organization is not ascribed into one theoretical model but described by different concepts which common feature is basing their functioning on knowledge and education. Distinguishing the characteristic features of such an organization one may mention:

– the assumption that professional competencies are more important than seniority and position in the hierarchy. The prestige of an employee is measured by knowledge and merits brought into team work;
– seeing young employees as potential source of new ideas, while the older ones are considered more credible;
– blurred, liquid and constantly changing borders between the inner part of the company and its environment. The same concerns borders between the internal organization parts such as marketing, production as well as research and development;
– keeping contact with clients who are a valuable source of new knowledge;
– expecting innovation and creativity from all members of organization;
– seeing knowledge and ideas as objects to be managed[25].

[22] R. Ashkenas, *Nowe szaty organizacji*, [in:] F. Hesselbein, M. Goldsmith, R. Beckhard (ed.), *Organizacja przyszłości*, Warszawa 1998, p. 119 and seubsequent.

[23] As cited in: P.F. Drucker, *W kierunku organizacji nowego typu*, [in:] F. Hesselbein, M. Goldsmith, R. Beckhard (ed.), op. cit., p. 17-21.

[24] P.M. Senge, *Piąta dyscyplina. Teoria i praktyka organizacji uczących się*, Warszawa 1998, p. 26.

[25] Centrum Badań nad Edukacją i Innowacją, *Zarządzanie wiedzą w społeczeństwie uczącym się*, OECD, Warszawa 2000, p. 51 and subsequent.

The signalled, main concepts of the knowledge organisation which join the above mentioned features one can include: *net organization*, *virtual*, *fractal*, *as well as learning* and *intelligent.* These flexible forms of workplaces are actively functioning on the market that is why problems connected with them are described in the second part of the article, though the author devotes most of attention to the last two mentioned organizations.

The first is the concept of *network organization*, which functioning is based on the creation of common dependencies between organizations, most commonly occurring in the form of network structures, clusters, constellations or virtual corporations. The network may be created by several or many companies, differing in size, the level of internal competition or management structure, but the companies are connected by cooperation agreements though not all of them have to be connected with each other. The networks between organizations are of a specific construction, hybrid form of a workplace. As a creation of a loose set of independent organizations and market they very often sustain their capital, and always keep their legal and organizational independence. They have both the features of organization and market[26].

The second one is the concept of *virtual organization* which is not however perceived in a unified way. By the notion 'virtual' some authors understand a company existing in the real world that is only a temporary connection of independent partners; some treat it as a company which really exists but is created by the data due to the use of IT technology[27]. In the article the author refers to the first approach which treats this type of organization as a form of a temporary cooperation of independent companies very often chosen dynamically, located in different places which are joined by a common aim – providing services and/or providing a product for the client. Such organization is based more on trust rather than formal contacts and it is restricted by time that is necessary to perform a task for which it was made. Moreover, each company that is part of the *virtual organization* brings its key competencies into their contacts[28].

On the other hand *fractal organization* bases its functioning on the so called fractals that make its independent parts. A company managed according to this concept works based on units connected by information-communication technology and self-organizing autonomous teams of employees; it builds a similar organizational structure; as well as offers full access of resources and organizational-management

[26] As cited in: A. Pietruszka-Ortyl, *Organizacja sieciowa*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), op. cit., p. 54 and subsequent.

[27] As cited in: D. Gach, *Organizacja wirtualna*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), op. cit., p. 60-62.

[28] A. Sankowska, M. Wańtuchowicz, *Korzyści z zastosowania koncepcji organizacji wirtualnej w świetle teorii i badań własnych*, „Ekonomika i Organizacja Przedsiębiorstwa" No 6/2007.

methods, which provide an optimal use of own resources in the conditions of a dynamically changing environment. Taking as a point of reference the features of a knowledge organization it has to be highlighted that a fractal workplace similarly as in case of the previously signalled concepts, bases its activity on full access to information and its flow, and at the same time it requires from its members communication skills, abilities to learn fast and raise professional qualifications, as well as sharing knowledge[29].

Moving to the concepts of a *learning organization* it seems that it is this notion that fully describes the essence of a workplace in the new economy. In the light of its basic assumptions, on the market survives only a company which helps its employees to improve the products or provided services, at the same time improvement makes learning easier for everyone and is constantly changing[30]. Such organization invests in the development of employees and involves people in creating and implementing innovations; uses possibilities to learn of all its employees at all levels in the structure; creates conditions for their development and encourages them to take part in different forms of education. The used actions, processes and educational programmes are part of the strategy of human resources development and are aimed at providing educated and competent employees who are able to fulfil the current and future needs of the company[31].

Organization is a learning system which constantly widens it intellectual potential becoming an *intelligent organization*, i.e.: able to create knowledge and use optimal solutions according to the needs of the environment. Such organization uses intelligence understood as a set of features defining the level and efficiency of activity resulting from the ability of processing information fast and adjusting to the changeable environment, as a strategic feature, the wealth available to everyone and valued by the management[32]. In other words it is a concept referring to the development of learning organization intelligence. Company's intelligence is shaped by different elements: information, technological, innovative, financial, marketing, organizational, social and economic intelligence. These spheres in connection decide about the general potential of a workplace, which is seen in the way of using chances and possibilities, abilities to shape the current and future situation. Acquiring knowledge refers to individual development of the highest level managers, administration and technical employees, managers at different levels as well as people dealing with services and production by i.e.:

[29] A. Binsztok *Organizacja fraktalna*, [in:] R. Krupski (ed.), *Zarządzanie przedsiębiorstwem w turbulentnym otoczeniu. Ku superelastycznej organizacji*, Warszawa 2005, p. 138.

[30] J. Penc, *Menedżer w uczącej się organizacji*, Łódź 2000, p. 12.

[31] M. Armstrong, *Zarządzanie zasobami ludzkimi*, Kraków 2007, p. 480-498.

[32] As cited in: J. Penc, *Kreowanie zachowań w organizacji. Konflikty i stresy pracownicze. Zmiany i rozwój organizacji*, Warszawa 2001, p. 36.

– using world and country's experience in managing operating and investment projects,
– using systems enabling organization management, methods and ways of running processes involving dynamic management of certain entrepreneurships, tasks or groups of tasks,
– active participation in conferences and seminars organized within own company as well as by educational and professionally educating organizations, such as: universities, research-development units, advisory offices and technological ones, etc.[33]

A thesis thus can be formed that a workplace based on knowledge is not only a learning organization, but also intelligent one which builds its advantage in the global environment based on the distinguishing it competencies, constantly improved due to learning, creating and acquiring new knowledge, spreading it and using in its activities. Employees learn on behalf of and for such a workplace and at the same time they take responsibility for personal development which is a key instrument in keeping the company in the state referring to the needs of effective functioning[34].

It also has to be highlighted that the signalled concepts do not refer to the whole of the problem. Currently there appears a number of forms of workplaces among which are intensively developing: *post-modern organizations, post--entrepreneurship organization, flexible organization, federalism*, reengineering processes*, skilled organization, organization without borders, hybrid organization, organization in movement, e-organization, high involvement systems and other*[35].

It is more and more often highlighted that traditional models and concepts of management loose their meaning, which makes it necessary to introduce to practice totally new workplaces structural-organizational solutions that are suitable for the knowledge based economy and which favour functioning in the turbulent environment. Example solutions which mirror the current development tendencies also involve: *local networks, international and global*; *clusters*; *technological parks*; *innovative companies* and other[36].

[33] W. M. Grudzewski, I.K. Hejduk, *Kreowanie w przedsiębiorstwie organizacji inteligentnej*, [in:] W.M. Grudzewski, I.K. Hejduk (ed.), *Przedsiębiorstwo przyszłości*, Warszawa 2000, p. 99 and subsequent.

[34] Z. Malara, op. cit., p. 132.

[35] As cited in: A. Rakowska, *Kompetencje menedżerskie kadry kierowniczej we współczesnych organizacjach*, Lublin 2007, p. 22.

[36] As cited in: B. Barczak, K. Bartusik, A. Kozina, *Modele strukturalne organizacji uczącej się*, [in:] A. Stabryła (ed.), *Doskonalenie struktur organizacyjnych przedsiębiorstw w gospodarce opartej na wiedzy*, Warszawa 2009, p. 57-60.

As it was highlighted at the beginning of this article, independently of the differences that characterize each of the concepts they have common aims which include most of all:

1. Reaching and keeping condition allowing answering the expected and unexpected changes of the environment.
2. Reaching client satisfaction in the dynamically changing market conditions.
3. Conducting market operations in an economical, agile and intelligent way to answer the changes but not to influence company's condition.
4. Employing workers who are acting on the knowledge base.
5. Fulfilling interest of all the interested in the company's activity (shareholders, employers, suppliers, etc.)[37].

Fulfilment of the pointed aims requires from the company undertaking among other the following actions:

– using flexible performance/services processes,
– having staff prepared for flexible use of changing processes,
– suitable knowledge management,
– using methods of team work connected with constant education,
– continuous management of changes,
– integration of all elements that make the company,
– introduction of adaptive information systems[38].

Accepting the above mentioned directions of development can be done only based on adequately modified and adjusted to the needs of modern companies' paradigm of management, especially *knowledge based*. Knowledge management requires from people having different than before competences which are gained and mastered in the system of vocational education both school and extracurricular one. In this meaning the relationship between knowledge based economy and education become meaningful for the whole civilization development.

To conclude with it can be accepted that in the times when the changes are continuously happening, workplaces can be almost sure that: '*What worked in the past will certainly not work the next time*'[39]. Functioning in the knowledge based economy they need to see education as the only way of life: '*It is said that people who stop learning – stop living as well. The same rule applies to organization*'[40].

[37] As cited in: M. Bednarek, *Doskonalenie systemów zarządzania. Nowa droga do przedsiębiorstwa lean*, Warszawa 2007, p. 28.
[38] Ibidem, p. 28.
[39] W.M. Grudzewski, I.K. Hejduk, op. cit., p. 75.
[40] Ibidem, p. 78.

New type of organization a challenge for vocational education

Workplace as a basic organizational unit is a basic subject who conditions the development of knowledge based economy. To become its principal media companies should employ highly qualified staff that could comply with the challenges of innovative new economy[41].

Continuing the consideration a thesis can be formed that the change of a workplace model is a challenge for education, especially vocational education, as prepared for such a change should be:

1. Firstly – young people attending all types of vocational school functioning in the *school education system*, including students.
2. Secondly – adults who are functioning as employees especially in the context of prolonging the period of professional activity allowing retirement – in the *system* of *school* and *extracurricular vocational education*.

Referring to the first thesis it is worth highlighting at this stage that since the school year 2006/2007 after many years of increases popularity of general high schools, a significant growth in interest is observed referring to vocational education. This interest can be connected with changes happening on the job marker due to Poland's access to the European Union. The external demand for qualified employees and their migration to member countries increased our country's demand for people who have certified qualifications in specific jobs[42].

The analysis of functioning of vocational education for young people allows noticing that:

1. The foregoing image of vocational education in Poland, especially at basic level, seems to be negative, due to law social acceptance and active promotion of general high schools and higher school of academic character.
2. What can also be observed: negative stereotypes concerning vocational education; a 'fashion' for general education; among junior high school graduates with high learning results lack of interest in learning in vocational schools, especially those basic ones; difficulties with organizing practical education.

[41] As cited in: A. Kukliński, *Gospodarka oparta na wiedzy (GOW) jako wyzwanie dla Polski XXI wieku*, p. 4; *Konkurencyjne społeczeństwo permanentnej edukacji jako twórca gospodarki opartej na wiedzy*, p. 1-2; *Ku polskiej trajektorii rozwoju gospodarki opartej na wiedzy*, p. 1-2, [in:] *Gospodarka oparta na wiedzy (GOW) jako wyzwanie dla Polski XXI wieku*, Kancelaria Prezesa Rady Ministrów. Polska 2010 – dekada rozwoju, Warszawa 2001.

[42] Europejskie Centrum Kształcenia i Szkolenia Zawodowego, *Kształcenie i szkolenie zawodowe w Polsce*. Charakterystyka ogólna, Urząd Publikacji Unii Europejskiej, Luksemburg 2011, p. 30.

3. The offer of basic and high schools of vocational type is influenced by the existing base and techno-didactic equipment as well as availability of qualified staff who could educate within certain spheres.
4. The managers of these schools definitely less often are acting according to the demands for certain jobs and the job market analysis.
5. There is lack of the current picture of job market, forecast concerning its development and lack of cooperation between local government units in creating a vision of vocational education.
6. Not without meaning is the fact that managers often use individual educational offer management strategies – very often directed at getting high number of students and at the same time keeping workplaces for teachers[43].

As quality research shows both among employers and experts, vocational education syllabuses are completed totally detached from real market and employers expectations. At the same time employers also are characterized by a low consciousness of their role in raising the quality of vocational education, which transfers on creating syllabuses – among employers who cooperate with schools only one out of five takes part in syllabus preparation. In consequence students functioning in the system totally isolated from the market reality, are not fully aware of their own needs. The clash with real employers' demand is for them a source of disappointment and frustration[44].

As authors of a report '*The evaluation of professional activity of graduates in the context of First Job programme fulfilment*' write: '*While evaluating the difficult job market situation very often structural qualification unsuitability of job seekers to the demands of the changing market is highlighted. What is also signalled is unsuitability of the system of education to the demands of the job market, even not following the changes and expectations for qualifications in the economy by the system of education* '[45]. The words of a classic of polish pedagogy B. Suchodolski are still current; he said that before the student leaves school what he/she has learnt there, is right away not adequate to the reality which is changing very fast[46].

It seems inevitable, especially in the context of the considerations connected with the change of workplace model in the knowledge based economy, to prepare

[43] Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania systemu kształcenia zawodowego w Polsce. Raport końcowy*, Warszawa, luty 2011, p. 228-233.

[44] Ibidem, p. 109-114.

[45] *Badanie aktywności zawodowej absolwentów w kontekście realizacji programu „Pierwsza praca*", Raport Ministerstwa Pracy i Polityki Społecznej Departamentu Rynku Pracy, Warszawa 2008, p. 33, as cited in: Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania*…, p. 48.

[46] Ibidem, p. 48.

young people (students, graduates), to work and function in such a reality. The preparation requires shaping universal skills, not only professional ones, called *key competencies*. This notion is connected with new requirements towards employee who is expected to solve tasks typical for a certain job, but at the same time doing three different activities: planning, completing and controlling the results of activity[47]. Organization of Cooperation and Economy Development which threats the term skill as 'competencies' distinguished nine key competencies: working in a team; using modern IT technology and communication, problem solving; listening to others and taking their point of view into account; communication in several languages; joining and ordering some portions of knowledge; coping with uncertainty and complexity; as well as organization and evaluation of own work[48].

The challenges of knowledge based economy make good preparation of vocational schools students for professional work only one of the elements that enable young people to enter the job market. So reinterpreted should be such notions as: 'professional preparation' as well as 'professional usefulness'. Though in the structure of professional competencies both *hard competencies*, connected with specialized knowledge and skills, also *soft* ones which include personal and interpersonal competencies are distinguished, it seems that for the employees development and success of his company both types are of the same importance[49].

The development towards new economy as well as directing the companies' strategy to knowledge and getting better educated, competent and flexible employees is one of many factors which make that greater chances for work and developing career for those people who want to improve their skills, undertake new challenges and learn throughout life[50].

That is why as the answer to the needs of both *school* and *extracurricular vocational system of education* is devoting it to those people who want to get or complete knowledge and skills and get new professional qualifications. This education is of a formal character when it takes place at schools or educational institutions supervised by the Ministry of National Education, or is of an informal character when it is run by other institutions including workplaces[51].

Educational processes organized within workplaces are aimed at keeping and raising efficiency of work, help in developing employees' skills in adjusting to new methods of work, machines and devices, organizational solutions as well as

[47] Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania*..., p. 186.
[48] As cited in: W. Furmanek, op. cit., p. 186.
[49] Ibidem, p. 129, 132.
[50] Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania*..., p. 187.
[51] Europejskie Centrum Kształcenia i Szkolenia Zawodowego, *Kształcenie i szkolenie zawodowe w Polsce*..., p. 36.

in adjusting to new contents of work. Education is thus not an aim in itself but a mean that leads to a change in situation and reaching certain goals of company an employee. In order to meet the new and constantly changing demands generated by the development of knowledge based economy, employees need to gain a whole complex of knowledge and skill as well as shape the right attitude to work if they want to act independently and responsibly in modern organizations[52].

It is worth highlighting that education at workplaces may be an effective tool for changes management[53], due to which it is possible to make employees aware about the needs and expected results of changes within and outside organization as well as influence the resistance to such changes. Education is thus a method of improving workplaces especially if we agree with a statement that: 'Assuming that knowledge in an organization occurs as a result of social interaction and as a result of organizational process of learning, that it can be accepted that key organization competencies are the resultant of employees competencies'[54].

In order to prove the validity of these considerations of the author of the article it is worth to cite some results of empirical research that refer to the discussed problem. The necessity to prepare for employment in the conditions of the new economy both in the system of school and extracurricular system of vocational education is highlighted by employers themselves.

In the opinion of Polish entrepreneurs, vocational schools graduates are in general well prepared for working in a profession. More than half of the employers think that they have competencies to work in a chosen profession and/or adequate theoretical knowledge. Little fewer employers think that they know the latest tools and methods of work. In case of evaluating practical preparation of vocational schools graduates there are more negative than positive opinions[55].

Employers have different criteria as to choice of candidates that apply for work at different posts. In the light of report *What employees are looked for by Polish employers*? The most important were:

– professional experience (68.0% of employers seeking employees pays attention to this criterion) – employees expect at least on year seniority, and in case of management professions at least three years,
– level of education (important for 63.0% of employers looking for employees) – the more specialized profession the more expected is higher education. Employers actually do not employ people with basic education. Having

[52] J. Penc, *Sztuka skutecznego zarządzania. Kierowanie firmą z myślą o jutrze i procesach integracji z Unią Europejską*, Kraków 2005, p. 207.

[53] R.W. Griffin, op. cit., p. 414-423.

[54] M. Jabłoński, *Kompetencje pracownicze w organizacji uczącej się. Metody doskonalenia i rozwoju*, Warszawa 2009, p. 95.

[55] Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania…*, p. 189.

a general vocational education allows to apply for jobs within labour works, but at least average education is required. In case of specialized and management professions higher education is minimum while applying.
– knowledge of foreign language and learned profession – are criteria less frequently taken into account by employers searching for employees – adequately 46.0% and 37.0% choses[56].

The analysis of the data shows that apart from knowledge and professional qualifications job market also values involvement of employees and their competencies of a social character. It is worth accenting that more than half of Polish entrepreneurs while evaluating competencies suitability of candidates for work in certain jobs pays attention to specific professional competencies such as:

– self-organizing competencies (important for 42.0% of employers looking for employees): connected with organizing own work, showing initiative, timeliness and motivation to work. The last element is important for those employers who look for unqualified workers;
– interpersonal competencies (38.0% of employers pay attention to them): referring to personal contacts with other people, co-workers and clients. These competencies are required from people applying for mental jobs – in management jobs, specialist ones, technical, office workers as well as service and sellers[57].

It also has to be paid attention to the fact that many employers have problems in finding suitable employees. The main reason is the fact that candidates do not fulfil their expectations (this is the reason in three fourths of cases). Only while looking for employees in specialised professions the employers admit that very often no one applies for them (opinion of 30.0% of employers). The main reasons for not fulfilling employers demands are: inadequate competencies of candidates, lack of work experience; lack of motivation to work. It is worth highlighting that lack of certificates or legitimations is not really a problem – it was pointed by only 7.0% of employers. Referring to the evaluation of skills of employed workers 53% of employers expresses their contents, but as many as 43.0% expressed the need of educating and improving the level of skills within the previously mentioned areas:

– professional skills connected with a certain post (opinion of 56.0% employers),
– self-organizing skills (24.0% employers),

[56] M. Kocór, A. Strzebońska, *Jakich pracowników potrzebują polscy pracodawcy*? *Raport z badań pracodawców i ofert pracy realizowanych w 2010 r. w ramach projektu Bilans Kapitału Ludzkiego*, Warszawa 2011, p. 9.

[57] Ibidem, p. 9 and subsequent.

– interpersonal competencies (18.0% employers – especially from the service sector – hotel, gastronomy, trade, specialised services, health care and social care)[58].

Referring to the report data *the results of global employment* it is worth accenting weakest skills of employees which are main reasons for not completing company's activity on the global scale. These include: communicative skills (13.0% employers); technical skills (11.0%); planning and organizational skills (8.0%); ability to cooperate and team work, leadership skills and lack in professional qualifications (7.0%); knowledge of business and processes as well as ability to solve problems (5.0%)[59].

* * *

Summing up considerations included in this article it is necessary to highlight it once more that the change of the model of workplace, which currently takes place in the shaping economy based on knowledge, is a huge challenge for education, especially vocational one, as it is necessary to be prepared for such a change. At the same time it is education itself which is considered the answer to some fundamental changes that take place within economy. Investment in education, both school and extracurricular one as well as concern about it should be an outright priority in the next decade.

Bibliography

Armstrong M., *Zarządzanie zasobami ludzkimi*, Kraków 2007.

Ashkenas R., *Nowe szaty organizacji*, [in:] F. Hesselbein, M. Goldsmith, R. Beckhard (ed.), *Organizacja przyszłości*, Warszawa 1998.

Badanie aktywności zawodowej absolwentów w kontekście realizacji programu „Pierwsza praca". Raport Ministerstwa Pracy i Polityki Społecznej Departamentu Rynku Pracy, Warszawa 2008.

Barczak B., Bartusik K., Kozina A., *Modele strukturalne organizacji uczącej się*, [in:] A. Stabryła (ed.), *Doskonalenie struktur organizacyjnych przedsiębiorstw w gospodarce opartej na wiedzy*, Warszawa 2009.

Bednarek M., *Doskonalenie systemów zarządzania. Nowa droga do przedsiębiorstwa lean*, Warszawa 2007.

Binsztok A., *Organizacja fraktalna*, [in:] R. Krupski (ed.), *Zarządzanie przedsiębiorstwem w turbulentnym otoczeniu. Ku superelastycznej organizacji*, Warszawa 2005.

Byrnes P., *BPM 2.0: Dynamic Business Process Management*, Ebiz 01/03/2007.

[58] Ibidem, p. 10 and subsequent.

[59] *Strategie zatrudnienia: Wyniki globalnego badania*, Manpower 2010.

Centrum Badań Nad Edukacją i Innowacją, *Zarządzanie wiedzą w społeczeństwie uczącym się*, Warszawa 2000.

Drucker P.F., *Myśli przewodnie*, Warszawa 2008.

Drucker P.F., *W kierunku organizacji nowego typu*, [in:] F. Hesselbein, M. Goldsmith, R. Beckhard (ed.), *Organizacja przyszłości*, Warszawa 1998.

Europejskie Centrum Kształcenia i Szkolenia Zawodowego, *Kształcenie i szkolenie zawodowe w Polsce. Charakterystyka ogólna*, Urząd Publikacji Unii Europejskiej, Luksemburg 2011.

Europejski Portal Integracji i Rozwoju, *Gospodarka oparta na wiedzy*; http://www.europejskiportal.eu/id03.html; Accessed 20 February 2013.

Furmanek W., *Edukacja a przemiany cywilizacyjne*, Rzeszów 2010.

Gach D., *Organizacja wirtualna*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), *Podstawy zarządzania przedsiębiorstwami w gospodarce opartej na wiedzy*, Warszawa 2007.

Griffin R.W., *Podstawy zarządzania organizacjami*, Warszawa 2007.

Grudzewski W.M., Hejduk I.K., *Kreowanie w przedsiębiorstwie organizacji inteligentnej*, [in:] M. Grudzewski, I.K. Hejduk (ed.), *Przedsiębiorstwo przyszłości*, Warszawa 2000.

Jabłoński M., *Kompetencje pracownicze w organizacji uczącej się. Metody doskonalenia i rozwoju*, Warszawa 2009.

Jamali D., *Changing management paradigms: implications for educational institutions*, „Journal of Management Development", vol. 24, No 2/2005.

Kolka H.P., *Firma we współczesnej gospodarce*, http://globaleconomy.pl/content/view/2100/21; Accessed 1 March 2013.

Kocór M., Strzebońska A., *Jakich pracowników potrzebują polscy pracodawcy? Raport z badań pracodawców i ofert pracy realizowanych w 2010 r. w ramach projektu Bilans Kapitału Ludzkiego*, Warszawa 2011.

Kożuch B., Kożuch A., Plawgo B., *Podstawy zarządzania organizacjami*, Kraków 2005.

Malara Z., *Przedsiębiorstwo w globalnej gospodarce. Wyzwania współczesności*, Warszawa 2006.

Mazurkiewicz A., *Paradygmaty zarządzania we współczesnym przedsiębiorstwie: wybrane aspekty*, [in:] *Nierówności społeczne a wzrost gospodarczy*, z. 19: *Modernizacja dla spójności społeczno-ekonomicznej*, ed. M.G. Woźniak, Rzeszów 2011.

Mikuła B., *Wprowadzenie do gospodarki i organizacji opartych na wiedzy*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), *Podstawy zarządzania przedsiębiorstwami w gospodarce opartej na wiedzy*, Warszawa 2007.

Ministerstwo Edukacji Narodowej, *Badanie funkcjonowania systemu kształcenia zawodowego w Polsce. Raport końcowy*, Warszawa 2011.

Penc J., *Kreowanie zachowań w organizacji. Konflikty i stresy pracownicze. Zmiany i rozwój organizacji*, Warszawa 2001.

Penc J., *Menedżer w uczącej się organizacji*, Łódź 2000.

Penc J., *Przedsiębiorstwo w burzliwym otoczeniu. Procesy adaptacji i współpracy*, part 1, Bydgoszcz 2002.

Penc J., *Sztuka skutecznego zarządzania. Kierowanie firmą z myślą o jutrze i procesach integracji z Unią Europejską*, Kraków 2005.

Pettey Ch., Goasduff L., *Gartner Reveals Five Business Process Management Predictions for 2010 and Beyond*, Egham, UK, January 13, 2010.

Pietruszka-Ortyl A., *Organizacja sieciowa*, [in:] B. Mikuła, A. Pietruszka-Ortyl, A. Potocki (ed.), *Podstawy zarządzania przedsiębiorstwami w gospodarce opartej na wiedzy*, Warszawa 2007.

Rakowska A., *Kompetencje menedżerskie kadry kierowniczej we współczesnych organizacjach*, Lublin 2007.

Sadowski A., *Przemysł wiedzy jako sektor gospodarki*, [in:] P. Borkowska, U. Feliniak (ed.), *Edukacja a rozwój społeczeństwa wiedzy*, Łódź 2007.

Sankowska A., Wańtuchowicz M., *Korzyści z zastosowania koncepcji organizacji wirtualnej w świetle teorii i badań własnych*, „Ekonomika i Organizacja Przedsiębiorstwa" No 6/2007.

Senge P.M., *Piąta dyscyplina. Teoria i praktyka organizacji uczących się*, Warszawa 1998.

Smolski R., Smolski M., Stadtmüller E.H., *Słownik encyklopedyczny: Edukacja obywatelska*, Wrocław 1999.

Strategie zatrudnienia. Wyniki globalnego badania, Manpower 2010.

Strykowska M., *Zawód – Praca – Kariera. Dynamika zmian w funkcjonowaniu współczesnych organizacji*, [in:] M. Strykowska (ed.), *Współczesne organizacje. Wyzwania i zagrożenia*, Poznań 2002.

The Knowledge-Based Economy, OECD, Paris, GD (1996) 102.

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Barriers and chances of vocational education development in the view of knowledge society

Introduction

Every significant change of civilisation – such as the transition from agricultural to industrial civilisation – usually leads to redefining of many fundamental spheres of our life as well as our social functioning, including education.

The current civilisation change which is occurring as it was 'before our very eyes' called by A. Toffler 'the third wave' which unlike the former industrial civilisation creates a disparate and truly new style of our life, creates a new code of conduct and transfers us far beyond standardisation, synchronisation, centralisation, specialisation, concentration, it creates a different outlook on life, it carries a truly new life style[1].

Globalisation is an expression of the third wave transformations and nowadays it mainly includes computers, telecommunications, financial markets, media and networks, but also economy and culture. These transformations occur in the conditions of a clash of different value systems, different conceptions of a human, finally in the atmosphere of concern and anxiety about the future of the world.

This transition creates new barriers and chances of vocational education development. They are the subject of my analysis in this text.

Globalisation and its social and educational effects

The former managing director of UNESCO, Federico Mayor emphasises in his well-known work entitled 'Przyszłość świata' ('The future of the World') published in 2001 that the industrial revolution accompanied by globalisation transfers us from the era of certainty which stands for the epoch of abiding faith in predictability (my underlining M.B.) of phenomena governed by science laws

[1] A. Toffler, *Trzecia fala*, Warszawa 1980, p. 45 and subsequent.

into the era of uncertainty and doubt in which determinism is replaced by such a concept of nature and history which is distinguished by ambivalence.

In spite of different points of view on globalisation, its theoreticians and researchers (among others Z. Bauman[2], A Giddens[3], F. Mayor, B. Misztal, J. Klich[4], J. Stiglitz) distinguish, however, a few of its primary features, namely: diversity reflected in a multitude of civilisation standards, continental, regional and local principles without a distinct reference to place and time; transnational diffusion of financial capital, cultural diversifying and simultaneous universality of cultural patterns; a growing inequality between the rich central regions and peripheral areas, finally an increasing marginalisation as well as social and cultural exclusion of diverse groups.

The social effects of globalisation are manifold. The most perilous seem to be those which affect especially the education process, namely the breakdown of traditional patterns and value systems, the division and desaggregation of various communities, which in consequence leads to the loss of society cohesion, social bonds, work, family, school and also home country – as F. Mayor emphasises. He holds a view that 'torments of the soul' increase even in the wealthiest societies and social groups, which means that the level of indifference and passivity grows, there expands 'the ethical dessert,' grey areas become more and more vast just like the dramatically growing violence, while the future becomes less clear[5].

According to U. Beck this uncertainty of the future becomes a basic feature of a risk society connected with the progressive process of globalisation. He asserts that we move away from the model of a work society (industrial society according to A. Toffler), the primary features of which are the standardisation of work and employment, but also the standardisation of numerous fields of education, services, production and even culture (uniformity of behaviour, life styles, etc.).

The theoreticians and researchers of the future (among others U. Beck, A. Toffler, F. Mayor) highlight that the new emerging civilisation following the disappearing industrial civilisation carries among other things: stress, employment uncertainty, ambivalence (progress, pauperisation, formal and informal work, employment and unemployment, etc.), work destandardisation, its time and place. U. Beck ascribes these features to the risk society[6] F. Mayor in turn points out that we should move forward and build a knowledge society based on restoring humans to the possibility of deciding about their own destiny through educating

[2] Z. Bauman, *Globalizacja*, Warszawa 2000.

[3] A. Giddens, *Nowoczesność i tożsamość. „Ja" i społeczeństwo w epoce późnej nowoczesności*, Warszawa 2001.

[4] J. Klich (ed.), *Globalizacja*, Warszawa 2001.

[5] F. Mayor, *Przyszłość świata*, Warszawa 2001, p. 29 and subsequent.

[6] U. Beck, *Społeczeństwo ryzyka*, Warszawa 2002.

in the first place those most affected by the fate, the excluded ones and those left alone to their own efforts. Therefore the basic mission of educating the knowledge society becomes the liberation of a man, wherever it is possible, from the restrictions and ignorance[7].

Unfortunately, as the results of research prove (cf. among others the recommendations of the following Polish national pedagogical conventions, e.g. VI Convention in Lublin), at present we witness a disturbing trend of maladjustment of classical forms of education to the educational needs of adults, literacy tuition and society democratisation, maladjustment of primary and vocational education to developing in the young generation such skills which will be necessary to their involvement in social, economic, cultural integration, which are required by the contemporary employment market.

The deficiencies of the contemporary vocational education

The Report of Komitet Prognoz Polska 2000 Plus [The Predictions Committee Poland 2000 Plus] by The Polish Academy of Sciences Presidium on the subject of Poland 2050 proves that the growth in the economy (economic progress) in our country in the past two decades has significantly diverged from the civilisation development. It denotes that the rates of the growth in economy are to a large extent higher than the civilisation progress rates, which means that the growth in the economy does not automatically translate itself into the civilisation development[8]. This 'separation' – as diverse sources highlight – has its considerable determinants, namely:

– system transformation (the transition from the command economy to the market economy),
– change in social relations: departing from the totalitarian system to the democratic system,
– Poland's admission to the European Union,
– world economy globalisation.

They have caused considerable changes in individuals' lives as well as for social groups, among others including:

– financial diversification of the society,
– social, political and cultural exclusion,
– instability of the social structure (among others the swift flow from one social group to another),
– unemployment,
– precariat phenomenon.

[7] F. Mayor, op. cit.

The authors of The Report Poland 2050 accentuate that having the economic growth of the country in mind we introduced chiefly market mechanisms and we did not ward off the phenomena with a large negative potential for the future, such as the structural unemployment, the emerging of a so called precariat class (my underlining M.B.) (that is the unemployed, mainly young people who only find temporary employment, who are united by the uncertainty of the future), deep ideological divisions of big social groups poorly communicating with each other, widely contested detailed decisions concerning the commercialisation of public goods or finally tacit consent to various pathologies[9].

The foremost reason for the emerging of this precariat class is – broadly speaking – a maladjustment or mismatch of the education process with the employment market demand. Therefore this phenomenon occurs when the education system 'supplies' people with qualifications and competence disparate with those needed by the employment market.

Let us recall that the term competence encompasses knowledge and skills as well as the ability to use them in changing life conditions. Qualifications, however, is a narrower term as it only denotes competence assessed and testified (certificates) by relevant institutions.

The maladjustment of the education system to the employment market needs occurs when the tasks of school and education are not equal with these needs. The question therefore arises, when this divergence occurs. Broadly speaking, the task of every school is creating crucial competence (underlining M.B.) required in several professions and spheres of life, but also familiarising students with the employment market and with the civil society institutions as well as getting students into the habit of active learning throughout their whole lives.

If these aims and tasks are achieved fully, only partially or not achieved at all we can say that the degree of the maladjustment of the education system to the employment market is big or small – depending on these differences. The maladjustment of the education system to the employment market encompasses diverse levels of this system: from primary education to higher education[10].

Its elements and scope are distinctly specified in the study of the interministerial team for learning throughout the whole life on the subject of Perspektywa uczenia się przez całe życie [The perspective of learning throughout the whole life] (February 2011)[11].

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[8] *Raport „Polska 2050"*, Komitet Prognoz „Polska 2000 Plus" przy Prezydium PAN, p. 67 and subsequent.

[9] Ibidem, p. 8.

[10] A. Bogaj, S.M. Kwiatkowski (ed.), *Szkoła a rynek pracy*, Warszawa 2006.

[11] *Perspektywa uczenia się przez całe życie*, www.men.gov.pl, luty 2011.

This document counts among the most severe signs of the maladjustment the following:

a) curricula, didactics and school organisation as well as the assessment of students – these have been unchanged for a long time;
b) the weakness of the tradition of practical training and active learning;
c) there dominates textbook teaching which is out of touch with practice and which concentrates on acquiring knowledge learnt by heart instead of on developing creative and critical thinking, self-organisation, communication skills and team work;
d) both general and vocational education poorly prepare school graduates to coping in the employment market, which has the following results:
   – excessively selective character of the vocational education, especially basic vocational education, which does not facilitate the entry into the employment market, but it also prepares insufficiently to learning throughout the whole life due to the poor results in developing crucial competence;
   – more than in other EU countries the Polish education process promotes people with a good social position, what favours deepening social inequalities;
   – schools barely utilise information and communication technology in the education process;
   – weak connection between the education, scientific research and the social, economic and cultural needs of the country;
   – poor cooperation of schools and universities with business community and social organisations which should aid pupils and students in complementing their theoretical knowledge with practical experience;
   – low prevalence of counselling services and career guidance;
   – higher than in other EU countries unemployment rate among people aged 15-24[12].

Several of these weaknesses and signs of maladjustment of the education system to the employment market needs were reported during VI Convention of the Polish Educational Society in Lublin in 2007. The most important conclusion of the proceedings of this nationwide committee of teachers and academics was the statement that the current education system reform brought effects opposite to the original intentions of the political transformation after the year 1990. The main of them said that we wanted to build the education system bringing up the young generation in the spirit of subordination to authorities and 'the only correct thinking,' instead of aiming at substantive competence, dialogue, tolerance of

[12] Ibidem, p. 14 and subsequent.

differences between people, their willingness to take responsibility for themselves and others, co-deciding and self-reliance, finally building flexible and open education.

Unfortunately, these guidelines were not executed. There appeared new negative phenomena which – regrettably – deepen the degree of maladjustment of the education process to the needs of a modern country that Poland aspires to be, including the needs of the developing employment market – as all economic growth figures show.

Favourable characteristics actuating the access to the employment market for the young people

Entering the employment market by the youth is an intricate and difficult process because the economic crisis in the EU which began in the year 2008 has been inhibiting the supply of labour, especially – as in Poland – for those under the age of 25 years.

As the OECD report Education at a Glance (2012)[13] indicates, the crisis has eliminated people with lower education from the employment market. A certain regularity can be observed in this case, namely: the higher the level of education of individuals, the better chances there are of getting a job and higher wages.

Fears and hopes connected with the entering of the youth into the employment market can be divided into two categories, namely: fears and hopes of the governments of the EU and OECD countries and hopes and fears of individuals.

The first category is above all related to the priorities of social and educational policy of states. The hopes are primarily connected with the investments in the system of formal and informal education, the fears, on the other hand, concern the effectiveness of this system support and the expected level of development, achieving the designated rates. The report Education at a Glance quoted above proves that not always have these investments in the education brought the expected benefits.

The second category, however, stands for hopes and fears of individuals, connected with their transition from education to work. The hopes of the youth – as shown by numerous studies, chiefly concern getting interesting, developing and well-paid job, preferably on the conditions of employment for an indefinite period.

The studies conducted in February 2012 by Studentswatch.pl – The Social Network Research Service – on a representative sample of 2014 young people aged 16-34 years prove that ¾ of them had been looking for a job in the past three months either because of dissatisfaction with the current temporary work, or

[13] *Education at a Glance*, OECD Indicators, 2012.

because of unemployment that is high not only in Poland, but which is of particular concern also in other EU countries.

The fears and worries of the young people related to their entering the employment market are numerous, especially among these graduating from the humanities in the field of pedagogy. It is proved by the results of my own research carried out in 2012 among 145 students of The Faculty of Pedagogy and Arts of The Jan Kochanowski University. It is necessary to add that over 70% of the respondents live in the countryside which may be important in articulating their concerns and worries about the future work. The results of my research are presented in Chart 1.

Chart 1. Fears and worries of the young people related to the employment market

No.	Specification	N	%
1.	The fear of the future	130	89.66
2.	The fear of making the wrong life decisions	128	88.28
3.	The lack of job opportunities	118	81.38
4.	The lack of work experience	79	54.48
5.	The lack of support from family	78	53.79
6.	The lack of knowledge of places and ways of job searching	75	51.72
7.	The fear of loneliness	74	51.03
8.	Social insecurity	73	50.34
9	The fear of failure	72	49.66
10.	A sense of isolation	70	48.28
11.	Difficulties in becoming financially independent	68	46.89
12.	The fear of exclusion, marginalisation	64	44.13

Source: own research

The analysis of the data in the Chart 1 shows that the most fears and worries of the young people are caused (by rank of the number of responses) by:

– unknown future and fear of it;
– the fear of making the wrong decisions (this may be related to low self--esteem);
– little chance of finding a job (based on the recognition of the local employment market);
– the lack of work experience;
– the lack of support from family;

– the fear of failure, marginalisation;
– social insecurity.

As it can be seen, the prevailing fears of students may be classified as those environmentally conditioned. A village in Świętokrzyski region is a poor village, it is an uninspiring environment (despite the access to the Internet) for the young to be active, to taking bold decisions for the future.

The available data (statistical and empirical) indicate, however, that the young – regardless of their residential environment, use similar methods of looking for a job, but their effectiveness is low or very low, not just in Poland but also in other EU countries.

In Education at a Glance 2012, it is clearly highlighted that there is a disturbingly high percentage of young people in the OECD countries aged 15-29 who are not employed, who do not learn and do not train (the so-called NEET population), whose share in this age group increases (after a few years decline). The employment forecast in the OECD for the year 2012 shows that unemployment among young people in many OECD countries has reached alarming levels. This points to the urgent need, also in Poland, to study ways of effective motivating of this exceptionally important age group, through vocational training, retraining and opportunities offered to education and trainings on an informal basis.

The factors contributing to and restricting access for the young to the employment market

The specialists in the field of labour pedagogy emphasise that the professional competence of individuals can be divided into two categories, namely 'hard competence' (having a school diploma, working as an apprentice, serving one's internships, activity in organisations) and 'soft competence' connected with the features of our personality (e.g. diligence, good communication skills, self--reliance, etc.).

Both these categories may be useful in the modern employment market, but they can also restrict access to it sometimes. Therefore, it seems interesting to evaluate the usefulness of these competencies in accessing the employment market.

In a study carried out by the studentswatch service in 2012 the following hard competencies were highlighted (their usefulness in the Polish employment market was assessed on a scale of 1-5, where 1 means completely undesirable, 5 – very desirable):

– professional experience in a given sector – 4.6;
– quick assimilation of new information – 4.5;
– taking part in apprenticeships, internships – 3.9;

– a high school diploma – 3.9;
– narrow specialisation – 3.9;
– diploma obtained abroad – 3.3;
– having extensive theoretical knowledge – 3.2;
– parallel education (postgraduate, doctoral studies) – 3.2;
– activity in organisations (scientific circles, volunteering) – 2.9;

A group of the following 'soft' competencies were assessed similarly:
– diligence – 4.2;
– availability – 4.61;
– stress tolerance – 4.54;
– ability to work under time constraints – 4.52;
– teamwork skills – 4.47;
– good communication skills – 4.46;
– creativity – 4.31;
– self-reliance – 4.41;
– young age – 3.68;
– no intention of starting a family.

The comparison of assessment from both competence groups leads to a conclusion that it is mainly soft competence skills that are more desirable on the employment market as they are rated higher by study participants.

The most useful skills include diligence, availability, professional experience, the ability to work under time constraints, teamwork and good communication skills. Students participating in my research focused their attention on negative rather than favourable aspects of entering the employment market (cf in chart no. 2).

Chart 2. Obstacles connected with entering the employment market by young people

No.	Specification	N	%
1.	Possession of qualifications not corresponding to the requirements of employment markets and employers	125	86,21
2.	Lack of professional experience	120	82,76
3.	Lack of vacancies	119	82,06
4.	Insufficient command of foreign languages	115	79,31
5.	Lack of computer skills and knowledge regarding computer systems and programmes	114	76,62
6.	Mobility	112	77,24
7.	Subject and field of education	98	67,58

Source: own research

Pedagogy students much like their colleagues participating in studentswatch research have noticed that lack of professional experience, possession of qualifications not corresponding to the requirements of employment markets are key obstacles in finding employment. Nonetheless, comparing to other students they have noticed different restrictions to the employment market access such as insufficient command of foreign languages, shortage of IT skills (operation and knowledge of computer systems and programmes), mobility and low level of knowledge about the employment market. The last two factors seem crucial in improving the effectiveness of the employment market access.

Mobility and professional flexibility of Polish people

One can assume that factors restricting/supporting the employment market access to young people derive from personality traits of professionally active Polish people and therefore they are generationally conditioned by the phenomenon of cultural transmission.

The analysis of the latest empirical data, however, indicates that it is not the case. Employment still holds one of the most important places in the value system of Polish people who, at the same time, change perceptions and expectations regarding employment.

The research held by CBOS[14] (Public Opinion Research Centre) of January 2013 points at a number of social problems originating from economic crisis affecting Poland as well and our anxieties regarding unwelcome changes on the employment market.

Research shows that within the last 5 years on average every third person in employment (31%) changed their place of work twice. The most frequent changes occurred in case of the youngest employees aged 18-24 (54%) and 25-34 (44%).

Over half of the professionally active (51%) is willing to change the present place of employment under the condition of higher income.

It has to be stressed that readiness of individuals to improve acquired qualifications and to learn new profession systematically increases. It is an extremely important phenomenon as it vastly improves their chances for employment according to qualifications and expectations and employment satisfaction in general.

Previously quoted CBOS research indicates that lack of employment satisfaction (according to amount of correlation coefficient) derives from the lack of employment safety (r=0.36), the lack of interest in tasks used (r=0.34), the lack of conviction regarding their importance and logic (r=0.32), complaints

[14] CBOS, *Mobilność i elastyczność zawodowa Polaków*, styczeń 2013.

concerning earnings and social benefits, the feeling of limited application of qualifications acquired and lack of prospects for professional progress.

It is significant to point out that research participants show an increased readiness to improve their qualifications and willingness to sacrifice to find employment which certainly derives from the deteriorating condition of the employment market in Poland and global economic crisis. Examples of those sacrifices include retraining, willingness to take up a new profession, longer commute, volunteering, moving to a different location or abroad.

Conclusions

In the above mentioned analysis I have only indicated the key obstacles and chances for the development of vocational education in the future. Above all, they derive from contemporary civilisational transitions. U. Beck claims that paid employment and profession have nowadays become an axis of the way of life and together with family they form a two-gear system of coordinates which our life relies on. The supply of the paid employment is nonetheless falling and organisational principles of its system undergo changes. As stated by Beck the transition from the system of education to employment becomes dubious and unstable[15]. According to A. Toffler we are the last generation of the old civilization and first of the new one.

One may think that the previously mentioned obstacles of the development of vocational education derive from the fact that the present education system was formed in a different era, namely the Age of Enlightenment, in the economic circumstances of the Industrial Revolution of the nineteenth century and has been used until now. The only change relates to different function and educational policy of a state, which in turn is a key factor for creating new vacancies, education system and professional development, care for the unemployed and those not in the education system and not looking for employment and last but not least system of support for young members of society.

Bibliography

Bauman Z., *Globalizacja*, Warszawa 2000.
Beck U., *Społeczeństwo ryzyka*, Warszawa 2002.
Bogaj A., Kwiatkowski S.M. (ed.), *Szkoła a rynek pracy*, Warszawa 2006.
CBOS, *Mobilność i elastyczność zawodowa Polaków*, styczeń 2013.

[15] U. Beck, op. cit., p. 225 and subsequent.

Education at a Glance, OECD Indicators 2012.
Giddens A., *Nowoczesność i tożsamość. „Ja" i społeczeństwo w epoce późnej nowoczesności*, Warszawa 2001.
Klich J. (ed)., Globalizacja, Warszawa 2001.
Mayor F., *Przyszłość świata*, Warszawa 2001.
Perspektywa uczenia się przez całe życie, www.men.gov.pl, luty 2011.
Raport „Polska 2050", Komitet Prognoz „Polska 2000 Plus" przy Prezydium PAN.
Toffler A., *Trzecia fala*, Warszawa 1980.

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The structural functional learning model as European challenge of XXI century "knowledge economics"

Succession of events of higher education in Europe, starting in 1960s, as well as rapidly increasing number of countries which participate in functioning of the Council of Europe in the areas of educational and cultural cooperation induced the Secretary General to appeal in the letter of the 30th October 1992 with a proposal for development of co-operative convention of the Council of Europe/ UNESCO. Lisbon strategy has appeared to be a result of these actions and one of the most important events in the system of higher education since the time of industrial revolution. At that time the necessity of conversion from elite to mass education emerged; moreover, it was marked by the appearance J.A. Comenius's didactics (the class and lesson system).

Nowadays the necessity of changes in the system of education occurred again, i.e. transition from a reproductive scientifically based specialist training to action-oriented (based on acquiring knowledge essential for economy). Naturally these turnabouts entail fundamental changes in structure, organization, methods of education and learning technologies in the system of vocational and continuing education for adults.

Thus, on 24th-25th of March in 2000 at the Council of Europe in Lisbon a decision was made which proclaimed that essence of economy might be based on knowledge, rise of employment level and economic growth. Goals set by Lisbon strategy were not considerable for production sphere and information but at the same time they became important for educational system and specificity of knowledge acquirement directed at achievements of results in production.

As a result the following plan of action was adopted (Europe 2005) – plan of the development of the information society for all citizens of the EU in five aspects:

1) dynamic environment – development of electronic commerce;
2) productivity improvement of modern online state service;
3) design and adoption of electronic management;
4) extension work on electronic education (information technologies)
5) adoption of electronic public health services

A year later the Council of Europe in the area of educational cooperation and the European Commission adopted 10-year work program which is realized within the bounds of coordination method. The Council of Europe (consisting of heads of EU member states) confirmed the agreement, having created new strategic conditions of cooperation in education and vocational training between EU member states.

There are three main goals adopted by Ministers of Education for benefit of the EU which have to be achieved by 2010:

1) improving and effectiveness increase of education and vocational training in the EU;
2) providing all the citizens of the EU with an access to acquiring education and vocational training;
3) opening of other educational systems in the world.

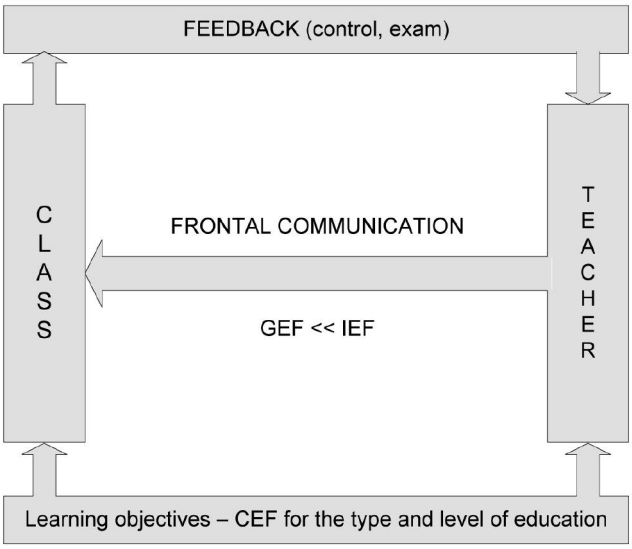
In addition, 13 specific goals concerning different kinds and levels of education were defined (educational institution, additional forms of getting qualifications and experience). In general, according to these goals the system of education must be improved in different areas: teaching training, basic skills in using ICT in education, efficiency in investment in education, the language of education, career-orientation and flexibility of learning system; that makes an access to European education, mobility, citizenship, etc. possible.

Prior to starting the discussion concerning specificity of modern educational processes in Europe, it should be noted that each educational process has three constituents: teacher, audience and book. In other words, it consists of three elements – who teaches, those who are taught and the way a teacher transfers knowledge to those who are taught.

With regard to history, the class and lesson system adopted by J.A. Comenius has become a basis for any system of education for more than 400 years already. The quality of this model, its clear structure (almost perfectly trained procedures of conducting lessons of different types) and accessibility of such kind of education to a wide quantity of people are the reasons that any innovations and considerable changes of this structure will entail indignation and will be apprehended as ‘heretical’.

According to the example illustrated in the model (Table 1) known as the model of frontal education, students are grouped into classes depending on their age specific index, and communication between students and a teacher is realized frontally.

Educational requirements to the type and level (of acquiring education) of the lesson are fundamental for the given model. They also define educational goals within the borders of the describing model. It is known as planning of learning stages. Within this model educational process is organized in the following way – the teacher appears in front of the students, conducts a lesson. At intervals the teacher asks questions and controls knowledge to assess students' level, thereby, feedback is implemented.

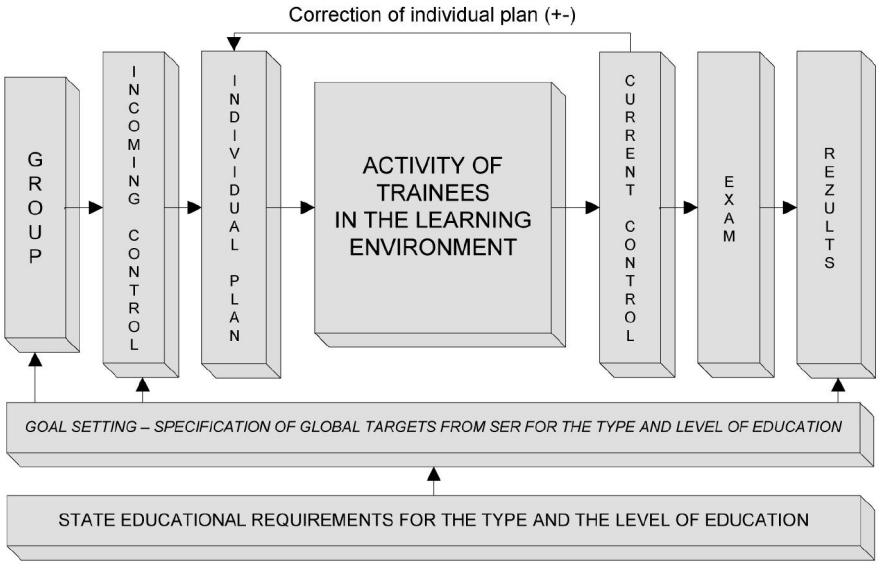


Pic. 1. Model of frontal education

To a certain degree, such advantages of this model as simple determination of educational goals; uncomplicated selection of educational content; effective principle set of educational content selection and organization of educational process; resultant group of educational methods; detailed and practically perfect systems of education for different types of lessons; qualitative group of methods of knowledge control and assessment can be singled out.

However, it should be mentioned that all that worked and is working perfectly, but under the condition that teacher and book are the only sources of knowledge. In the light of the fact that technological and information revolutions, which have started and are still continuing, lead to the loss of advantages this model is undergoing. It is connected with the reasons that nowadays methods of getting information through the Internet, in virtual libraries, by radio, television, mass media, etc. have appeared and spread, becoming more and more popular. Needless to say is that the access to these sources has become easier for the last decade.

From our point of view, these disadvantages of the class and lesson system can be avoided due to taking into consideration transition to structure functional model during planning of education. Due to this model planning of preparation will be successfully proceeded according to the scheme 'one student – one teacher'. But by no means it defines that the class and lesson system of educational organization must be absolutely refused of. Otherwise, it rather means that changes of forms, methods and learning technologies and assessment forms of education must be made. Offered model, besides description of educational process structure, moreover, defines functions inherent to the participants of this process.



Pic. 2. Structural functional learning model

The structure of offered model is based on the following elements: group of students, results, state standards, incoming control; individual plan; educational environment; monitoring control; individual plan correction; assessment.

Functionality of the model consists of six stages, educational process undergoes: goals instantiation; incoming control; individual plan development; students' activity in educational environment; monitoring control; assessment.

Thus, let's handle a problem in detail. Group of student can be presented by any physical person (children, teenagers, youth, adults) who aims to acquire a definite type and level of education (primary, secondary, vocational or retraining courses).

Results in this model are defined by knowledge and skills, which must be acquired by the group during educational process.

State standards are considered to be an educational minimum for each type and level of education, extension of which will provide transition to the next stage of general education or vocational training.

Incoming control in the structure of described model turns out to be an essential condition, and individual plan is an instrument for individual training.

Work in educational environment is means for realization of goals, which are the constituents of individual plan.

Monitoring control and individual plan correction of a student in this model are regarded as instruments in managing each student's educational process.

Exam is intended as means of checking accordance between expected result and result the student can achieve.

From functional point of view, as it has been already mentioned above, the model passes through six stages which are now under consideration.

1) Stage of setting a goal. Goals are set in compliance with global educational needs, possibilities of educational institutions (of school, educational environment) and capabilities of students. However, it should be noted that the necessity of goals concretization still exists in accordance with educational requirements to make them accomplishable in definite educational environment with definite students.

2) Stage of incoming control. At this stage the following factors are defined: presence or absence of motivation in education; either presence or absence of necessary knowledge acquired earlier and basic knowledge of teaching discipline; personal qualities of students (extrovert, introvert).

In other words, the main goal of incoming control is to analyze teaching audience, i.e. to define weather motivation is present or not to learn an offered academic discipline; whether basic knowledge in a studied discipline acquired before or during other courses has remained or not (especially during studying of such disciplines as Information Science and Information Technologies), to analyze each student individually (extrovert, introvert), which is very important during educational process. Such means of education as tests, interviews, observations, etc. can be used at this stage.

3) Stage of student individual plan development. The goal of this stage is to design an individual plan of each student which would contain all necessary tasks and measures to be realized during the whole studying course.

An individual plan must contain: motivation of activities (for student whose motivation has not been found at incoming control); guidelines for knowledge renovation acquired during studying of preceding courses (if such knowledge has not been found at income control); setting goals of a learning subject (study of literature, researches, problem-solving, etc.) to achieve necessary results.

It is held according to the level of organizing taken from Bloom's Taxonomy. Individual plan serves for self-organization and self-control of each student.

4) Stage of student activity in educational environment. This stage includes: attending lessons (lectures, practical trainings and seminars); work in libraries and laboratories; independent work at home; attending tutorials (verbal and virtual).

The goal of this stage is organization of student activity in compliance with individual plan to achieve set goals.

5) Stage of monitoring control. The goals of this stage:

– for a student: to find out how successfully formation of knowledge and realization of individual plan are implemented;

– for a teacher: to correct an individual plan if it becomes necessary to add/omit essential for education process tasks.

6) The final stage is an exam. The main goal of the stage is a complex assessment of a student consisted of his participation assessment in group forms of education; assessment of each task included in individual plan; final assessment (oral, written tests, etc.).

Final assessment turns out to be a combination of all the three constituents.

For the above-mentioned reasons, it must be admitted that the structural functional model is not connected with a definite organizational form of education, for instance, with such learning model as the class and lesson system it can be used for arranging educational process in various forms like full-time, correspondence, group, individual, e-learning courses, etc. Given model allows to arrange individual education, which main ideas can be marked out in constructionism learning theory.

The latter must be described in detail. Constructionism doesn't support the idea that knowledge exists irrespective of a person, that a person is a Tabula Rasa. This educational philosophy bases on ideas that a person implements his understanding and acquiring of knowledge through interaction with what he has already known and what he believes in, i.e. ideas, events, activity, he is faced with (J.S. Bruner, 1966).

Learning is considered to be a process of adaptation and management of our mental models in compliance with gained experience. It is known that effectiveness of learning depends on many factors, one of which is students involvement in academic activity. Traditionally educational practice relies on knowledge which is imparted directly to students by their teachers. Passive-oriented learning with traditional content and organization of educational process has been already accepted as a norm for a long time.

Unfortunately, practice when encouragement of 'active' learning (interactive) is commonly used can be rarely found.

As it is obvious from Table 1, considerable differences between characteristics of traditional and interactive learning models can be still observed.

Table 1

Traditional learning model	Interactive learning model
Studying of the information which is needed for successful passing of the exam.	Awareness of the necessity of getting information.
Identification and solving of the problems in structural and static environment	Identification and solving of the problems in dynamic environment
Application of knowledge and skills in specific occasions and situations	Adaptation to informational recourses. Transformation of the information into convenient recourse for application
Is based on the interaction "teacher – pupil'	Is based on the interaction "pupil – pupil' and common work
A teacher estimates learning activity of a pupil and provides the feedback	A teacher and a pupil coordinate and estimate individual results and organize the feedback together

On the assumption of presented characteristics in the table it is shown that the interactive learning model is very similar to the offered structure functional model as long as both of them are aimed at learning individualization on the basis of each student's experience.

Taking everything into consideration we can draw a conclusion that, in the first place, changes of the learning model can ensure increasing quality of vocational training, use of various forms of education (e-learning, individual, in-service education, etc.); in the second place, the structural functional model can ensure the transition from learning of knowledge acquirement to active learning, from skills formation to formation of competences; and finally formal vocational training must have a goal to make student form skills to search for and find information, i.e. knowledge, for the purpose of getting an opportunity to solve emergent problems.

Bibliography

Лисабонская стратегия,circa.europa.eu/irc/opoce/…/article_7207_bg.htm

Аудиовизуални и информационни технологии вобучението. Спиров Кр. изд. Дидакта Консулт, София, 2008.

Интерактивни методи за обучение. Иванов Ив. www.ivanpivanov.com/…/55_Interaktivni-metodi-za-obuchenie.pdf

II. DIRECTIONS OF VOCATIONAL EDUCATION DEVELOPMENT IN THE CONDITIONS OF THE NEW ECONOMY

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Pedagogical and psychological training in vocational education of teachers

Introduction

Teacher's job is specific profession. Teachers and their pedagogical talents are the factors that determine student's life track, their qualities, attitudes or even personal happiness. The critical component of prospective teachers' education is pedagogical and psychological training. Knowledge and skills of these fields facilitate better recognition of students needs, coming into closer relations with them and improvement in dealing with complex didactic and pedagogical problems. Therefore, particular emphasis in teachers' vocational training should be put on improvement of psycho-pedagogical skills. Subjects such as pedagogics and psychology should have a special place in the educational process.

The paper aims at diagnosing pedagogical and psychological aspects of vocational teachers' training.

Teachers' training

At the beginning of 21st century education and peoples' competences are regarded as one of the most core values. General education is *the whole of such actions, activities, processes and methods of influencing individuals and groups which result in acquiring general education […] or obtaining qualifications and general competences.* Education's objective is *to prepare individual as a human being, citizen and patriot to participate in society and culture […]*[1]. One of the crucial effects education is believed to have on individuals is to make them open to social changes and other peoples' needs, develop sympathy and readiness for dialogue as well as decision making skills. Literacy and numeracy skills alone are

[1] B. Komorowski, *Kształcenie ogólne*, [in:] W. Pomykało (ed.), *Encyklopedia pedagogiczna*, Warszawa 1997, p. 296.

not able to meet the demands of the present day. Rapid technological development and expansion of information force people to acquire high order cognitive skills, which tend to be helpful in problem-defining and solving as well as decision making. Dominant role of technology in data processing, transfer and digital communication is becoming the main prerequisite for formation of information society known also as a knowledge-based society.

Contemporary civilisation of information and knowledge based society puts particular emphasis on development of education[2]. Formation of information society is tied with the development of communication and negotiation skills required in problem solving. The other, not least important ability includes alternative solution presentation skill. In information society a teacher is a student at the same time, in contrast to the times of industrial civilisation when they were experts. The role of students has also changed. They became researchers[3]. All of these impose on teachers requirements for thorough training not just in the scope of subject taught – they should be guides to the world of knowledge. Societies are now transforming towards learning societies[4]. The world needs efficiently and critically thinking people able to act reasonably. There is a need for critical attitudes towards reality found and this created. Equipping of human being with a relevant range of knowledge is not enough. Teachers' training should not be of normative, instructive or declarative nature. It is critical to organise experiences facilitating planning one's own vocational development in accordance with one's interests[5].

Considerations over teachers' training cannot be made without reference to transformations taking place in the world of education. **Everybody should be prepared for lifelong learning in order to extend knowledge, obtain new qualifications and skills, adapt to ever-changing environment.** That is why education should be based on the four following pillars: *learn to know or to get understanding tools; learn to act, to be able to have an effect on one's environment; learn to live together, to be able to participate and cooperate with others on all areas of human activity; last but not least, learn to be […]*[6].

[2] M. Kozielska (ed.), *Edukacja dla społeczeństwa wiedzy*, Toruń 2007; A. Borkowska, *Kształcenie dla przyszłości*, Warszawa 2004.

[3] J. Tiffin, Ł. Rajasingham, *In Search Of The Virtual Class*, London 1995, as cited in: A. Piecuch, *Edukacja informatyczna na początku trzeciego tysiąclecia*, Rzeszów 2008.

[4] *Biała Księga. Nauczanie i uczenie się. Na drodze do uczącego się społeczeństwa*, Warszawa 1997.

[5] E. Marek, *Kształcenie nauczycieli klas początkowych w opinii studentów pedagogiki wczesnoszkolnej*, [in:] E. Żmijewska (ed.), *Kształcenie nauczycieli. Modele – tendencje – wyzwania wielokulturowej rzeczywistości*, Kraków 2012, p. 285.

[6] *Edukacja: jest w niej ukryty skarb*, Raport dla UNESCO pod przewodnictwem J. Delorsa, Warszawa 1998, p. 85.

Contemporary views on teacher's job

Vocational education teachers, like others, have a wide range of relevant tasks and functions to fulfil. However, the description should be started with explanation who *„a teacher"* is, which has been attempted by many pedeutologists by far. The role of a teacher was emphasised 100 years ago by prominent educator and psychologist Jan Władysław David who claimed that: *in no other job a man is of such a great importance as in teacher's profession*[7]. More extended definition has been proposed by Wincenty Okoń defining a teacher as a person, *who teaches others by conveying information or who teaches the other, how they should live. The former notion under the influence of new pedagogical tendencies has undergone evolution approaching gradually to the latter meaning. Contemporary teacher is thus becoming the one who teaches, educates and develops skills of students being under their supervision. The success of their work depends on students, on curricula, on its external conditionings and finally – on teachers themselves*[8].

The other educator Stefan Wołoszyn[9] defined a teacher as properly trained specialist doing didactic and educational work at such educational institutions as kindergartens, schools and on courses at other non-school institutions.

Czesław Banach[10] by turn presents **a teacher as a contemporary professional who is methodologically, psychologically and pedagogically prepared for the job.** Being a professional means keeping up personal standards in theoretical and practical scope of knowledge, demonstrating actions in keeping with tradition of the particular profession[11].

Teachers have a direct effect on individual's, group's and societies' lot, thus today, following Krystyna Duray-Nowakowa, *they are facing a great deal of complex moral problems and are forced to hierarchize particular values in their pedagogical work*[12]. In this connection, according to the author, they should be aware that these values are the core of moral life, prerequisite and reinforcement of self-respect. A teacher frees learner's activity and supports their development. Today a teacher is a person who prepares multi-dimensional that is independent, free, creative as well as open and self-reliant man to education. They are people shaping their students' abilities in accordance with student's needs, interests, attitudes, temperament and talents.

[7] J.W. Dawid, *O duszy nauczycielstwa*, Lublin 2002, p. 34.

[8] W. Okoń, *Nowy słownik pedagogiczny*, Warszawa 2007, p. 268.

[9] C. Banach, *Nauczyciel*, [in:] *Encyklopedia pedagogiczna*, Warszawa 2004, p. 548.

[10] Ibidem.

[11] B.D. Gołębniak, *Zmiany edukacji nauczycieli. Wiedza – biegłość – refleksyjność*, Toruń-Poznań 1998, p. 115; M. Hupková, *Profesijná sebareflexia učiteľov*, Nitra 2006, p. 61-67.

[12] K. Duraj-Nowakowa, *Systematologiczne inspiracje pedeutologii*, Kraków 2000, p. 285.

To sum up, a teacher is a professional substantially, pedagogically, psychologically and methodologically trained to be a source of knowledge and ethical values to students.

Pedagogical and psychological preparation of vocational education teachers

Current educational and pedagogical tendencies urge to redefine the scope of education science studies curricula, including pedagogics. It is due to the fact that some teaching contents as well demand educational standards being a result of currently implemented educational reforms have become outdated. In this connection contemporary trends in education result in update of teachers' training contents.

It is common knowledge that the pedagogical and psychological subjects are of great importance in prospective teachers' training. They allow students to acquire pedagogical competences. The precondition for the competence acquisition is attainment of pedagogical knowledge and skills. Graduate of a course in education science should be prepared for the comprehensive accomplishment of didactic, educational and tutelary tasks of school. That is why they should get training in the scope of: specialisation chosen so that they could use acquired knowledge of psychology and pedagogics adequately, fulfil educational and tutelary functions. In the classes of subject didactics students learn how to conduct lessons effectively with the use of information and communication technology in teaching.

As indicated in UNESCO report[13] *there should be kept strict balance between competences in discipline taught and pedagogical competences. […]. Both competences are indispensable and neither foundation course nor lifelong education should be completed at the cost of one of them. Moreover, teachers' training should inculcate to students the concept of pedagogics which goes beyond utilitarity and stimulate to ask questions, interactions, analysis of different hypotheses. C*omplexity of pedagogical and psychological education consists in the fact that the domain of pedagogical activity is very extensive. Great diversity and versatility is the specific feature of teacher's pedagogical activity. Each particular type of educational work involves its specific characteristic.

Preparation of students to educational activity does not limit itself exclusively to mastering knowledge and skills of finding solution to different tasks of creative nature[14]. It is critical for students to assimilate knowledge of human's psychological

[13] *Edukacja…*, p. 156-157.

[14] J. Majchrzak-Mikuła, *Psychologiczno-pedagogiczne kształcenie przyszłych nauczycieli (studentów)*, [in:] E. Sałata (ed.), *Pedagogiczno-psychologiczne kształcenie nauczycieli*, Radom-Warszawa 2005, p. 125.

qualities system as well, thanks to which a teacher is able to do creative work effectively. Acquisition and development of these skills is significant part of prospective teachers' training[15]. Prospective educators are researchers who will keep looking for answers to the following questions: what do I do as a teacher? What are my achievements? What should I change and what others can change in my behaviour? It cannot be forget that teachers' work is increasingly becoming to take a form of dialogue with students, exchange of thoughts and experiences. At present education is oriented for development of student's competences which facilitate adaptation to ever-changing demands and conditions on the *educational market*[16].

In the position where the range of knowledge in various scientific disciplines tends to be increasing at a very fast pace, it would be a failure to transfer encyclopaedic knowledge to students. There are no learners at any school that would stock up knowledge. The report contents: *Learn to be*[17] prove that it is a must: *learn how to live; learn how to learn so as to be able to assimilate new knowledge, learn to think indecently and critically over one's whole life.* Therefore, teachers' job is to prepare students for lifelong learning, provide them with the ability to develop individual personality spheres required by the contemporary world. Pedagogical and psychological subjects allow students to improve the knowledge of themselves, of their pupils and their educational environment. Dialogue, mediation and negotiation skills are necessary parts of teachers' work. That is why they should be shaped over the course of training within the scope of pedagogical and psychological classes. Communication skills including careful listening skills are also of great importance in teachers' job. Teachers-to-be should show ability to recognise problems, diagnose child's needs and the structure of environment they live in. Students' research skills are developed within a training. Teacher's methodological education constitutes a foundation for their cognitive and communication independence[18].

To sum up, it can be claimed, that in order to understand students' behaviour and to manage them effectively in the process of didactic and educational tasks accomplishment knowledge and pedagogical and psychological skills seem to be indispensable. All previously mentioned teacher's qualities are of great significance and are included in the structure of educational mastery. Their

[15] E. Sałata, *Przygotowanie pedagogiczne do pracy nauczycielskiej*, [in:] E. Sałata (ed.), op. cit., p. 130.

[16] J. Grzesiak, *Autoewaluacja wyznacznikiem kompetencji nauczyciela*, [in:] K. Żegnałek (ed.), *Kompetencje współczesnego nauczyciela*, Warszawa 2008, p. 40.

[17] E. Faure, *Uczyć się, aby być*, Warszawa 1975, p. 159.

[18] M. Litman, *Kształcenie umiejętności badania rzeczywistości klasowej jako warunek skutecznej komunikacji*, [in:] *Myśl pedeutologiczna i działanie nauczyciela*, Warszawa-Białystok 1997, p. 323.

development is a key prerequisite to raise effectiveness in finding solution to complex tasks of a practical nature. In the educational process they should master a range of abilities to assure effectiveness of classes conducted.

Pedagogical and psychological training in views of respondents

For the purposes of this research work we have made observation of lessons run by students during their teaching practice. 117 classes of technical education and information technology were the subject of observation and research. The majority of observation has been conducted by the author of the paper, but among observers there has also been students trained specially for this purpose.

Subjects of observation included amongst others organisational actions connected with the lesson, ways of motivating students to work, way of conveying information, pace of the lesson. Special emphasis was put on the selection of methods and tools as well as arrangement of exercises which covered new material. Clarity in formulation of issues taught, way of initiating discussion, keeping interest of students in the topic as well as establishment of assessment criteria has been evaluated.

The table below presents the outcomes of observation made during the classes conducted by the students.

Table 1. The findings of observation on pedagogical and psychological skills of students during their teaching practice

Skills	**Assessment of classes conducted**									
	1		**2**		**3**		**4**		**5**	
	L	**%**	**L**	**%**	**L**	**%**	**L**	**%**	**L**	**%**
a	***b***	***c***	***d***	***e***	***f***	***g***	***h***	***i***	***j***	***k***
Introductory organisation of classes (announcing the subject and objectives of the lesson)	2	1.7	4	3.4	16	13.7	50	42.7	**45**	**38.5**
Motivating students to work	10	8.5	8	6.8	25	21.4	31	26.5	**43**	**36.8**
Pace of the lesson	2	1.7	8	6.8	24	20.5	**52**	**44.4**	31	26.5
Accuracy of information conveyed	-	-	4	3.4	25	21.4	38	32.5	**50**	**42.7**
Organization of exercises covering newly learned material	15	12.9	6	5.1	23	19.7	35	29.9	**38**	**32.5**

Part of table 1

Matching teaching methods to lesson's objectives	7	6.0	3	2.6	18	15.4	**60**	**51.3**	29	24.8
Matching didactic tools to lesson's objectives	8	6.8	2	1.7	20	17.1	**50**	**42.7**	37	31.6
Obeying didactic rules	10	8.5	6	5.1	27	23.1	**46**	**39.3**	28	23.9
Initiating the contact with students, atmosphere in the lesson	11	9.4	8	6.8	20	17.1	31	26.5	**47**	**40.2**
Activating students	17	14.5	12	10.3	22	18.8	26	22.2	**40**	**34.2**
Clear formulation of problems	9	7.7	5	4.3	24	20.5	**48**	**41.0**	31	26.5
Initiating discussions and keeping students' interests in the subject	12	10.3	12	10.3	28	23.9	**33**	**28.2**	32	27.4
Establishment of student's assessment criteria	26	22.2	12	10.3	21	17.9	**37**	**31.7**	21	17.9
Organization of learners' self-assessment	**34**	**28.2**	12	10.3	24	20.5	33	28.2	15	12.8

Very good and good notes were given to students for **including introductory part of the lesson (announcing the subject and objectives of the lesson).** Such grades were given to 81% of students observed. Almost all of them started their classes with ordinal activities, checking attendance and announcing the subject and the programme of the lesson. They did their best to formulate the issues to be discussed properly. They were usually brief, kept in correspondence with the subject. They were sometimes raised in the form of a question. Then they tend to arouse higher interest among the students. The students used to announce the objective of the classes at the beginning of the lesson, however it was rather rare for them to provoke situations where the pupils themselves are trying to guess the subject, what new contents they are going to learn, what skills they achieve in the classes. There were usually just the announcement by the trainee: *today we are going to learn about…*

The students turned out to be successful in **conveying knowledge**. Nearly 43% of people surveyed got the highest mark e.g. five for this part. Grade good was given to 33% of students, satisfactory level reached 21% of students. The remaining part were not always passing the accurate and correct knowledge on their students, which is rather alarming taking into account the fact, that those

surveyed got the time ascribed to their vocational training over. The people interviewed were, after all, students of the last year (actually they were finishing their studies – there were 1-2 months left to final graduation) or the ones that had a year of training to remain. The students under observation also proved strength in **selection of teaching methods.** Selection of teaching methods is correlated with the age of pupils, teaching contents, objectives and tasks of their didactic and educational work, organisation and tools that are planned for use.

Over 76% of those surveyed is able to match teaching methods at very high and high level of efficiency, 15% – at an average level. The remaining part fails in this task. During classes it was visible that students were trying to convey information to pupils that took the form of brief lecture or talk. For this purpose they often used previously prepared presentations. Then they used to refer to activating methods. Application of activating methods not only makes the work with students more interesting and effective but also raises job satisfaction. We tend to learn quicker when we act as a team, complete particular assignment if we are active.

Selection of didactic measures is also a strength of students surveyed. It is impossible to imagine oneself reasonably organised and implemented teaching – learning process without the use of didactic measures. The use of didactic tools facilitates teaching – learning process due to stimulation of intellectual activities. Students themselves assessed their skills highly in this scope. Nearly 74% of people surveyed can cope with selection of didactic measures very well and well, 17% – at average level. The rest of those observed were not able to manage the task. It should be emphasised that didactic aids were often developed by the students themselves. They produced their own information boards by taking advantage of information technology on a large scale.

Another subject of assessment covered **the pace of the lesson.** When preparing for the lesson students tend to schedule a great deal of assignments, they want to transfer as much information as they can. They raise doubts whether there will be too much free, unexploited time left to the end of the classes. They have such fears in particular before their first classes with students starts. The next lessons seem to be much better arranged. The pace of the class appears to be correct in most cases. Grade very good and good was given to 71% of the students observed. Over 20% does not keep the right pace of the lesson all the time. While completing exercises pupils are asked to do them even more quickly. They lag behind with notes. The students who are running out of time to finish planned assignments are becoming more stressed and the atmosphere of hurry could be immediately sensed.

The other category being a subject of assessment was **initiating the contact with students by a teacher and atmosphere during the classes**. Very high mark was given to 40% of those conducting classes, high grade – 27%. This task was

completed on average level (with grade: satisfactory) by 17% of those observed. As for the rest, they still need extensive further training in this field. **Clear formulation of issues** to be taught and conveying them in easily-understood way was assessed as very good and good in case of 67% of those surveyed. Ca. 20% got satisfactory grade, the remaining proportion is not able to cope with this task at all. Coming into contact with students and lesson atmosphere as well as clarity of formulated thoughts make up foundations of efficient communication.

Students' motivation influence the effects of their work. 63% of students observed can cope with this task very well and well.

The basic rules of didactic code of conduct, compliance with which allows a teacher to reach the set goals are called **didactic rules.** Compliance with the rules considerably raises didactic effectiveness. Very good and good marks for this task were obtained by 63% of the surveyed. Ca. 23% got satisfactory result, while the remaining part was found unprepared for this job. Such situation appears to be alarming because of the fact that command of teaching rules is much the same as command of traffic rules. If we do not know and obey them the chances of accident are very high. If for some reasons it takes students longer to assimilate knowledge there is a great likelihood that their skills will not be properly developed.

Organization of assignments covering new material. Ca. 62% of students were given grades: very good and good, 20% got grade: satisfactory. The remaining part were not able to cope with the planning of assignments using the material newly learned. **Activation of students** includes didactic and educational activities aimed at raising their active participation. Students become more and more self-reliant, solve problem independently and perform some practical activities. Activation contributes to development of interests and creative attitudes. It is important that students talk to each other, exchange their views and take part in discussions. It is teacher's duty to initiate the discussion e.g. by delivering controversial opinion. Besides, a teacher should do his best to keep the discussion going, provide opportunity of taking the floor to all of the students willing to express their views.

The two categories described above were also the subject of insights. They were mastered by students at the very same level. Very high and high marks were given to over 55% of those surveyed. 19% of students can manage pupils' activation at satisfactory level. However, there are 25% of students who have difficulties in this field. Initiating discussion and keeping interest in the subject taught proved very problematic to the proportion of over 20% of students. 24% of students performed this task with the grade: 3.

Students' assessment is an ability, which was evaluated very high and high in the case of 50% of students, 18% reached satisfactory level of task accomplishment.

Assessment is closely tied with **organization of students' self-assessment.** Self--assessment is an opinion about students' self. Self-knowledge is the foundation for formulation of own abilities. If students are able to recognize their strengths, which, however, weren't able to show in class, the chances are high that they will be able to succeed the next time or at least make an effort in this scope. Organization of self-assessment proved to pose a problem to a high percentage of students. This task was accomplished with very good and good result by 40% of those observed. The rest of respondents had difficulties performing this job.

Conclusions

Pedagogical and psychological training is connected with development of attitudes amongst potential teachers, set of values, different skills adequate to teacher's function and duties and finally selection of the most relevant information.

Knowledge and psychological and pedagogical skills are necessary to comprehend activities of students and to manage them successfully in the process of didactic and educational tasks accomplishment Such psycho-pedagogical training is a core element and prerequisite for teacher's professional development, learning of oneself and one's abilities as well self-education.

The analysis of research material gathered allows to come to conclusion that considering the pedagogical and psychological preparation of students in the course of studies teachers' training prepares students for their future job rather insufficiently.

Bibliography

Banach C., *Nauczyciel*, [in:] *Encyklopedia pedagogiczna*, Warszawa 2004.

Biała Księga. Nauczanie i uczenie się. Na drodze do uczącego się społeczeństwa, Warszawa 1997.

Borkowska A., *Kształcenie dla przyszłości*, Warszawa 2004.

Dawid J.W., *O duszy nauczycielstwa*, Lublin 2002.

Duraj-Nowakowa K., *Systematologiczne inspiracje pedeutologii*, Kraków 2000.

Edukacja: jest w niej ukryty skarb, Raport dla UNESCO pod przewodnictwem J. Delorsa, Warszawa 1998.

Faure E., *Uczyć się, aby być*, Warszawa 1975.

Gołębniak B.D., *Zmiany edukacji nauczycieli. Wiedza – biegłość – refleksyjność*, Toruń--Poznań 1998.

Grzesiak J., *Autoewaluacja wyznacznikiem kompetencji nauczyciela*, [in:] K. Żegnałek (ed.), *Kompetencje współczesnego nauczyciela*, Warszawa 1975.

Hupková M., *Profesijná sebareflexia učiteľov*, Nitra 2006.

Komorowski B., *Kształcenie ogólne*, [in:] W. Pomykało (ed.), *Encyklopedia pedagogiczna*, Warszawa 1997.

Kozielska M. (ed.), *Edukacja dla społeczeństwa wiedzy*, Toruń 2007.

Litman M., *Kształcenie umiejętności badania rzeczywistości klasowej jako warunek skutecznej komunikacji*, [in:] *Myśl pedeutologiczna i działanie nauczyciela*, Warszawa-Białystok 1997.

Majchrzak-Mikuła J., *Psychologiczno-pedagogiczne kształcenie przyszłych nauczycieli (studentów)*, [in:] E. Sałata (ed.), *Pedagogiczno-psychologiczne kształcenie nauczycieli*, Radom-Warszawa 2005.

Marek E., *Kształcenie nauczycieli klas początkowych w opinii studentów pedagogiki wczesnoszkolnej*, [in:] E. Żmijewska (ed.), *Kształcenie nauczycieli. Modele – tendencje – wyzwania wielokulturowej rzeczywistości*, Kraków 2012.

Okoń W., *Nowy słownik pedagogiczny*, Warszawa 2007.

Piecuch A., *Edukacja informatyczna na początku trzeciego tysiąclecia*, Rzeszów 2008.

Tiffin J., Rajasingham Ł., *In Search Of The Virtual Class*, London 1995.

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The role of pedagogical practice in the system of future teachers' professional training

Pedagogical practice plays an extremely important role in the system of future teachers' professional training, which in its sense is the professional occupation's analogue. Its organization creates a situation of the student's dipping into the real pedagogical process, which leads to deeper awareness of the pedagogical profession specificity and creates natural conditions for the readiness checking to it. It is affirmed by the information taken from our questionnaire of the IV-V year students of Vinnytsia State Pedagogical University named after M.M. Kotsiubynskyi. If before the pedagogical practice only 56% of the students were sure about the correctness of their occupational choice, then after the practice the number of such students increased to 68%. The number of students, who have deeply understood the specific character of their future work has increased from 11,5% to 29,5%. Before the practice 41,4% of the students were sure in their readiness for the pedagogical activity, then after the end of the practice the number of 'students who were sure' decreased to 37,8%.

Pedagogical practice also has some positive influence on the development of professional responsibility. Before practice only 27,8% of the students admitted feeling professional responsibility, after practice the number of such students reached 41,5%.

At the same time the studies indicate that potential resources of pedagogical practice as a means of future teachers' professional development aren't implemented enough. The reasons are different:

- a gap between theoretical mastering of pedagogical sciences and their application;
- an imperfection of the content, forms and organization methods of pedagogical practice;
- a passive position of the trainees: they mostly play the role of observers or executors of somebody's assigned tasks;
- absence of clear coordination in pedagogical practice supervision and control over it.

The problem of pedagogical practice organization at the II-III courses is particularly burning. Students' surveys, personal interviews, speeches at the concluding conferences show its low effective influence on the future teachers' professional responsibility formation. 'Such practice, as they write in surveys, is useless. We have been doing nothing the whole week. Pupils are mocking us. Complete indifference to trainees, no control over the assigned work. We have been going there for two years and have been doing nothing. Nobody needs us there'.

Taking into consideration the fact that the pedagogical practice influences the professional readiness of students' formation is determined by their level of activity in the educational work of a school and a class, a state of emotional satisfaction with the results of their actions, we found it necessary to review its purposes, content, forms and methods of conduction.

The article's aim is to ground the effective influence of different types of pedagogical practice conditions on the future teachers' training.

According to the teaching field peculiarity the students' practical training in higher pedagogical institutions of Ukraine has a continuous character. It starts from the second term and is conducted throughout the whole studying period.

The system of continuous pedagogical practice includes the following kinds:

1. Propaedeutic practice of the II-III year students.
2. Extracurricular pedagogical practice of the IV year students.
3. Practical training of the IV-V year students.
4. Teaching and research practice.

Each of the above mentioned types of practice is determined by the appropriate purposes, tasks, content, the organization and realization form.

Propaedeutic practice in a future teacher's purposeful preparation is a link that combines theoretical studies at the university with the independent work at school. It is closely connected with the content of psycho-pedagogical disciplines, that's why during the practice conditions are created to implement the acquired professional, pedagogical and psychological knowledge, to extend and understand it thoroughly. This type of practice allows students to acquire deeper knowledge of the pedagogical content, the integrity of a pedagogical process, the methods and forms of its organization; to test knowledge and skills as active participants of educational work.

The **peculiarity** of a propaedeutic practice is that students get acquainted with a range of real work problems of a subject teacher and an educator. During the practice the students prepare laboratory classes, independently or under the teacher's supervision, partially attend and analyze school lessons and a variety of educational activities which are conducted by subject teachers and form masters. During the propaedeutic practice students have an opportunity to try themselves

in the role of a teacher, to participate actively in the educational process, to prepare and conduct lesson parts and educational events, to assist a form master in organizing a pupils' group, to work individually with problem pupils, to get familiar with the interaction forms between school and family.

The main **aim** of a propaedeutic practice is to provide students with practical knowledge of pedagogical activity patterns and the ways of mastering its organization, to develop the ability to solve specific teaching and educational tasks according to the terms of pedagogical process. This goal is realized in the process of performing complex pedagogical tasks that enable students to form pedagogical vision of didactic and educational problems.

The crucial and necessary **condition** of propaedeutic practice is a versatile orientation of the future teacher in all educational activities areas. Our experience convinces that entering a school life should be provided for the students on the best examples. That's why at Vinnytsia State Pedagogical University named after Mikhailo Kotsiubynskyi the propaedeutic practice program provides students with the examples demonstrating the best lessons of city and region teachers, winners of the competitions 'Teacher of the Year', 'Educator of the Year' with further analysis. Apart from this watching and discussing pieces of feature films on a pedagogical topic is scheduled.

In the propaedeutic practice program there are also tasks for independent work, the realization of which requires deep theoretical knowledge and skills to observe, summarize and organize the collected material, use various methods for diagnosing a pupil and a group, apply techniques of an educational influence. In particular, the propaedeutic practice content of the II-III year students of the Pedagogical University provides performing the following main tasks:

– observation and analysis of class and out-of-school activities of the subject teachers and a form master during the laboratory classes (while watching videos, film parts with an educational theme) and directly at school;
– getting familiar with calendar and thematic lesson plans of subject teachers, educational work of a form master;
– psycho-pedagogical analysis of one of the lessons of a subject teacher and educational activities conducted by a form master.
– conducting 1-2 lessons (or their parts) according to the chosen speciality (during the laboratory classes or during the student's work at school), discussions (or its fragments) on moral-ethical topics, evaluating its effectiveness;
– getting familiar with programs and methods of studying a pupil and a pupils' group;
– making psychopedagogical characteristics of a pupil and a pupils' group on a basis of complex methods of a scientific and pedagogical research.

Fulfillment of creative tasks for the courses 'Pedagogics' basis', 'Didactics', 'The theory of education' (according to the program). Independent students' work (according to the program).

Determining the purposes of the II-III year students pedagogical practice we came from the fact that it should assist a conscious understanding of the psychopedagogical disciplines, provide conditions for development of certain professional skills and habits, influence the formation of the future teachers' responsibility. During the selection of the content and organizational forms we were guided by the fact that they were to be adapted to the individual capabilities of each student. Therefore, a teaching process in its most essential characteristics was chosen as the content for a teaching practice. Instead of usual disciplinary measures CCA (collective creative activities) were introduced. It gave an opportunity to make students significantly more active, positively influenced their attitude to the practice. Students concluded contracts with schools or classes (it is a legal basis of the activity with clearly defined rights and obligations for both sides) to conduct several important affairs. As school was a customer, it also evaluated results. The main motive of the students' work was a desire to fulfill their obligations, to help senior colleagues. It increased the sense of responsibility. Students felt their real impact on teaching and educational process, the significance of their actions. By the pedagogical staff students were accepted as real assistants, colleagues, who wanted and could take pains with a school life. In turn, it filled the communication between the members of the teaching school staff and the trainees with a new positive-emotional content.

The research convinces that one of the means of increasing influence on the pedagogical practice of the II-III year students in the formation of professional responsibility is a block study of theoretical material with simultaneous practical application. We completed it in teaching weeks: students listened to lectures, attended school, conducted seminars, classes and educational events in 'their' classes. Due to such organization of an educational process, positive changes in all components of responsibility occurred. The students' attitude towards the pedagogical practice changed, the practice influenced the increase of forming professional and personal qualities of future teachers. The results of surveys, conducted among the students of experimental and control groups, prove it (see table Forms of control over students' work are the following: reports on conferences about the micro researches results related to testing alternative methods of teaching a pupil and a pupils' group, discussion of the written creative tasks results, etc.).

Additional materials, prepared by the teachers of the pedagogical department, help students implement the knowledge practically gained in the process of fulfilling complex tasks of a practice program.

The propaedeutic practice results were discussed together by the methodologists and students at the end of each stage of its implementation. According to the results of a propaedeutic practice a test is conducted (the VI term).

Great potential for the future teacher's formation is laid in extra-curricular pedagogical practice. Its purpose is to broaden, deepen and consolidate professionally meaningful pedagogical knowledge, to gain experience of the independent life and work with a children's temporary group, to improve skills and habits in methods of educational work with children during summer holidays, to contribute to the students' sustained interest formation and respect for the teacher's profession, to develop a creative and research approach to teaching.

The characteristic feature of the extra-curricular practice is that a student is officially responsible for life, physical and mental health of children and teenagers, their proper rest and development. Time and place of this kind of practice is also specific. Time – holidays when kids peculiarly perceive the surrounding world and everything that happens to them. Location – a camp, children's rooms at Housing Management Offices, a sanatorium. Children can show themselves in an unexpected way during the rest, they have other expectations and attitude as during school time.

The activity of a student-educator in the camp is multifunctional: he is an educator and an organizer of children's lives, an initiator and a nurse, etc. Creating appropriate conditions for rest and recreation of children requires the use of various forms and activities that substantially activate acquiring teaching skills and habits, make the student constantly appeal to educational theory.

In a camp the relationships between children and teachers differ from the school ones: an educator stays with children day and night.

At school students work with a formed children group. In a camp they should create a temporary group, develop and unite it, at school classes are similar. In health-improving institutions groups are of different age.

Students become full members of teaching staff at a camp, a children's sanatorium. They are included in the staff list of some health-improving institutions, observe labor discipline, get salary, the corresponding legislative documents and legal responsibility for life and health of pupils are applied to them.

However, practice shows that at pedagogical universities more attention is paid to preparing students for teaching, rather than for conducting educational activities. That's why at summer camps there are examples of low organization, lack of coordination between various activities. School forms of educational work are often mechanically transferred to these institutions, without taking into account age and individual peculiarities of children, specificity of summer entertainment. There are facts of formal fulfillment of functional responsibilities from the side of teaching staff. According to the research only 16.51% of guides show

an optimum level of readiness to work in summer camps [Tsupryk dys. C. 1]. Thereby the university students' preparation for work at children camps is becoming extremely current.

Understanding the great educational potential of a summer camp is one of the major educational aims that is necessary for a trainee to form. From a personal experience a trainee can make sure of the right professional choice, of the need for self-knowledge, self-education and self-improvement.

During the extra-curricular practice students should master the following knowledge, skills and habits:

– identifying the aim and tasks of health-improving and educational work with children and teenagers in health centers, children's rooms at Housing Management Offices;
– making a plan of health-improving and educational work for a shift and each day considering the children's interests and individual peculiarities;
– organizing self-government in a group and directing its activity;
– organizing different pupils' activities (debates and discussions, drawing competitions, festivals of songs and dances, evenings of poetry and tales; Ukrainian folk festivals, theme days, labor troops, collection of natural and local history material, carnivals, sport events, etc.);
– regulating relationships between groups and inside the group, finding appropriate forms of communication;
– using the whole system of possible pedagogical influences in health-improving institutions and Housing Management Offices considering age and individual peculiarities of the pupils;
– establishing pedagogically correct relationships with children and colleagues.

An extra-curricular practice involves engaging students in the following activities:

– organizational and pedagogical (getting familiar with the living conditions, rules of internal order, traditions of a health-improving institution, a detachment, drawing up a working plan, forming self-government institutions, etc.);
– educational (studying specific manifestations of age and individual peculiarities of the pupils, their health, living conditions and upbringing);
– practical (organization of the children's active leisure, adherence to the schedule of sanitary work and self-service work).

Practical training of the IV-V year students plays a special role in the future teachers' professional formation. This peculiarity is explained by the fact that practical training is organized directly at school and is the final stage of the practical, psychological and pedagogical preparation of the students. It is organized

at the IV course as pre-final practice and at the V year as final practice with the duration of 5-8 weeks.

The main aim of the practical training is pedagogical knowledge, abilities and skills of generalization, systematization, intensification and students' preparation for independent carrying out of all the pedagogical functions.

The character of the practical training is quite specific, because a student takes part in the problem circle of the teacher's professional work, gets acquainted with the real context and content of his work, independently performs all his duties. One more peculiarity of it is that the student's practical activity at school stimulates future teachers' independence formation in educational and upbringing tasks definition and realization. Practical training positively influences future teacher's qualitative characteristics, which lead to the creative abilities development (erudition, attention, analysis capability, self-analysis, readiness to innovative activity). Not less important is its role in pedagogical abilities formation: academic, communicative, expressive, organizational and so on. Practical training influences self-education, self-actualization and self-education processes.

The practice content at the IV and V years differs from the previous by the volume of work, the difficulty of tasks, the depth of pedagogical phenomena and the processes' analysis, the form of students' accounts for its results. For example, a IV year student during the practical training is a form master's assistant. His activity has some constructive character. He works according to the practice program and forms a master's working plan. According to the activity results he leads psychological and pedagogical analysis of the educational arrangements.

The V year student works as a form master. His activity has some creative elements. He independently performs the functions of a form master, develops and implements his own activity program and analyzes it. According to the practice results he writes a creative test paper.

The practical training is conditionally divided into three periods: organizational, fundamental and final.

Organizational: acquaintance with the school, class, pupils, subject-teachers, form master, educational process observation.

Fundamental: guidance of the upbringing process, conducting enlightenment, methodical and research work.

Final: conducting test lessons, educational arrangements, summarizing the pedagogical practice results.

In the process of pedagogical practice students have the opportunity to extend their knowledge, abilities and skills concerning pedagogical diagnostics of the pupils' and group's upbringing level conducting, educational work planning, regulation and correction of the interpersonal attitudes in children's and youth groups, possessing the methods of positive influence on pupils, the work of pupils'

self-government, adjustment of the pedagogical relationship with the pupils' parents, the optimal influence method, analysis, generalization and the advanced pedagogical experience application.

The trainees of the senior course had another task – not only to learn something from the experienced teachers, but also to hand over the information to the colleagues about the leading pedagogical experience. This aim was achieved thanks to the unification of educational, scientific and practical pedagogical activity of the students. From the first course the students were suggested the course paper topics, which were impossible to be developed without learning and understanding the leading pedagogical experience. After this preparation the students analyzed pedagogical phenomena in different teams, where they had had their practice, through the prism of their own knowledge about the best examples of the pedagogical experience. It changed their attitude to the pedagogical practice.

In order to give the students of the senior courses some independent responsible activities before the pedagogical practice they were suggested some individual tasks. For example, they were to find out the reasons of the pupil's negative attitude to the subject and try to dispose them.

Special attention was paid to individual tasks of scientific and investigative character. Their essence was in analyzing non-standard situations.

Together with the individual the collective activity of the trainees was organized. In the conditions of collective actions one usually understands himself as a part of the whole and it is very important. In our experimental work each group of students (3-5 people) before the beginning of the pedagogical practice got a task and made an agreement with the methodological unification of the subject teachers or form masters. According to the agreement a report about the possible ways of solving a certain problem was to be prepared and the students were to prepare a report on the topic and make a speech on the methodological unification.

The students became the subjects of the pedagogical process not only concerning pupils, but also concerning their elder colleagues. This situation influenced the trainees greatly and made them more goal-directed and sure in themselves. The theoretical hypothesis verification by the educational and upbringing process was, in fact, the form of responsible attitude to the pedagogical activity – the tendency to creative and effective fulfillment of their own functions.

The future teacher's professional responsibility formation in the process of pedagogical practice is greatly influenced by the control quality of their activity and the mark's adequacy. The most widely used forms of control are a final conference; practice defence, an overview-contest, a report, discussions, meetings with the teachers and so on. But the quality control analysis of the trainees indicates that there are some problems there. One of them is, that the right for the

'decisive word' is kept not by the customer, the school, but by a higher educational establishment. Therefore such cases as overstating a mark and leveling occur, which have negative impact on the future teachers' formation. Out of three thousand analyzed diaries of the trainees only five of them got the 'satisfactory' mark (less than 0,17%). The other got 'good' and 'excellent'. At the same time during the questionnaire 27% of the students noted, that during the practice period they didn't try to work creatively and effectually, sometimes they showed formalism and irresponsibility.

Experience persuades the appropriateness of the more active school's participation in the students' undergoing practice marking. It simultaneously activates the attitude of practical collaboration, mutual responsibility and exactingness between school and higher educational establishment. Being a customer, school will objectively evaluate the agreement's implementation. The concreteness of the stated objectives, interest to their realization, activeness of the customer in the results evaluation lead to self-analysis and self-regulation development of the students' undergoing pedagogical practice.

Therefore, the most important conditions that identify the effectiveness of the pedagogical practice influence future teachers' professional formation are the following: accurate definition of aims, content, forms and methods of practice organization; giving each student an opportunity to really influence the state of educational and upbringing work at school; ensuring the connection between mastering theoretical knowledge of psychology, pedagogy, professional disciplines and the students' practical actions; establishment of contractual obligations between higher educational establishment (student) and school in the content and methods of the student's undergoing practice identification; provision of the regular control and objective marking of the students' undergoing practice activity.

Annotation

Pedagogical practice plays an extremely important role in the system of future teachers' professional training. It is an analogue of the professional activity. Its organization creates a situation of the student's immersion into the real pedagogical process, which leads to deeper understanding of the pedagogical profession and creates natural conditions for a gut test over a person. According to the pedagogical branch specific character, the students' practical preparation in higher educational establishments in Ukraine has a transparent (continuous) character. It starts from the second term and is conducted during the whole studying period.

The system of continuous pedagogical practice consists of the following kinds: propaedeutic practice of the II-III year students, extracurricular pedagogical

practice of the IV year students, practical training of the IV-V year students, teaching and research practice. Each of the mentioned above kinds of practice is defined by the appropriate aims, tasks, content, organization and holding form.

Among the most important conditions that define the effectiveness of the pedagogical practice influence for the professional establishment of future teachers the following can be singled out: clear definition of aims, content, forms and methods of practice organization; giving each student a possibility to have a real influence on the state of educational and upbringing work at school; provision of the connection between mastering theoretical knowledge from the psychological, pedagogical and professional disciplines and the students' practical actions; establishment of the agreement relationships between higher educational establishment (student) and school in defining the content and the methods of the trainee's work; provision of the regular control and objective marking of the trainee's.

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Theoretical and practical areas of cooperation of vocational schools with employers

Preliminary remarks

In the theory of pedagogy and educational practice there is a widespread belief that the success of vocational training is its relationship with the economy and the labor market. In the period of constant social, technological or economic changes the closeness of professional work with vocational education becomes important for many reasons. You can mention here among other things the changing requirements of employers to the qualifications and professional skills of graduates. Therefore, vocational schools should enable students to acquire new knowledge and skills in conjunction with the economic practice. Thus, a school and a work place can become mutually complementary places of gaining professional qualifications, verifying the knowledge, development and improvement of skills. In addition, offering students the opportunity of the first contact with economic practice already at the stage of school learning gives them advantages of a successful entry into the labor market.

The mentioned relationships between the vocational school and employers come down to the instrumental function. The partnership between vocational education and businesses can accept a number of other formulas. Employers can also become a valuable source of knowledge about changes in terms of professional qualifications, needs and expectations related to the quality and efficiency of vocational schools, the model solutions in the area of the curricula. One can also talk about the role of employers in eliminating the mismatch of vocational training to the needs of the economy, and also in determining the objectives, content and organizational forms of vocational education. The topic of cooperation of vocational schools with the economy has been widely described in the subject literature, educational and social reports. Here one can refer to the UNDP report ‘for the sake of work‘ which is important from a social and economic point of view. Its authors stress the need to increase the participation of employers in a variety of activities for the widely understood vocational education, for example, in ‘addition and adaptation of vocational education and lifelong education

to the needs of the economy, development of career advice, promoting occupational mobility and skills to manage their own career'[1].

Vocational training is not only the knowledge and professional skills, but also attitudes and thus the development of the whole person. Therefore, a dialogue between the vocational school and employers should concern shaping the rules of culture of work or professional ethics among students. Employee role models, masters in the profession can be invaluable assistance in the implementation of the concept of culture and ethical behavior in this area. 'Master's' direct contact with the student may include not only the transmission of knowledge or skills, but it also puts him/her in the specified hierarchy of values which are the criteria for selecting and deciding on the presented patterns of behavior. Especially it concerns the values that define the ethos of a particular professional group whose member the student is going to be[2].

Economic engagement with vocational education in many areas and on many levels can be recognized as a model similar to the ideal. However, to achieve success, one must relate to the maximum requirements. So it is essential to formulate several boundary conditions for cooperation between vocational education and the economy:

– the participation of entrepreneurs in the development of instrumental skills of vocational students should be considered as indisputable,
– the participation of employers in formulating curriculum requirements for vocational schools requires a schedule of activities defining the framework and principles of cooperation in this field with the representatives of pedagogical theory and practice,
– the development of ethical behavior in the process of work cannot take place outside the workplace. Employers, to a greater extend, should take responsibility for educating an active student – a responsible employee – a conscious citizen.
– the form of financial participation of entrepreneurs in the costs of vocational training should be taken into account. Invested funds will make employers pay more attention to the legitimacy of their spending, which will undoubtedly result in the quality and efficiency of vocational education.

In conclusion, two important issues should be emphasized. For a successful dialogue of vocational education with the economy it seems necessary to change the image of vocational schools. These institutions should become synonyms of

[1] *Raport o Rozwoju Społecznym Polska 2004 – W trosce o pracę*, Raport UNDP, Warszawa 2004, p. 24.

[2] Z. Wołk, *Zadania pedagogiki pracy wobec zmian współczesnego świata*, [in:] R. Gerlach (ed.), *Edukacja wobec rynku pracy. Realia – możliwości – perspektywy*, Bydgoszcz 2003, p. 359.

success and forward-looking thinking, focusing on the realities of the labor market. The second issue relates to the conscious and responsible participation of employers in the process of vocational training. The specific color is added to vocational education by the need to shape the skills aimed at the learner who 'was able to do', and not only knew what and how to do it[3]. This is the essence of relationship of theory and practice and the role of employers in the building of this relation.

The role of employers in the reformed vocational education

The current educational practice indicates little satisfactory cooperation of vocational schools with employers. In the literature the topic was raised by E. Drogosz-Zabłocka. According to her opinion 'schools take the role of applicants in the organization of practical training and apprenticeships in enterprises. There is no reciprocal relationship'[4]. The authors of the report 'For the sake of work' took a similar position on this issue. They said among other things: 'Apprenticeships in Poland are one of the more neglected elements of the training programs (…) The organization of practical activities and practices in the workplace continues to make the schools' problems'[5]. The problem of the lack of cooperation of employers with vocational schools concerns not only the implementation of a practical training and apprenticeship in a real working environment, but also the participation of employers in the process of training and examinations or appropriate to the needs of employers investment in the development of technical and teaching base of vocational schools.

The problem of vocational education cooperation with employers was spotted and quite thoroughly examined by the authors of the next stage of the reform of vocational education. The authors of the changes in the system of vocational education as a priority determined the good preparation of students to enter the labor market. The following activities are to serve this aim:

a) conducting vocational training and, especially practical training, in conjunction with employers;
b) complementary places of learning, that is, in a school and a workplace of appropriate industry;
c) enabling pupils to first contact the world of production at the stage of learning, giving also the important advantages of the positive entry to the labor market and obtaining employment with a particular (often selected) employer.

[3] Cz. Polewka, *Metodyka nauczania teoretycznych przedmiotów zawodowych*, Radom 1999, p. 112.
[4] E. Drogosz-Zabłocka, *Partnerstwo: szkoła – zakład pracy*, „Szkoła Zawodowa" No 3/1998.
[5] *Raport o Rozwoju Społecznym…*, p. 37.

These provisions require the use of effective incentives for employers who agree to cooperate with high schools, carrying out vocational training. It is mainly about the creation of financial mechanisms that will support employers, working with institutions which carry out vocational training. One of such mechanisms is subsidizing to employers the cost of vocational training of young workers, paid from the labor fund. Another is the gradual increase in the educational subsidy for vocational training. Within the framework of the subsidy the employers, carrying out practical apprenticeship, are refunded:

– salaries of instructors of practical apprenticeship conducting practical classes with students,
– training allowance for the instructors of practical apprenticeship leading practical classes,
– the cost of clothing and footwear necessary for a certain position, assigned to the students,
– training allowance for the guardian of the apprenticeship,
– bonuses for the guardian of the apprenticeship, which may be received from the employer for the duration of the practice.

The actions taken are systematic in nature, particularly important due to the proposed character of relationship between the vocational school and the employer, and the extend of cooperation between these entities.

Appreciating the role of employers in the process of vocational training MEN took the initiative to conclude agreements with economic organizations or economic self-governments concerning cooperation for the improvement of vocational training. Within its framework the following types of actions have been proposed[6]:

• creating a database (network) of workplaces, in which students and high school students engaged in vocational training will have the practical training;
• improving the quality of planned and carried out vocational practice by developing (in direct cooperation of schools with employers or functioning industry associations of employers) standards of practice in the various professions;
• supporting vocational schools in equipping the existing teaching base, especially in the modern teaching aids (substantive) and materials (production);
• participation of employers in organizing extra-curricular activities outside schools for interested students and the last classes in high schools engaged

[6] *Kształcenie zawodowe i ustawiczne. Założenia projektowanych zmian*, Informator MEN, Warszawa 2010, p. 20 (3.6. Współpraca szkół z pracodawcami).

in vocational training, thereby increasing the chance of their employment after graduating from high school;
- organizing the employers to conduct practical improvement for the teachers of vocational training, for the teaching staff of high schools.

As the above assumptions indicate the cooperation with employers should take place basically in two dimensions: to provide opportunities for practical vocational training in the enterprise and to ensure employers' contribution in vocational schools equipment. Activities within the first dimension are designed to provide apprenticeship opportunities in enterprises and the inclusion of employers in the process of creating curricula and examination requirements. It seems that encouraging employers to take students to practice a practical apprenticeship or professional internships can be a considerable challenge, especially during the 'post-crisis' balance recovery by the economy. In the second dimension, it is expected that employers will improve vocational schools teaching resources and share the knowledge and skills with teachers. The question is, how the employers will be encouraged to do so? Or, how far this cooperation will be based on the individual contacts and individual sense of responsibility of the employer for the local labor market, or will it be fixed in the law and financially stimulated? It seems that in the era of poor economic conditions, employers can – in a very different degree – join this type of cooperation with vocational education, but getting their uniform commitment on a national scale can turn out to be impossible.

Nevertheless, it is to be hoped that the planned areas of cooperation may lead to the creation of networks of 'educationally-oriented' enterprises.

Commented changes assumptions in the system of vocational education are a kind of 'correction' of educational reform from 1999, in which the current and future demand for work were underestimated, as well as the importance of vocational training was underrated. In general the changes are aimed at a combination of two trends: the integration of education in the sphere of general competence with the education concerning specific knowledge and professional skills, with a significant participation of employers. Another goal is clearly to approximate the vocational education and the labor market. It is to be done by engaging employers in the whole process of vocational training, focusing on learning outcomes and efforts to ensure that the certificates confirming professional qualifications have become clear for employers. Currently, the specificity of the Polish labor market is that the transition from education into employment (STW, school-to-work transition) occurs relatively late. The approximation of vocational education to the economy can significantly accelerate the moment of entering the labor market by graduates.

Employers' Cooperation with vocational schools at the local level – selected aspects of research

The problem of cooperation of vocational schools with employers was one of the areas of the research undertaken in the research project titled: 'Vocational education as a factor of equal opportunities and the prevention of marginalization and exclusion' which was carried out in four districts of the north-eastern Poland, i.e., in the district of Ełk, Olecko, Gołdap and Kętrzyn.

The issue of dialogue between economic practice and vocational education acquires a particular eloquence in conjunction with socio-economic problems that occur in the area, characterized by high level of unemployment, poor quality of life and clear economic backwardness.

In the study employers were asked, inter alia, to identify areas in which they want to cooperate with vocational schools. The data on this subject are listed in table 1.

Table 1. Employers' opinion on cooperation with vocational schools

No.	Areas of cooperation	The scope of cooperation				
		Very large (4)	Large (3)	Small (2)	None (1)	Average selection
1.	In planning the structure of vocational training	16	27	6		**3.20**
2.	In the planning of vocational profiles	21	20	16	3	**2.98**
3.	In terms of the vocational education network restructuring	8	32	4	2	**3.00**
4.	In planning the recruitment to vocational schools	10	18	15	4	**3.04**
5.	In terms of the organization of practical training	20	31	2	1	**3.29**
6.	In terms of the organization of apprenticeship	15	23	6	2	**3.10**
7.	Co-financing of vocational training	16	18	8	7	**2.87**
8.	Supporting schools in innovative and quality-raising activities of vocational training	6	17	31	8	**2.33**

Source: own elaboration

Among the employers preferred areas of cooperation purely practical and instrumental activities play the dominant role, i.e., conducting practical training (average 3.29) and apprenticeships (average 3.10). The position of employers seems to confirm the thesis that mostly only these two areas are commonly associated with the issue of relationship of the economy to education.

Noteworthy is quite a big interest of the surveyed employers in the area associated with planning the structure of vocational training (average 3.2). By far the smallest number of indications received: a proposal for co-financing activities in the area of vocational education (average 2.87) and the support for schools in order to raise the quality of education (average 2.33). Such a small interest in the issue of vocational training quality may result, to some extent, from the fact that the quality in the context of vocational training is a new and relatively little known phenomenon, therefore, still underrated. Employers, especially from small local companies, did not have time or were not forced to introduce the quality certification for their products and services. Hence, employers did not pay much attention to the quality in the process of vocational training. When it comes to the issue of vocational education financing, the position of the employers surveyed is unambiguous. In their view, the responsibility for the level of funding for vocational schools should be put on the state or its agencies. Employers' opinion on this issue is specified in table 2.

Table 2. Sources of funding for vocational education

No.	Sources of funding for vocational education	Participation in the financing of vocational education					Average selection
		Very large (5)	Large (4)	Medium (3)	Small (2)	Lack of participation (1)	
1.	Local governments	14	10	6	4	6	**3.55**
2.	The provincial administration	9	15	5	6	-	**3,77**
3.	The central authorities – MEN (the Ministry of Education)	24	22	6	4	4	**3.96**
4.	The central authorities – MG (the Ministry of Economy)	11	19	6	4	-	**3.92**
5.	Regional Chambers of Commerce	2	12	25	-	4	**3,18**

Part of table 2

6.	Local entrepreneurs	1	14	11	8	8	**2.92**
7.	Vocational schools themselves should look for sources of funding	4	12	6	7	2	**3.18**
8.	All listed institutions in the appropriate proportions	4	7	8	2	7	**2.75**
9.	Collect the payment from students for performing the practical vocational training or apprenticeship	9	4	6	8	9	**2.88**

Source: own elaboration

The above findings clearly indicate that employers are willing to participate financially in vocational education to a minor extent (average 2.92). In their view, this obligation should primarily be filled by the state, through central agencies – the Ministry of Education (average 3.96) and the Ministry of Economy (average 3.92). Subsequently, the government administration at the provincial level (average 3.77) and the local governments (average 3.55) were indicated. These data reflect a trend occurring across the country. The main reason for this is the poor economic condition of many companies. It blocks significantly the possibilities of financial support for vocational education. Employers rightly expect support from the state, trade unions and the labor offices[7]. This problem is even sharper with respect to employers operating in the surveyed area. The fragmentation of activities, low economic potential, focus on generating ad hoc profits, lack of a broader and longer-term perspective of the majority of the surveyed enterprises, is not conducive to investing in education.

Employers surveyed were aware that their activity and involvement in the affairs of the vocational education are insufficient. Only less than 50% of respondents replied that they are interested in this issue. Therefore, they were asked to identify the basic barriers blocking their activities in favor of vocational education. As a result, they indicated a number of factors negatively affecting their partnerships with vocational schools.

[7] I. Woźniak, *Rola pracodawców w modelowaniu szkolnictwa zawodowego*, [in:] S.M. Kwiatkowski (ed.), *Kształcenie zawodowe. Rynek pracy. Pracodawcy*, Warszawa 2000, p. 234.

Table 3. Factors hindering employers' cooperation with vocational schools

No.	Type of factor	The degree of handicaps					Average selection
		Very large (5)	Large (4)	Medium (3)	Small (2)	None (1)	
1.	Lack of interest on the part of the leading body of the school	12	13	15	6	6	**3.36**
2.	Lack of interest in cooperation on the part of the vocational schools	8	9	7	12	9	**2.88**
3.	Low activity of local entrepreneurs	8	8	11	9	10	**2.98**
4.	Lack of appropriate legal and organizational regulations in this area	16	7	6	8	-	**3.83**
5.	The situation on the local labor market (surplus of people willing to work)	17	7	12	5	3	**3.68**
6.	Lack of legal and economic stability in the economy	18	11	11	7	4	**3.62**
7.	Low economic potential of local businesses	17	12	8	7	2	**3.63**
8.	Lack of economic incentives to cooperate	13	12	18	10	3	**3.39**
9.	Lack of tradition in making this type of cooperation	9	10	11	12	6	**3.08**
10.	Lack of legal papers setting out the framework and the nature of ooperation and the responsibilities of each party	15	11	7	13	2	**3.50**

Source: own elaboration

The data contained in the table shows that the employers assigned a dominant role to the so-called objective factors. They pointed out the lack of organizational and legal regulations defining the framework and areas of cooperation and determining the level of their interference in the affairs related to the creation of vocational education (average 3.83). Another factor is the situation on the labor market (average 3.68). Persistent labor surplus – continuing actually since the beginning of the transformation – causes that employers do not perceive vocational schools as a source of their future personnel but rather as generators of successive cohorts of the unemployed. In addition, a low economic potential of local enterprises is, in the opinion of the employers, one of the main causes hindering cooperation with vocational education (average 3.63). The studied area is special in this respect. The dominance of small, carried out by natural persons companies, which operate on the verge of profitability, is not conducive to the development of their activity in favor of the social environment. The lowest average selections related to the factors dependent on vocational schools (average 2.88) and the factors involved in their own activity in this area (average 2.98).

Referring analyzed findings to the solutions proposed by the MEN in terms of changes in the vocational training system several conclusions can be formulated. Firstly, it seems that one can predict a positive action, including the creation of network of workplaces engaged in practical vocational training. The study results confirmed the fact that employers are largely interested in this area of cooperation. However, the prospect of the quality and effectiveness of education can raise anxiety, as the surveyed employers drew little attention to this issue. There are also some doubts regarding the possibility of practical acquaintance of students with modern technologies and methods of work organization. Employers, particularly in small centers, generally have a small technical-economic potential. Secondly, the statements regarding the participation in planning the structure of vocational training seem to be important. This is one of the key elements that affect the whole process of organization of the vocational education system, in which according to the principles of the reform of vocational education, employers' opinion should be binding. Thirdly, studies have shown that employers are generally not interested in any form of co-financing of vocational education. Their position deviates from the assumptions of the reform, which foresees the employers' contributions in equipping vocational schools. In the present state of things, especially when we are dealing with the economic downturn, the implementation of this action seems to be threatened or unrealistic. Fourthly, the surveyed employers among the barriers hindering their cooperation with vocational schools named mainly the lack of legal and organizational regulations in this regard. At the moment, this issue seems to be resolved, because there were changes in the Law on the Education System (dated 19 August 2011, OJ No 205,

item 1206). Perhaps the proposed legal basis does not regulate all issues related to employers' participation in the process of organization and conducting of vocational training. However, it provides a basis for developing specific solutions. In addition, among the barriers the employers mentioned the difficult situation on the labor market and the lack of legal and economic stability. The reality in this area is not optimistic at the moment. The economic difficulties of many companies and a growing level of unemployment may negatively affect employers' activity in this area.

In spite of, indicated by the employers, many barriers to their cooperation with vocational education, employers pointed out many areas of socio-economic life of the region, where such cooperation can result in positive changes.

Employers' opinions on this issue are as follows:

– activation of the social environment in the region – 16.40%
– activation of the economic environment in the region – 19.40%
– inhibition of the outflow of young people from the region – 17.90%
– rationalization of the structure of vocational education – 38.80%
– impact on the adequacy of vocational training profiles – 31.30%
– efforts to reduce unemployment – 41.70%
– raising the rank of vocational education – 37.30%
– improving the quality of vocational preparation of graduates – 37.30%

According to the surveyed employers, partnership of vocational schools and workplaces in a positive way can cause changes in the vocational education itself, it can contribute to the rationalization of the structure and profiles of vocational education and also improve its quality and rank.

A category relating to the reduction of unemployment received the highest number of indications among the surveyed employers. It is supposed that they are aware that the effects of proper cooperation can be directly translated into the situation of the labor market.

The presented position of employers is another confirmation of the thesis, that they are mainly interested in the pragmatic dimension of partnerships with vocational schools. Positive changes in the social sphere, such as activation of society or inhibition of youth migration, were only significant for a small group of respondents. By analyzing the answers of the surveyed employers one should believe that the economic environments are aware of their role in creating the reality of the region in which they operate. This gives the reason to believe that the activities proposed in the reform of the vocational education system can, under favorable economic and social circumstances, bring the expected results.

Final reflection

Vocational education is an important link in the whole education system. Statistics[8] indicate that in the overall structure of high schools in the school year 2011/2012 vocational schools accounted for 21% and technical schools – 28%. In addition, in the school year 2010/2011 from the total number of 492.9 thousand graduates of high schools, 27.6% were graduates of technical schools, i.e., 136.04 thousand people and 15.9% graduates of vocational schools, i.e., 78.5 thousand people. So the problem of high quality and effective vocational education concerns a very large number of young people. Therefore, the aspect of vocational training should not only be considered in the convention of its usefulness for the economy and suitability to the needs of the labor market. Vocational training is inherently linked to the fate of young people, their life and professional career, the bank of chances which they can dispose of and consequently, professional and personal successes. Hence, the great importance should be attached to all the methods and forms of support of vocational education, in which employers should play a special and responsible role.

Bibliography

Drogosz-Zabłocka E., *Partnerstwo: szkoła – zakład pracy*, „Szkoła Zawodowa" No 3/1998.

GUS, *Oświata i Wychowanie w roku 2011/2012*, Warszawa 2012.

Kształcenie zawodowe i ustawiczne. Założenia projektowanych zmian, Informator MEN, Warszawa 2010.

Polewka Cz., *Metodyka nauczania teoretycznych przedmiotów zawodowych*, Radom 1999.

Raport o Rozwoju Społecznym Polska 2004 – W trosce o pracę, Raport UNDP, Warszawa.

Wołk Z., *Zadania pedagogiki pracy wobec zmian współczesnego świata*, [in:] R. Gerlach (ed.), *Edukacja wobec rynku pracy. Realia – możliwości – perspektywy*, Bydgoszcz 2003.

Woźniak I., *Rola pracodawców w modelowaniu szkolnictwa zawodowego*, [in:] S.M. Kwiatkowski (ed.), *Kształcenie zawodowe. Rynek pracy. Pracodawcy*, Warszawa 2000.

[8] GUS, *Oświata i Wychowanie w roku 2011/2012*, Warszawa 2012.

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The Professions of the future vs. the educational and vocational choices of students

The dynamic social and economic changes taking place in the world economy effect greatly the Polish labour market. In the future, while some of the jobs shall become less common or disappear completely, others shall gain significance – the jobs of the future. Considering the current changes, there are two aspects that should be noticed. Part of the jobs of the future require completely new qualifications, mainly niche ones, which do not play important role in terms of employment levels but contribute to the economic growth. On the other hand, they generate the demand for new skills and competences for existing jobs. These two factors pose a challenge for vocational education. A number of posts, particularly those which are simple, are disappearing due to technological development and the increase in efficiency. The transition to the knowledge economy results in the withdrawal from traditional sectors, i.e. agriculture and industry and the shift towards services and knowledge sector requiring new, high qualifications. The new jobs appear also because of the changes of the life style of the contemporary societies, new needs of the consumers and the aging of the society. Komitet Prognoz 'Polska 2000 Plus' at PAN Presidium (Polish Academy of Science) has summarized the perspectives of the Polish labour market for the next 15 years. The megatrends that create demand for job openings and qualifications include:

1. The transition from lower qualifications to the jobs requiring high qualifications – it is predicted that in Poland, by the year 2025, the number of jobs requiring high qualifications will have reached 46% of all the employed.
2. The tendency to self-employment is predicted to increase – self-employment (excluding agriculture) is forecasted to account for 28% in 2025, together with self-employment in agriculture sector would form 34% of the employment in Poland.
3. Development of services – this sector is forecasted to make up 70-78% of the employment in Poland in 2025 (in 2000 – 46.6%, and in 2013 – 61.7%).

4. The development of knowledge economy – it is estimated that in 2025 this form of economy shall account for 33% of the employment (in 2000 – 9.4%, and in 2013 – 16.9%).
5. The increase of the role of new professions – by 2025 the new professions and specialties are predicted to reach 40-50% of newly created jobs. New professions and specialties accounted for 1.74% in 2003 of the total number of employed. It is anticipated that in 2013 it will be 5.3% and in 2025 – 10%[1].

The current labour market faces three technological revolutions which effects will be represented by the demand for new professions and specialties. They are: the biotechnological revolution, the nanotechnological revolution and the biomedical revolution. It is estimated that by the year 2015, 40.000 to 50.000 new jobs will have been created[2].

Due to a significant discrepancy between Poland and other EU countries it is believed that a particularly dynamic increase in employment shall be observed in the following three areas:

– environment protection – the number of potentially employed people in the sector might reach at least 450.000 in 2015 and approximately 750.000 in 2025. That means that between 230.000 and 500.000 new jobs might be created,
– offshoring – it is estimated that the employment level might reach 450.000 jobs, which means the rise by 420.000 by the year 2025,
– science – approximately 60.000 to 70.000 new posts in this sector.

The trends presented above prove the results of the research conducted to estimate the demand of the economy for graduates in mathematics, environment and technology[3]. The courses for which there will be the greatest difference between the demand of the market and the number of graduates in the next 15 years will be biotechnology, environment protection, computer science and mechatronics.

The experts working on the project: 'Foresight of the workforce of the modern economy' have determined the employment areas which are significant for the Polish economy and labour market[4]. The group includes the areas connected mainly with IT sector and telecommunication. According to the experts IT is the

[1] A. Karpiński, *Przyszłość rynku pracy w Polsce*, Warszawa 2006, p. 87-93.

[2] Ibidem, p. 142.

[3] *Badanie ewaluacyjne ex-ante dotyczące oceny zapotrzebowania gospodarki na absolwentów szkół wyższych kierunków matematycznych, przyrodniczych i technicznych*, Ministerstwo Nauki i Szkolnictwa Wyższego.

[4] K.B. Matusiak, J. Kuciński, A. Gryzik (ed.), *Foresight kadr nowoczesnej gospodarki*, Warszawa 2009, p. 121 and subsequent.

basic horizontal domain, that is the one that affects the development of virtually all aspects of social life, economy, science, administration, culture. The other domain of horizontal character is biotechnology, which role and influence on a variety of sectors is undeniable. Also, the following sectors have been regarded as the future ones: automatics and robotics, construction, caretaking services, business-related services, tourism services, recreation, spare time, food technology, logistics, transport engineering and environmental engineering.

According to the fact sheet drawn up by Work Service in 2011 it appears that in 10 years there will be almost 40% deficit of computer scientists and software developers on the Polish labour market. The next most deficit sector will be education, mainly, as it is assumed, the professions that support lifelong learning (coaches, tutors, instructors). It might account for 38%. Car industry and modern technologies come third on the list and the shortage will be 35%. The other jobs which should offer employment opportunities include: power industry, medical services, logistics, mathematics, health professionals, engineering science, nutrition, finance, banking, insurance and economics[5].

European Center for the Development of Vocational Training has been conducting regular research to identify the needs of the labour market in terms of skills and qualifications in Europe. In its latest report the organization presented the anticipated demand for professions and qualifications in Europe between 2010 and 2020. The research was carried out in 27 EU countries and Norway and Switzerland. The results show that between the years 2010 and 2020 there will be a drop in the number of people employed in agriculture (approx. 2.5 million workplaces) and in production industry (about 2 million)[6]. Services are anticipated to see the main growth in the employment level. About 7 million job vacancies will be created. Besides, the number of jobs will also rise in distribution, transport, hotels and gastronomy (by 3.4 million). It is also expected that there will be a moderate growth (by approximately 1.2 million) in health sector, welfare sector and a slight rise in education with simultaneous decline in the demand for jobs in public administration. According to the analyses for the period between 2010 and 2020 there will be a decrease in the number of people employed in agriculture from 6.5% to 5.1%, industry and construction from 22.9% to 21.3% of the employed, whereas the role of services is expected to go up from 70.7% to almost 74%[7].

The changes taking place in the structure of employment affect significantly the demand for vocational qualifications. The forecasts indicate that between 2010 and 2020 in the EU – 27+, 7 million new job openings will be created (Table 1).

[5] *Maturzysto – sprawdź, po jakich studiach znajdziesz pracę!*, www.workservice.pl.

[6] *Skills supply and demand in Europe. Medium-term forecast up to 2020*, Cedefop, Luxembourg 2010, p. 93.

[7] Ibidem.

The greatest number, nearly 4.5 million, will be created for technicians, mainly physical and engineering science associate professionals. The demand for professionals shall also increase, particularly physical, mathematical and engineering science professionals as well as service workers, shop and market sales workers, personal and protective services workers. There will also be almost 2 million job vacancies for elementary occupations in sales, services, construction, industry, mining and transport. However, there is expected to be a noticeable decline in the number of workers in agriculture, office clerks, machine operators and assemblers.

Table 1. Employment change forecasts for particular professions in the 27 EU countries plus Norway and Switzerland between 2000-2020

Occupation	Levels (000s)			Growth p.a. %	
	2000	2010	2020	2000-2010	2010-2020
Legislators, senior officials, managers	18 118	19 134	20 574	0.6	0.8
Professionals	27 967	32 400	35 075	1.6	0.8
Technicians and associated professionals	33 058	38 332	42 803	1.6	1.2
Clerks	25 171	23 936	22 743	-0.5	-0.5
Service workers and shop and market sale workers	27 673	32 088	34 283	1.6	0.7
Skilled agricultural and fishery workers	12 607	9 710	7 674	-2.6	-2.3
Craft and related trade workers	31 282	28 672	26 529	-0.8	-0.7
Plant and machine operators and assemblers	18 729	18 626	18 502	-0.1	-0.1
Elementary occupation	21 277	23 115	25 106	0.9	0.9
Total	217 114	227 258	234 482	0.5	0.3

Source: Skills supply and demand in Europe. Medium-term forecast up to 2020, Cedefop, Luxembourg 2010

The general trends in the way in which the demands for vocational qualifications change are common for most of the EU countries. The changing structure of the market sectors results from the global factors such as: demography, globalization, international competition, technological and organizational changes. However, significant differences can be noticed if we consider the level of the

development of particular countries, therefore, the authors of the report included analyses of the future changes in employment for particular countries. The figures for Poland show that the employment is expected to rise mainly in services, distribution, transport, and slightly in construction by 900.000 job openings in total. The other sectors are forecasted to see a decrease[8].

The forecasts made by Cedefop for particular professions state that in Poland the highest demand will be for professionals, service and sale workers. The number of job openings should also grow for industry and craft workers (Table 2).

Table 2. The breakdown of job openings by professional groups in Poland between 2010 and 2020

Occupation	Levels in 2010 (000s)	Change 2010-20 (000s)			Change 2010-20 (% of the 2010 level)		
		Expansion demand	Replacement demand	Total job openings	Expansion demand	Replacement demand	Total job openings
Senior officials and managers	1 011	31	207	238	3.1	20.5	23.6
Professionals	2 359	149	527	676	6.3	22.3	28.6
Technicians and associated professionals	1 782	20	394	414	1.1	22.1	23.2
Clerks	1 230	37	188	225	3.0	15.3	18.3
Service workers and market sale workers	1 663	260	265	525	15.6	15.9	31.5
Skilled agricultural and fishery workers	1 877	-652	263	-389	-34.7	14.0	-20.7
Craft and related trade workers	2 532	-90	688	598	-3.6	27.2	23.6
Plant and machine operators and assemblers	1 516	4	185	189	0.3	12.2	12.5
Elementary workers	1 235	-7	200	193	-0.6	16.2	15.6
Total	15 262	-250	2 917	2 667	-1.6	19.1	17.5

Source: own work: Skills supply and demand in Europe. Medium-term forecast up to 2020, Cedefop, Luxembourg 2010

[8] Ibidem, p. 96.

It must be noted that the future job openings, including those which will appear due to the fact that numerous workers will leave the labour market, will demand increasing amount of knowledge and a variety of skills. In that we can also define them as the professions of the future.

With the above in mind it can be stated that the new job openings and the development of the current professions in order to meet the demands of the knowledge economy is correlated with the demand for highly qualified workers. Hence, the role of higher education is becoming particularly important.

What is the structure of courses in higher education?

In the academic year 2009/10 there were 1.900 thousand students at all the universities. The greatest number, 23.2%, were the students of economics and administration.

A considerable number of students were studying social courses (12.8%) and pedagogy (12.3%). Only 6.8% of students chose engineering and technical courses, and 4.3% studied IT. What is striking is the fact that both courses see a continuous decline in the number of students choosing them. In comparison to the academic year 2002/03 the number of students doing courses in engineering and technology has fallen by 30.6% and in IT by 21.8% if compared to 2004/2005, when the number of students studying computer science reached all-time high. There was also a fall in the number of students studying physics (by 21.0% in comparison with 2002/2003). Courses in environment protection were chosen by 1.4% in 2009/2010. The trend has remained the same for the last 3 years, when the number of the students doing the courses plummeted by over 50%. Over the last few years, there has been a slight increase in the number of students studying the following courses: arts, journalism and information, social welfare, transport services, architecture and building. There has been a constant and considerable growth in the number of medical students (by 131.1% in comparison with 2002/2003) and it accounted for 6.7% of all the students. In the academic year of 2009/2010 the number of students choosing courses in security services doubled if compared to the numbers the year before. The breakdown of students by the courses in the period of 2002-10 can be found in the Table 3 below.

Table 3. The breakdown of students of higher education schools by courses between 2002-2010

Groups of courses	**Higher education school students**							
	2002--2003	**2003--2004**	**2004--2005**	**2005--2006**	**2006--2007**	**2007-2008**	**2008--2009**	**2009--2010**
Total (000s)	**1800.5**	**1858.6**	**1926.1**	**1953.8**	**1941.4**	**1937.4**	**1927.8**	**1900.0**
% of the total number of students								
Education	12.6	12.9	12.8	12.8	12.2	12.0	11.8	12.3
Arts	1.0	1.1	1.1	1.1	1.2	1.3	1.4	1.5

Part of table 3

Humanistic studies	7.9	7.9	7.8	8.0	9.0	8.8	8.2	7.7
Social studies	13.2	13.4	13.6	13.5	14.5	13.9	13.5	12.8
Journalism and information	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.2
Economy and administration	28.7	27.2	26.1	25.7	22.6	23.0	23.5	23.2
Law	3.3	3.1	2.9	2.8	3.0	3.1	3.1	3.1
Biology	8.9	0.9	0.7	0.7	2.1	2.0	1.9	1.9
Physical science	1.9	1.8	1.8	1.8	1.7	1.6	1.5	1.5
Mathematics and statistics	1.0	0.9	0.8	0.8	0.8	0.8	0.9	0.8
Computer science	3.1	3.6	5.5	5.3	5.2	4.9	4.6	4.3
Engineering and technology	9.8	9.6	8.2	7.9	7.2	6.8	6.9	6.8
Manufacturing and processing	1.9	1.8	1.4	1.4	3.1	3.2	3.2	3.3
Architecture and building	2.9	3.0	2.9	2.9	3.0	3.2	3.6	3.9
Agriculture, forestry, fishery	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7
Veterinary	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Health	2.9	3.3	4.0	4.0	5.3	5.8	6.1	6.7
Social welfare	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.3
Personal services	2.1	2.4	2.9	3.3	3.5	3.7	3.9	3.7
Transport services	0.7	0.8	0.8	0.8	0.8	0.9	0.9	1.0
Environment protection	3.0	3.1	3.0	2.9	1.4	1.4	1.4	1.4
Security services	0.3	0.4	0.5	0.3	0.2	0.2	0.4	0.8

Source: own work: *Szkoły wyższe i ich finanse w 2009 roku*, Warszawa 2010, *Szkoły wyższe i ich finanse w 2007 roku*, Warszawa 2008, *Szkoły wyższe i ich finanse w 2005 roku*, Warszawa 2006, *Szkoły wyższe i ich finanse w 2004 roku*, Warszawa 2005

From the figures presented above it can be concluded that there is a disproportion between two areas of study, namely, 22.5% of all the students do courses in technology, industry and science (which include computer science, physics, biology and mathematics) whereas 56.3% choose education, humanistic and social studies, economy and administration. The forecasts on the demand for particular professions clearly show that the highest demand is for the occupations which are crucial for economic development, i.e. IT specialists and engineers – high technology professionals. What is particularly alarming is the decrease in the number of students choosing engineering, technology and IT for their major as well as the small number of them deciding to do mathematical and environmental courses.

The shortage of graduates in technical and exact sciences poses a problem in most of the EU countries. As few as 5% of newly admitted students started the courses in the group of "mathematics and computer science' in 2008, both in Poland and OECD countries. Similarly, a small percentage of students chose courses from the group of "biology, physics and agriculture' in OECD countries and Poland – 6% and 5% respectively[9].

It should be noted that since 2008 the Ministry of Science and Higher Education has been implementing the project "Ordered specialties in technology, mathematics and science' within the Operational Programme "Human Resources Development'. Its purpose is to increase the number of students doing these courses as they have been chosen by experts to be crucial for the economic development of Poland. Employers confirm that the graduates with technical, mathematical and natural sciences degrees will be offered a wide range of posts and chances for development[10]. In 2012 The National Centre for Research and Development called for proposals for ordered specialties in the Fourth Edition of the programme. The project entails both direct support for the students involved (among others, leg-up programs in mathematics, physics, chemistry, English, academic performance scholarships for high-fliers up to 1000 PLN a month) together with subsidies for the educational establishment. The following ordered courses can be found on the previous lists: automatics and robotics, biotechnology, construction, chemistry, power generation, physics, technical physics, computer science, material engineering, environmental engineering, mathematics, mechanics and machine design, mechatronics, environment protection, design. The list has been extended and the following additional courses can be found: chemical engineering, chemical and process technology. It can be assumed that due to the promotion of technical, mathematical and natural sciences courses, the popularity of engineering courses will rise year by year. The number of people interested in studying particular was changing slightly (Table 4). Among the 20 most frequently chosen courses in the academic year 2007/2008 there are 4 ordered specialties: computer science, construction, biotechnology and environment protection. In the next year two more courses appeared, namely mechanics and machine design only to expand further with 2 more courses in 2009/2010 i.e. environmental engineering and automatics and robotics. All the courses mentioned above were applied for by a larger number of candidates trying to be admitted. In the academic year 2009/2010 approximately 8.5 thousand more candidates applied for construction than in 2007/2008 and over 5.5 thousand applied to study computer science. It is believed that in the long term the ratio of the number of engineers per 1000 citizens

[9] *Szkoły wyższe i ich finanse w 2009 roku*, Warszawa 2010, p. 46.
[10] *Inżynier – zawód z przyszłością*, www.nauka.gov.pl, p. 2.

will increase in our country. In Poland there are 13 engineers per 1000 while in western countries there are over 20[11]. At the same time, the courses such as pedagogy, law, international relations, English philology, sociology and Polish philology were chosen less frequently whereas management, tourism and recreation, psychology, finance and accounting, managing and engineering production gained in popularity. It is worthwhile mentioning that despite the increase in the number of people who decide to qualify in the area of technical sciences and exact sciences, still most of the candidates opt for humanistic and social studies.

Table 4. The most popular university courses in Poland in 2007-2010

Course	Number of candidates		
	In 2007/08	In 2008/09	In 2009/10
Pedagogy	37 490	32 019	33 094
Law	31 827	27 471	26 581
Management	27 707	34 706	35 388
Economics	22 026	23 278	22 025
Administration	21 014	20 159	21 565
International relations	19 553	15 284	14 508
Computer science	18 890	19 488	24 637
English philology	17 998	16 045	16 484
Tourism and recreation	16 746	16 645	18 977
Sociology	16 682	16 649	15 347
Construction	16 179	21 200	24 637
Politology	16 143	11 340	– *
Psychology	14 961	17 702	20 293
Polish philology	14 172	–	–
Biotechnology	13 127	14 570	13 451
Environment protection	11 301	11 344	13 824
European studies	10 945	10 667	–
Finance and accounting	10 804	17 659	15 418
Physiotherapy	10 634	–	–

[11] Ibidem, p. 3.

Part of table 4

Journalism and social communication	–	11 996	12 972
Mechanics and machine design	–	10 193	12 181
Environmental engineering	–	–	17 723
Production management and engineering	–	10 086	13 996
Automatics and robotics	–	–	12 373

* the course did not become one of the 20 most popular courses in the particular year.
Source: Ministry of Science and Higher Education[12]

The data presented above indicates that a high percentage of people in Poland decide to study at university but only a small number of them take the demands of the labour market into consideration while making their choice with regard to their education and profession.

Conclusions

Taking into consideration the projections how new job openings might appear, one can notice a number of tendencies which will shape the labour market in Poland in the next few years. Within the next 15 years, the following areas are forecasted to become the main domains, so called the future ones, whose professionals will be in highest demand: computer services, biotechnology, modern technologies, environment protection, healthcare, business services, science, R&D. The labour market will need graduates with the degrees in: computer science, biology (mainly biotechnology), technical engineering (including: telecommunication, mechatronics, power generation, biomedical engineering, automatics and robotics, electronics, chemical and process engineering, electrotechnics, mechanics and machine design), productions and processing (mainly nanotechnology and material engineering), environment protection, construction and architecture, personal services, medicine, economics (mainly finance, banking, logistics).

With regard to the educational and professional choices made by the students it seems unavoidable that great numbers of people will appear on the labour market

[12] *Informacja w wynikach rekrutacji na studia na rok akademicki 2007/2008 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych*; *Informacja o wynikach rekrutacji na studia na rok akademicki 2008/2009 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych*; *Informacja o wynikach rekrutacji na studia na rok akademicki 2009/2010 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych*, www.nauka.gov.pl.

but they will not be absorbed by it if we consider the forecasts on the demands of the employers, and they will have difficulty in finding a job for which they qualified. Hence the question arises if the pace at which the young people's preferences regarding particular courses are changing is in sync with the demands and expectations of the future labour market?

Given the above considerations, it must be emphasized that both the educational offer of higher education establishments and its quality are becoming particularly important. The schools should offer courses and programs that meet the requirements of the modern labour market. It should be their priority to promote the courses which, on the one hand, will enable the graduates to find employment with ease and, on the other hand, educate properly qualified employees who will facilitate the development of the knowledge economy.

Bibliography

Badanie ewaluacyjne ex-ante dotyczące oceny zapotrzebowania gospodarki na absolwentów szkół wyższych kierunków matematycznych, przyrodniczych i technicznych, Ministerstwo Nauki i Szkolnictwa Wyższego.

Informacja w wynikach rekrutacji na studia na rok akademicki 2007/2008 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych, www.nauka.gov.pl.

Informacja o wynikach rekrutacji na studia na rok akademicki 2008/2009 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych, www.nauka.gov.pl.

Informacja o wynikach rekrutacji na studia na rok akademicki 2009/2010 w uczelniach nadzorowanych przez Ministerstwo Nauki i Szkolnictwa Wyższego oraz uczelniach niepublicznych, www.nauka.gov.pl.

Inżynier – zawód z przyszłością, www.nauka.gov.pl.

Karpiński A., *Przyszłość rynku pracy w Polsce*, Warszawa 2006.

Maturzysto – sprawdź, po jakich studiach znajdziesz pracę!, www.workservice.pl.

Matusiak K.B., Kuciński J., Gryzik A. (ed.), *Foresight kadr nowoczesnej gospodarki*, Warszawa 2009.

Skills supply and demand in Europe. Medium-term forecast up to 2020, Cedefop, Luxembourg 2010.

Szkoły wyższe i ich finanse w 2004 roku, Warszawa 2005.

Szkoły wyższe i ich finanse w 2005 roku, Warszawa 2006.

Szkoły wyższe i ich finanse w 2007 roku, Warszawa 2008.

Szkoły wyższe i ich finanse w 2009 roku, Warszawa 2010.

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Research on career paths and professional suitability of graduates as the way of determining tertiary education results

One of the basic objectives of the Bologna Process is not only to approximate higher education systems in Europe by using the credit points system (ECTS), introducing the two/three-cycle education system, supporting mobility of students and university teachers and scholars and administrative staff or introducing Diploma Supplements[1]. The Bologna Process is also seen as continuous improvement of the tertiary education quality, both within Europe and in particular countries participating in the Process. As follows from the biennial reports Bologna Process Stocktaking (published since 2005)'implementation of the Bologna Process in Poland progresses 'at the higher pace than the European average' and, though it is not as advanced as in case of leading countries (Scandinavia, Ireland, Scotland, and the Czech Republic and Latvia of the Eastern Europe region), the advancement is similar to that displayed by the main Polish partners, i.e. Germany, France and England'[2] (own translation). Despite the observed determined effort of Poland working on implementation of the guidelines following from the Declaration, the question of tertiary education quality has continuously been raised in discussions in Poland itself. A group of national social consultants including representatives of the academic community and a group of external stakeholders (e.g. representatives of companies and business organisations, members of collective bodies, independent experts) – respondents in a study launched in 2009 by PENTOR RESEARCH INTERNATIONAL within the project 'The development strategy for tertiary education: 2010-2020', gave the tertiary education system in Poland grade D (satisfactory plus). The assessment based primarily on individual experiences and subjective feelings of respondents (96%). The situation of higher school graduates on the labour market (43%) and opinions formed in the respondents' community (42%) were considered as second most

[1] http://www.nauka.gov.pl/szkolnictwo-wyzsze/sprawy-miedzynarodowe/proces-bolonski/ [10.09.2012]
[2] A. Kraśniewski, *Proces Boloński; to już 10 lat*, Warszawa 2009, p. 98.

important factors. Other issues accounted for in the study, though to a lesser degree, included accreditation results, graduates' opinions, national and international rankings, while the least important ones were other opinions, available data, analyses and opinions publicised in mass media[3]. Including external communities (representatives of employers and local authorities) into the process of creating curricula for tertiary education is recognized as a good practice that may result in a considerable improvement of the higher education quality (and education at other levels). Those people may and even should be involved also in the didactic process. The cooperation, difficult as it undoubtedly is, provides a number of mutual and multidimensional benefits, e.g. maximum possible shortening of on-the-job training for newly employed workers and limiting its cost, shortening of the 'reaction time' of the education system responding to the ongoing changes on the labour market, making the educational offer of higher schools reflect the reality of the job market and reinforcing the relation between students and their prospective employers. The undertaking does not seem to require much financing assuming that both parties engaged in the project are committed to the idea of building society based on knowledge and aim at best possible ways of taking advantage of human resources available in Poland. However, it is essential that the education process is not viewed only from the perspective of economy and business and, as a consequence, also the school's interest. It should rather be seen as a mission, the success of which is the source for more than individual, all-social achievements. The insufficient use of the potential following from involvement of the people outside the academic community in the education process is shown by results of a conducted research. '(…) only at 29% of higher schools employers or other external stakeholders participated in creating a considerable number of first-cycle and second-cycle curricula. At 19% of higher schools people outside the academic community did not take part in works on any of the offered curricula'[4] (own translation). The cooperation between tertiary education institutions and employers has been so far perceived and applied in accordance with the code of good practice including the so called student practice. The training is expected to offer students opportunities to e.g. use their academic knowledge in practice, learn about workplace organisational culture or establish contacts with prospective employers. From the point of view of a university internship supervisor, the position of which the author has been holding for 4 years, it seems that the whole idea of internship or student practice has become distorted. Students have more

[3] *Strategia rozwoju szkolnictwa wyższego: 2010-2020. Projekt środowiskowy*, Warszawa 2009, p. 50.

[4] A. Kraśniewski, op. cit., p. 105; results of the survey conducted in November 2007 among college and university presidents.

and more often sought to be excused from it or have chosen the institution for their due practice seeking compliant practice supervisors who are prepared to minimize the scope of appointed duties and responsibilities rather than looking for possible advantages following from performing the practice full time. As it has been noted in the report Kwalifikacje dla potrzeb pracodawców (Qualifications for employers' needs) 'schools are neither capable of ensuring practice placement for all its students nor are able to control the internship quality. As a consequence, for the majority of students training is limited only to 'getting a stamp' confirming the served practice, thus, the training programme is considered fiction'[5] (own translation). Other possible ways of cooperation between the school and the labour market occur sporadically as 'the training staff are hardly ever involved in didactics, there are few joint research undertakings as it is often easier and 'quicker' for the company to carry out the research itself than to commission it to a research institution'[6] (own translation). Employers hardly ever finance education by e.g. sponsoring. Another problem is the absence of information channels between institutions concerning e.g. the demand for qualifications and qualifications of the already employed graduates. The Law on Higher Education Amendment, Article 13a: 'With the aim of amending degree programme structure and curricula to meet the demands of the labour market, higher education institutions shall monitor the careers of their alumni (…)'[7] may create an opportunity to establish closer cooperation between the two communities. The phrase monitoring professional careers leaves tertiary education institutions much freedom as far as the methodology of research is concerned. However, it is presumed that the primary objective of any research is to choose such a strategy of obtaining data to create the best possible and most adequate picture of the phenomenon. Labour pedagogy offers ready-made solutions for the task of monitoring graduates' professional careers. By applying Zygmunt Wiatrowski's reflections to the subject of tertiary education three basic areas or platforms for the analysis of teachers' and students' work results may be determined:

1. testing results during studies at a tertiary institution
2. examining graduates' career paths
3. research on professional suitability of tertiary institutions' graduates[8]

The above classification seems to constitute itself a complete concept for schools' work analysis. If it is assumed that students during their academic studies

[5] U. Sztanderska, *Kwalifikacje dla potrzeb pracodawców. Raport końcowy*, Warszawa 2010, p. 50.
[6] Ibidem, p. 55.
[7] translation: http://www.nauka.gov.pl/fileadmin/user_upload/eng/ministry/legal_acts/20121009_LAW_on_HIGHER_EDUCATION_2005.pdf
[8] Z. Wiatrowski, *Podstawy pedagogiki pracy*, Bydgoszcz 2005, p. 259.

are frequently respondents in numerous studies (at least in the field of pedagogy), the first type of research should not pose any difficulties. However, terminology concerning the remaining two fields of research should be reflected on.

Research on graduates' career paths is information-type study concerning 1) starting a job by graduates; 2) compatibility between the job, professional training and social demand; 3) need for assistance of employment counsellors (to unemployed graduates). The scope of the research on career paths includes also questions of setting up families, promotion at work, changes at work and needs for mastering new skills, participation in social life, organisation of leisure and cultural activity[9]. While authors attempting to define the term 'research on career paths' have shown comparative consistence in their opinions, it is quite the opposite as far as the definition of professional suitability is concerned.

Professional suitability refers to the proven ability to perform professional tasks[10].

As T. Tomaszewski has stated, the suitability can be defined as a function of training and motivation (KM) [P=f(KM)][11]. According to K. Korabowska-Nowacka professional suitability means 'professional training assessed against the background of tasks conducted in the workplace'[12] (own translation). Thus defined professional suitability focuses on relation between a graduate's aptness following from vocational training and so called professional tasks[13]. "(…) professional suitability may be assumed to have at least two meanings:

a) in the narrow sense, it refers to tackling, often strictly specified, tasks at work;
b) in the broad sense, it denotes the way employees demonstrating mobility, initiative and enterprise function in their jobs and work environment'[14] (own translation).

In her previous publications the author has stressed the fact that the analysis of those defining attempts have exposed the process of widening the meaning of the term 'professional suitability' evolving from that focused on the graduate towards interpreting graduates' roles in the work environment on many different levels. The evolution seems to reflect the ongoing changes on the labour market

[9] T.W. Nowacki, K. Korabiowska-Nowacka, B. Baraniak, *Nowy słownik pedagogiki pracy*, Warszawa 2010, p. 21.

[10] Ibidem, p. 215.

[11] T. Tomaszewski, *Z pogranicza psychologii i pedagogiki*, Warszawa 1970, p. 80.

[12] K. Korabiowska-Nowacka, *Metody i wyniki badań przydatności w pracy absolwentów szkół zawodowych*, Katowice 1980, p. 19.

[13] K. Zajączkowska, *Przydatność zawodowa absolwentów w ich samoocenie*, [in:] R. Gerlach (ed.), *Pedagogika pracy w perspektywie dyskursu*, Bydgoszcz 2010, p. 324.

[14] Z. Wiatrowski, op. cit., p. 265.

within which the expectations towards graduates are being continually redefined[15]. Although there seems to be no simple interrelation between the levels of professional suitability and social and professional success, the high professional suitability level can be recognised as conducive to achieving success[16].

As Urszula Jeruszka has stated, answers to the questions below may constitute a professional suitability index in the research on graduates' career paths:

1. Do graduates take up work compatible with their professional training, what positions are they employed at and what are their tasks?
2. How many school graduates work in their trained profession?
3. Is the diploma confirming professional qualifications helpful in finding the first job?
4. How many graduates do not start work in their profession and for what reasons?
5. How many school graduates continue their education at the second-cycle educational institution and why?
6. Does the school prepare students for work in understaffed or overstaffed professions or in professions for which the demand on the labour market is balanced?
7. How do the graduates themselves assess their professional training with reference to job offers and tasks at their present job?
8. How is the professional training assessed by their superiors at work?
9. Are school curricula adequate and appropriate to performed tasks on positions included as part of graduates' professional training at school?
10. To what extent is school knowledge useful at work?
11. Are the graduates' competencies and skills up to the level of state-of-the--art professional knowledge, technique and technology for manufacturing products and providing services?[17].

As far as labour pedagogy is concerned the issues of research on career paths and professional suitability have been the interest of e.g. K. Korabiowska-Nowacka. Due to space limitations the text below includes only a proposition of complete procedures for research on career paths and professional suitability of vocational schools graduates that may constitute a point of reference for procedures aiming at monitoring graduates' professional careers.

[15] K. Zajączkowska, op. cit., p. 325.

[16] E. Podoska-Filipowicz, *Zarys zawodoznastwa, orientacji i poradnictwa zawodowego*, Częstochowa 2008, p. 61.

[17] U. Jeruszka, *Badania karier absolwentów szkół zawodowych*, [in:] S.M. Kwiatkowski (ed.), *Pedagogika pracy – tradycja i wyzwania współczesności*, Radom-Warszawa-Bydgoszcz 2012, p. 186-187.

Stage 1
1. Determination of professional training profiles, years and schools.
2. Compiling a list of graduates.
3. Sending questionnaires.
4. Receiving and classifying data included in the questionnaire.
5. Preparing a table showing graduates' numbers according to their career paths.
6. Compiling a list of workplaces to constitute the area of research.
7. Processing information on graduates' career paths on the basis of the questionnaires.

Stage 2
1. Compiling a list of graduates working in their trained profession.
2. Preparing a catalogue of positions that a given school graduate could hold.
3. Preparing a list of positions held by graduates during the research.
4. Identifying positions within the profession that are not held by graduates.
5. An opinion poll among graduates on their own suitability to the position.
6. An opinion poll conducted among superiors on graduates' suitability.
7. Research on professional responsibilities on positions meant for graduates but held by other employees.
8. Processing material acquired in the course of the second stage of the research[18].

Content analysis of the above procedure shows the inseparable relation between research on career paths and graduates' suitability in the workplace. The former of the perspectives (i.e. research on career paths) creates the information base and thus, constitutes a starting point; the latter one complements the already acquired data, often giving them a new dimension. Therefore, it might be concluded that narrowing down the monitoring of higher school graduates' career paths only to research on the career may result in limiting the data exclusively to basic information. Consequently, decisions made basing on it can hardly be considered satisfactory.

Time limitation following from the necessity of the quickest possible introduction of the system of monitoring graduates' professional careers results in the situation in which many institutions which the requirements concern have worked independently on their implementation. It would be ideal if at least some of the already created instruments could be standardised throughout Poland, then within Europe. It would facilitate comparisons and, as a consequence, also

[18] K. Korabiowska-Nowacka, *Z badań nad przydatnością do pracy absolwentów szkół zawodowych*, [in:] T.W. Nowacki (ed.), *Pedagogika pracy. Problematyka i przegląd badań*, Warszawa 1982, p. 575 and subsequent.

in-depth analyses aiming at creating systemic solutions like the proposed by Urszula Jeruszka establishment of the Interdepartmental Unit for Coordination of Research on Career Paths of Vocational School Graduates[19]. However, the absence of such standardised instruments does not question the validity of the proposition for establishing the Unit. Analysis of the data obtained by every tertiary education institution, despite of the existing discrepancies in the methodology and methods of collecting information, may provide interesting insights, particularly when compared with the data attained by other institutions of that type.

Monitoring graduates' career paths, though time- and labour-consuming, seems to promise future benefits for, e.g.:

1) higher school conducting the monitoring. The benefits include information concerning particular majors and/or education profiles and functioning of the institution. The research may serve as a unique form of the school evaluation from the perspectives of both the graduate-client and the employer. On the basis of their contacts with the 'ready product' employers are capable of pointing to the good and bad sides of the product. The data thus obtained should result in modifications introduced to the curricula and might be also used in advertising campaigns for the schools.
2) the tertiary education system, on condition that an institution is established which will be capable of comparing results at which particular schools arrive and which, on that basis, will form general guidelines for the whole system development.
3) the local labour market provided with information on e.g. understaffed and overstaffed professions, qualifications and competences of job seekers and employers' demands. Besides their informational value, the data could be used in practice by labour market institutions.
4) the national labour market, assuming that there is an institution within which it would be possible to compare the data for particular schools, regions and, on that basis, to determine general guidelines for the whole system development.
5) individuals facing the decision on choosing their higher education profile.

The data attained as a result of graduates' career monitoring may (or perhaps even should be) popularised. It may be expected that some of the results will be published by higher schools for commercial reasons, used as an element of their marketing strategy. However, only complete data shall facilitate drawing constructive conclusions that may support the development of the Polish tertiary

[19] U. Jeruszka, *Elementy programu dostosowywania kształcenia zawodowego do popytu gospodarki na kadry kwalifikowane*, [in:] U. Jeruszka (ed.), *Optymalizacja kształcenia zawodowego z punktu widzenia potrzeb rynku pracy*, Warszawa 2002, p. 101.

education system. '(…) tracking career paths and professional development of school graduates in economically developed countries (e.g. Germany, Great Britain, Italy, France, Finland, Austria) has already become standard for institutions conducting research on ensuring education quality/external control of education quality. Some of these institutions are supervised by the state or local governments and are underfinanced, while others are commercial entities'[20] (own translation). Research on graduates' career paths may constitute a part of a more extensive system of monitoring and disseminating information on the labour market. In Poland an undertaking aiming at forecasting employment is being launched within the framework of the project 'Analysis of processes occurring on the Polish labour market and within the area of social integration against the background of the current economic policy' that in turn is implemented within the Operational Programme Human Capital, Priority I Employment and social integration, Activity 1.1 System support to labour market institutions in the period 01.01.2009-31.12.2014. The main objective of the project is to support labour market institutions by providing and developing the system used for analysing, monitoring and forecasting situation on the labour market in the context of the current social and economic policy and research on efficiency of services provided by labour market institutions. In practice, it means that the project leader (Human Resource Development Centre) with the project partner (Institute of Labour and Social Affairs) have undertaken e.g. to prepare an integrated forecast and information system enabling forecasting employment. Current activities and their results within the venture may be followed on www.prognozowaniezatrudnienia.pl[21]. The project, unique in Poland and within Europe, is perceived as an exceptional support in generating effective labour market solutions but also in work on the evolution of the vocational and tertiary education systems in Poland. The data obtained as a result of monitoring graduates' careers and those provided by the project of employment forecasting complement each other thus creating a compatible platform for discussion on questions of the current situation of education and work in Poland.

The present article attempted to prove the thesis on considerable importance of the research on career paths and professional suitability of tertiary school graduates in relation to the development not only of the tertiary education system and particular institutions but also of the labour market and individuals facing the decision on choosing the educational and professional career. To conclude, it is best to cite the words of labour pedagogy originators, namely T. W. Nowacki and Z. Wiatrowski: 'If we consider that the number of people working in a job other

[20] U. Jeruszka, *Badania karier*..., p. 191.

[21] Source: www.prognozowaniezatrudnienia.pl [16.02.2013]

than their trained one in the whole economy amounts to millions and a number of people without work is extremely high, even terrifying, and it becomes obvious that the research on graduates' career paths cannot be neglected'[22]. 'Research on suitability is one of main ways to establish models for training staff for economy and to verify the accuracy and effectiveness of those models'[23].

Bibliography

http://www.nauka.gov.pl/fileadmin/user_upload/eng/ministry/legal_acts/20121009_LAW_on_HIGHER_EDUCATION_2005.pdf

http://www.nauka.gov.pl/szkolnictwo-wyzsze/sprawy-miedzynarodowe/proces-bolonski/ [10.09.2012]

Jeruszka U., *Badania karier absolwentów szkół zawodowych*, [in:] S.M. Kwiatkowski (ed.), *Pedagogika pracy – tradycja i wyzwania współczesności*, Radom-Warszawa-Bydgoszcz 2012.

Jeruszka U., *Elementy programu dostosowywania kształcenia zawodowego do popytu gospodarki na kadry kwalifikowane*, [in:] U. Jeruszka (ed.), *Optymalizacja kształcenia zawodowego z punktu widzenia potrzeb rynku pracy*, Warszawa 2002.

Korabiowska-Nowacka K., *Metody i wyniki badań przydatności w pracy absolwentów szkół zawodowych*, Katowice 1980.

Korabiowska-Nowacka K., *Z badań nad przydatnością do pracy absolwentów szkół zawodowych*, [in:] T.W. Nowacki (ed.), *Pedagogika pracy. Problematyka i przegląd badań*, Warszawa 1982.

Kraśniewski A., *Proces Boloński; to już 10 lat*, Warszawa 2009.

Nowacki T.W., Korabiowska-Nowacka K., Baraniak B., *Nowy słownik pedagogiki pracy*, Warszawa 2010.

Podoska-Filipowicz E., *Zarys zawodoznawstwa, orientacji i poradnictwa zawodowego*, Częstochowa 2008.

Strategia rozwoju szkolnictwa wyższego: 2010-2020. Projekt środowiskowy, Warszawa 2009.

Sztanderska U., *Kwalifikacje dla potrzeb pracodawców. Raport końcowy*, Warszawa 2010.

Tomaszewski T., *Z pogranicza psychologii i pedagogiki*, Warszawa 1970.

Wiatrowski Z., *Podstawy pedagogiki pracy*, Bydgoszcz 2005.

www.prognozowaniezatrudnienia.pl [16.02.2013]

Zajączkowska K., *Przydatność zawodowa absolwentów w ich samoocenie*, [in:] R. Gerlach (ed.), *Pedagogika pracy w perspektywie dyskursu*, Bydgoszcz 2010.

[22] Z. Wiatrowski, op. cit., p. 265.

[23] T.W. Nowacki, K. Korabiowska-Nowacka, B. Baraniak, op. cit., p. 215.

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The use of e-learning in vocational education

General remarks concerning vocational education

Changes in technology interpenetrate very fast into education as new equipment or better one, interactive boards, testing systems, software and educational platforms. New solutions are in the centre of interest as they can be sources of educational benefits, moreover they create strong connections between education and the learners' environment both at school and out of it.

Increasing capabilities of technology and its penetration into various fields and spheres of human life and activity cause that the expected IT competencies of learners are becoming wider and better. Some 10 or 15 years ago it was enough for the teacher to be able to show office package and be able to communicate using the web. Nowadays it is expected that the teacher is able to use educational sites and create there an environment for teaching students and himself.

Information-communication technologies started their intensive development together with the development of personal computers, which communication possibilities were then made stronger by the Internet. IT education in polish school is being developed for almost 25 years and today guarantees that all graduates of junior high schools and high schools are leaving their school with basic preparation referring to technology. In the first decade of personal computers becoming widely available the subject of education was basic preparation within technology described as IT literacy/computer literacy, which involved skills referring to using the available technology for developing own interest both professional and life ones. After some time it appeared that greater skills of using technologies within human professional activity are required – these are referred to as IT fluency. These skills involve the knowledge of basic notions and some intellectual abilities necessary to use technology in complex problem situations. At the same time it is highlighted that in the education based on information-communication technology (ICT) a greater role is played by 'C' – communication, cooperation, creativity, collective learning, collective intelligence.

Due to the above mentioned conditions, which a citizen of an IT society has to fulfil, vocational education requires changes. These changes are imposed by

i.e.: globalization and the growing share of international trade, geographical and professional mobility, changes in the economy, new techniques and technologies as well as changes within the work organization resulting partially from the technological changes and the growth in employers expectations as to the level of employees' skills. The issue of lifelong learning is from this perspective becoming even more important. According to it qualifications and skills required at a job market can be reached by different ways: by formal education (schools), non-formal education (schooling, further education and trainings) as well as informal (self-learning and experience connected with work). It involves constant confrontation of vocational education with these requirements, and in consequence it enforces adjustment of supply of skills to the requirements of a job market which demands new skills for new jobs. Organizational and substantive changes in the system of vocational education result from the needs of polish economy and job market, connected with them strategies of country's and regions' development and our obligations resulting from being a member of European Union. These obligations refer especially to the renewed Lisbon Strategy and connected with it initiatives and documents[1] as well as validation of non-formal and informal learning. In March 2008 European Council highlighted that investing in human capital and modernizing work is one of the four priorities of Lisbon Strategy. The council asked the European Commission to prepare the assessment of the future demand for qualifications until 2020, taking into account that new requirements concerning competencies and qualifications will grow in all professions and at all levels of employment, and that the demand for higher and more specialized skills will be successively growing. Moreover, it was stated that the conditions for equipping citizens in key competencies being the base for further growth in the level of skills – is guaranteeing everyone access to education at a high level, raising the level of education and preventing early school leave.

Adjusting educational offer to the needs of the changing job market is a constant challenge for the polish system of education. Reports from research conducted for the employers unambiguously mirror the growing demand for employees equipped with professional skills, but connected with general skills such as: maths skills, IT skills, efficient use of native and foreign language, communicative skills and self-efficiency in undertaken activities, problem solving, and ability for analytical thinking. Good general education not only supports the

[1] *Strategia uczenia się przez całe życie*, Europejskie i Krajowe Ramy Kwalifikacji (http://eur-lex.europa.eu), europejskiego systemu transferu osiągnięć w kształceniu i szkoleniu zawodowym (ECVET – http://eur-lex.europa.eu), europejskie ramy odniesienia na rzecz zapewniania jakości w kształceniu i szkoleniu zawodowym(EQARF – http://eur-lex.europa.eu), suplement EUROPASS (http://www.europasp.org.pl)

acquired profession, but is the base for raising professional qualifications or possibility to change them. The answer of the system of education to the above mentioned needs is the reform which assumes strengthening of general education in schools conducting vocational education by introducing new basic syllabus for general education which for junior high schools and high school is an integral whole. Organizational and syllabus changes will enable successive and flexible connection between vocational education and the needs of the job market. Other issues which will make it possible involve: the possibility of schools to introduce some post-school forms of education, mechanisms encouraging employers to get involved in the process of vocational education or modernization of the system of teachers' further education. It offers teachers of subjects connected with further profession some trainings within new methods of vocational teaching and new techniques and technologies involving internships in companies. That is why a *Model of the system of implementation and popularizing distance learning in lifelong learning* was prepared; it is to be completed from July 2009 until June 2014. The areas that are to be supported are distance learning, vocational teachers' development, and the syllabuses for vocational education. The fulfilment of the project is aimed at preparing systemic solutions for implementation and popularization of the distance learning system in schools and educational institutions dealing with continuing education within the system of education. Undertaking actions within this issue is fully justified by the growing need to supplement the educational offer and adults' development with new solutions and mechanisms that serve making the lifelong learning idea come true. Despite the fact that more and more continuing education institutions undertake trials to implement distance learning, and at the same time many schools for adults are interested in this type of education, there is still lack of complex organizational solutions and legal regulations to make it a commonly used and accepted, in the continuing education environment, form of getting knowledge. The additional value for the project will be preparation of about 100 multimedia e-learning courses devoted to a wide group of receivers, also in a form of supporting materials for teachers and students involved in vocational education[2].

E-education is thus fully connected with the vocational education idea and is a chance for getting professional qualifications.

Definition of e-learning

What is e-learning? Depending on the source there is a number of different definitions. E-learning refers to teaching that takes place with the use of

[2] M. Sysło, *E-learning w szkole*, E-mentor No 1 (28)/2009.

technologies such as the Internet, CD-ROMs and other devices such as mobile phones, MP3 players[3].

E-learning is a method of teaching which uses numerous multimedia means as well as electronic ones such as TV, electronic devices, audio and video tapes, Internet, Intranet. This type of teaching can be used in a number of ways: complementary to the traditional teaching, as an independent teaching program or as a way of making knowledge current.

E-learning is characterized by a change: of educational environment – teachers and students are in different places (the rule of being in the same place is changed) as well as change in time, in which the contact takes place (another rule present in traditional forms of teaching is changed namely synchronous meetings). The process of education takes places in a specially prepared environment WWW i.e.: on educational platform. While the process takes places there needs to be a bilateral communication: teacher ↔ student. Didactic materials should be interactive and should transfer not only knowledge and shape skills but should involve students in individual and group work.

The key element of distance teaching is preparation of didactic materials used in the process of e-education. Preparation of a course will not significantly differ from preparation of traditional classes. The core of the prepared material remains the same, i.e.: the contents – no matter what the form students need to be provided with the same contents and have to complete the same syllabus. However, it should be differently presented and given. In e-education it is mostly connected with the change of the form of transfer (using a certain medium) and a change of communication from.

E-classes are thus equivalent of traditionally conducted classes, the difference is in the place of their completion and the used teaching methods. The basic assumption of the web-based classes is their placement in a virtual learning environment and such preparation of materials so that they fully allow students to acquire the knowledge and involve them in the learning process. Each e-class is conducted at a certain time with teacher and students participation. The subject of e-classes and the aims presented by the teacher are the same as at traditional classes. Most often the material is divided into modules (or sections) which are completed during 1-2 weeks.

The difference between traditional classes and e-courses concerns not only the above mentioned issue but also the way materials are prepared. In traditional classes the only person who prepares teaching materials is the teacher. Due to the fact that an e-course is available in an electronic form on the web, also methodologists may take part in the process (advising the teacher about the choice

[3] G. Dudeney, N. Hockly, *How to teach English with technology*, Longman 2007, p. 136.

of the best methods used in distance education) as well as IT specialist (responsible for the functioning of e-classes on the platform).

E-education is one of the possible models of teaching which aims at fulfilment of the adults' need to constantly learn. Adults very often due to numerous reasons are unable to take part in traditional forms of education so IT technology is used in such a form so that each person could take part in the process of education and acquire new competencies, knowledge and skills.

Some research results

The undertaken research concerning the use of information technologies in education tries to specify the real state, the resources, explain the phenomena and point out to the way of action and forecast changes within e-learning[4]. The researches are referred to as a sub-discipline of pedagogy called media pedagogy. Due to the restricted size of this paper only some research results will be presented both conducted in Poland and abroad.

One of the first research on the effectiveness of distance education compared to the traditional forms of education in Poland was conducted at Maria Curie-Skłodowska University in the academic years 2002/2003 and 2003/2004. The research involved daily students who had some e-classes on the didactics of history. During the research the knowledge was transferred in two ways, by a traditional lecture and a lecture supported by e-learning platform called 'Akademia'. These were Internet based classes (texts, graphics, and dictionary of terms), e-mail based contact with the teacher and there were examples of solutions and templates for performing tasks available. The measure of didactic effectiveness was done by an unannounced test checking knowledge and a questionnaire conducted among the students. Students using 'Akademia' received minimally better test results – the average result was 18.3% – than students who were learning in a traditional way – 17.6% (none of the students reached 33%, the majority was within the borders of 15% – 25%). The summary of questionnaire results showed that 92% of the surveyed studying daily and using e-learning platform considered it to be a good way of improving their IT competencies. E-learning for 81% of the surveyed made preparation for classes easier, 79% considered e-learning time saving, 69% considered it to be a good way of making studying more attractive, for 60% it was a good method for raising efficiency of education and 2% said it caused unnecessary problems[5].

[4] E. Gajek, *Edukacja językowa w społeczeństwie informacyjnym*, Warszawa 2008, p. 62.

[5] W. Wiśniowski, *Porównanie skuteczności nauczania z wykorzystaniem e-learningu z nauczaniem klasycznym*, YDP, Gdańsk 2007, downloaded 07.07.2010, p. 8 and subsequent.

The author of the research results cited above specified some possible reasons for e-learning to be more effective. These include: raised motivation to study, greater students activity in acquiring knowledge (the consciousness that the teacher receives their activity reports and test results), easier and faster access to knowledge, more comfortable and more attractive way of supplying knowledge, better adjustment of materials to student's needs[6].

Karen Swan from Kent University (USA), who conducted her research in 2003 after their analysis, came to some conclusions. She stated that the results of online teaching are at least the same level as results of face-to-face teaching. Learners on the web are characterized by so called 'social presence' – the way in which people present themselves on the web, their relationship to other people on the web – which influences effective communication. 'Social presence' is also the ability to perceive directness which allows reducing the feeling of distance in an online environment. According to Swan the research showed that people present in online societies develop trust and involvement which lead to getting better teaching results[7].

At the Suez Canal University in Egypt in 2007 there was a research conducted on the effectiveness of blended learning courses; it was conducted among future teachers. The research involved 26 future teachers of science subjects who started studying at the university. They were divided into control and experimental groups. The surveyed had some entry and final tests. The results showed that the experimental group had higher final test results and the group's attitude to distance learning was better that in case of the control group. A specific construction of the course may be responsible for such results:

– interaction between blended learning course participants while face-to-face classes and the themes presented in the online part, which was supported by other research[8],
– pairs were made of students who knew each other for 2 years. The acquaintance with the cooperating person may act in favour of acquiring the issues presented in the online part of the course, social context appearing during face-to-face classes allows conducting discussions in pairs which makes cooperating people learn from one another,

[6] Ibidem, p. 8-9.

[7] *Elements of Quality Online Education: Practice and Direction*, ed. J. Bourne & J. C. Moor, Vol. 4, Sloan-C Series 2003, http://sloanconsortium.org/publications/books/eqoe4summary.pdf, downloaded 09.07.2010, p. 8-9.

[8] H. EL-Deghaidy, A. Nouby, *Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme*, Department of Curriculum and Instruction, School of Education, Suez Canal University, Ismailia, Egypt, 2007, www.sciencedirect.com, downloaded 12.07.2010, p. 1, 11-12.

– using entry and final tests as well as some threshold of points allowing to pass to the next module of the course (established at 80% of points) influenced the necessity to learn the presented contents,
– feedback available right away sent by the teacher by e-mail allowed to see strong and weak points in acquiring the knowledge[9].

In June 2008 at Wyższa Szkoła Gospodarki in Bydgoszcz there was a questionnaire conducted among students using blended learning English language courses. The aim was to get from students information concerning the adjustment of course contents to their level of language, used methods and some technical matters connected with using courses on the platform.

The questionnaire was conducted among 316 first and second-cycle students studying both full – and part-time who were using blended learning English language courses. The research was conducted after trial time during which the courses were available for students. Both the questionnaire and the research were conducted by the Centre of New Technologies in Education and the Foreign Languages Centre.

The first part of the questionnaire was supposed to provide students' evaluation of blended learning method. Students were among other asked about whether the use of blended learning in teaching English raises the effectiveness of teaching and if yes in what way. More than half of the surveyed answered the question positively by stating that it raises the effectiveness of the process. Major arguments included: the possibility to revise the material; motivation to self and systematic work. About one third said that blended learning method does not really influence the effectiveness; major arguments were: being used to traditional form of learning, lack of time for solving tests. A1 level students evaluated this method lower, the higher the level of knowledge of the language the higher was blended learning evaluated. It showed that those who study longer have less problems dealing with a new method of learning the language.

As it results from the research results conducted among students using *blended learning*, representing different professions, level of the knowledge of technologies, attitude towards distance learning the comparison of blended learning and traditional teaching is very interesting and at the same time ambiguous.

The meaning of *e-learning* in vocational education will grow significantly due to changes in vocational and continuing education planned since September 2012 by the Ministry of Education. According to these changes schools and educational institutions dealing with vocational education will be able to organize and conduct qualifying professional courses for adults with the use of methods

[9] Ibidem, p. 11-12.

and techniques involved in distance learning. Participants of such courses will be both employed and unemployed people with different educational needs, as well as those having some restrictions connected with professional work, family or health situation. Thus having in mind these different factors and the necessity to adjust flexibly the conditions of education to the needs and requirements of potential clients, schools and vocational education institutions should now undertake necessary actions aiming at preparation of teachers, purchase of equipment and installation of software, including educational platform, which will enable a peaceful process of preparing school or institution to new possibilities connected with the planned reform of vocational and continuing education[10].

Bibliography

Dudeney G., Hockly N., *How to teach English with technology*, Longman 2007.

EL-Deghaidy H., Nouby A., *Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme*, Department of Curriculum and Instruction, School of Education, Suez Canal University, Ismailia, Egypt, 2007, www.sciencedirect.com, downloaded 12.07.2010.

Elements of Quality Online Education: Practice and Direction, ed. J. Bourne & J.C. Moor, Vol. 4, Sloan-C Series 2003.

http://sloanconsortium.org/publications/books/eqoe4summary.pdf, downloaded 09.07.2010.

Gajek E., *Edukacja językowa w społeczeństwie informacyjnym*, Warszawa 2008.

Skotnicki B., *Wykorzystanie e-learningu w kształceniu zawodowym, jako element uatrakcyjnienia oferty edukacyjnej*, http://kno-koweziu.pl/artykuly, downloaded 05.06.2013.

Strategia uczenia się przez całe życie, Europejskich i Krajowych Ram Kwalifikacji (http://eur-lex.europa.eu), europejskiego systemu transferu osiągnięć w kształceniu i szkoleniu zawodowym (ECVET – http://eur-lex.europa.eu), europejskich ram odniesienia na rzecz zapewniania jakości w kształceniu i szkoleniu zawodowym (EQARF – http://eur-lex.europa.eu), suplementu EUROPASS (http://www.europasp.org.pl)

Sysło M., *E-learning w szkole*, E-mentor No 1(28)/2009.

Wiśniowski W., *Porównanie skuteczności nauczania z wykorzystaniem e-learningu z nauczaniem klasycznym*, YDP, Gdańsk 2007, downloaded 07.07.2010.

[10] B. Skotnicki, *Wykorzystanie e-learningu w kształceniu zawodowym, jako element uatrakcyjnienia oferty edukacyjnej*, http://kno-koweziu.pl/artykuly, downloaded 05.06.2013.

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Development of the modular concept of VET in Poland

The impact of new technologies on VET

The trends noticed in well-developed countries indicate that in the nearest decade the shape and potential of different branches of industry will undergo considerable changes. To be prepared for the future the EC Council pointed out that the main driving force behind the development of the EU economy and society would be the use of Key Enabling Technologies (KET): nanotechnology, micro- and nanoelectronics, advanced materials or biotechnology[1]. Therefore, the nations and regions mastering these technologies will be at the forefront of managing the shift to a low carbon, knowledge-based economy which is a precondition for ensuring improved quality of life, social welfare, economic prosperity and security of their citizens.

The research carried out at the European level by CEDEFOP shows that in a few years' time finding a job will require having new and higher in comparison to the present ones, professional qualifications and competences. The need for all occupations will grow and the demand for specialist skills will successively increase[2]. The report entitled 'New Skills for New Jobs: Action Now' emphasises that qualified workers do not always have the skills that the employer is looking for and consequently the supply does not match the demand on the labour market. The employment indicator for highly qualified workers in the whole EU stands at 84%, for those with medium qualifications – at 70%, and for poorly qualified – at 49%[3].

Many skills and occupations, which e.g. in connection with a shift to the use of 'clean' (ecological) technologies will become commonly accessible to European

[1] *Preparing for our future: Developing a common strategy for key enabling technologies in the EU*. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM (2009) 512, Brussels. 30.09.2009.

[2] *New Skills for New Jobs. Anticipating and matching labour market and skills needs*. COM(2008) 868, Brussels, 16.12.2008.

[3] *New Skills for New Jobs: Action Now*, Brussels, 04.02.2010.

citizens in 2020, today are still in the concept phase. At the same time forecasts are being developed concerning new skills, qualifications and competences which will be needed in new occupations. Although forecasts cannot completely predict the future, owing to them we can have some tips concerning general tendencies and recognise disciplines which require development of an appropriate policy in the field of vocational education and training (VET)[4].

Against this background the need arises to seek more attractive, fostering development of a professional career, flexible solutions enabling acquisition of qualifications and competences adequate to the needs of the dynamically changing 'world of labour'. One such solution is the modular concept of vocational education and training (VET).

Modularisation and modular concepts – international experiences

The term 'modularisation' has a long history and was, and is, used to describe the process of manufacturing final products in a simple and effective way and at reasonable costs. Within this perspective, the term 'module' refers to a part of a building, a system or product. A building or a system is composed of a multitude of modules each of which is indispensable for the operation of the entire system. Both terms are used as organisational and methodological principles in vocational education and training development. Training modules can be compared to the rooms of a house. Each room has its own plan and functions, but it is the manner in which they complement each other that makes a house.

In accordance with these concepts, training modules can be composed like 'building blocks' in various ways according to the training needs and characteristics of the target population, and the time available for training. Even if the wall-building metaphor of 'building blocks' is generally used to express the process of modularisation and the creation of a modular structure, it is worth underlying that modules as 'building blocks' are in no way to be interpreted as a simple segmentation of blocks of contents embedded in the curriculum description.

One of the first definitions of a training module was given by a well known author in the field of educational technology. Robert Mager describes a training module as 'a combination of the content, instructions and activities, which facilitate the development of a desired competence'[5].

[4] *Future skill needs in Europe. Medium – term forecast. Synthesis Report*, CEDEFOP, Publications Office of the European Union, Luxembourg 2008.

[5] R.F. Mager, *Instructional Module Development, the Development Process*, Los Altos Hills, California, Mager Associates 1977.

The ILO (International Labour Organisation) to define a logical and acceptable division of work within a job, an occupation or a field of work uses the term modular unit. Modular units are used as convenient devices to prepare training programmes in accordance with a given job specifications. The ILO definition is the following: 'A modular unit is a logical acceptable division of the work of a particular job or occupation, having a clear start and finish and which would not normally be further subdivided. It results in a product, service or significant division of labour'[6].

The above definition relates the teaching and learning activities involved in a vocational education and training curriculum to a job outcome that has a 'value' on the market. As learning is a deeply personal, individual process, with an explicit, clearly stated and measurable (job) outcome as an 'attractor' for training activities, these acquire a meaning for the learner and motivation to work (study) is expected to be higher as well as the learners' involvement in their own learning process.

From a pedagogical point of view, a module is a micro-curriculum and hence it contains all the elements which are characteristic for a training programme design: learning objectives, prerequisites; detailed content outline; proposed teaching/learning strategies, teaching methods and media; learning assessment tools and strategies, reference bibliography, estimated training/learning time. As such, it is a modular training curriculum rather than a training module, providing an overall action-plan to modular developers for implementation.

A modular curriculum can therefore be defined as a training programme that is organised into discrete learning contents. The contents are integrated in a methodological modular structure in the form of interchangeable modules and learning units that are used to create different training/learning programmes. From a methodological point of view modularisation implies taking a complete training programme and breaking it down internally into viable training modules and learning units leading to a final assessment or examination in which the overall skill or competence is recorded and certified.

Modularisation in vocational education and training and a modular structure constitute a prerequisite for the delivery of flexible training programmes, creating the conditions for developing flexible learning environments. Given the growing heterogeneity of target groups, the rapid change in the requirements of the labour market and the emerging plurality of vocational education and training providers, modularisation plays an important role and constitutes the main feature of any training system capable of offering and delivering a just-in-time response to training requirements.

[6] A. Guastavi, M. Lsa, *Modular vocational education and training development. Concepts and methods*, [in:] K. Symela, M. Jacyniuk (ed.), *Modular Vocational Education and Training for Labour Market*, Radom 2003, p. 13.

Development of a modular offer of modular VET in Poland?

Transformation processes of the last two decades in Poland, building democracy and market economy showed that a thorough reconstruction of vocational education and training in Poland is indispensable. New possibilities of organisational, methodological and programme-related solutions appeared in VET. One such example is modular education which has systemically been developed and implemented in educational practice. Instead of one, obligatory, subject-based curriculum for teaching an occupation, numerous alternative to them and innovative teaching curricula of modular structure started to emerge.

At the beginning of the 1990s in Poland the schools of higher education – Szkoła Główna Handlowa and Warsaw University – were the first to attempt experiments with the modular teaching concept. However, these attempts were not promoted sufficiently to allow using this experience in vocational education and training.

It was only the project carried out in the years 1993-1997 by the Ministry of Labour and Social Policy (MPiPS) (The World Bank's project TOR#9 'Training Adults') that helped Polish methodology of modular training for labour market – based on the ILO MES concept of Modules of Employable Skills – to be adapted and implemented. What is more, the training programmes for 21 vocational areas jointly containing almost 1,000 modular units were developed[7]. It was a new impulse to create an educational offer in the system of school and out-of-school VET[8].

A turning point for the development of modular VET in Poland was harmonisation of the modular education concept recommended by the Ministry of Labour and Social Policy (MIPS) with the modular education concept recommended for the school system by the Ministry of National Education (MEN). The said harmonisation was based on a common definition of a 'modular unit'. This resulted in the development of an original methodology of preparing a modular education curriculum for an occupation and educational packages.

In Poland, vocational education based on a modular approach is a relatively new method of organising the teaching/learning process. The system-based implementation (by the Ministry of Education) of modular programme offers dates back to 2001 when the uniform methodological principles for the construction of these types of teaching curricula were adopted[9]. At present the modular

[7] The offer of modular training for labour market is included in database supervised by MPiPS, www.kwalifikacje.praca.gov.pl.

[8] K. Symela, *Poradnik metodyczny dla autorów modułowych programów szkolenia zawodowego*, Phare 2000 Project – National System of Vocational Education, Radom 2009.

[9] *Zarys metodologii konstruowania modułowego programu nauczania dla zawodu* (An Outline of the Methodology of Constructing a Modular Teaching Programme for an Occupation), the project supervised by K. Symela, Warszawa 2001.

programmes/curricula are implemented in the school system by ca. 200 vocational schools. The impact of the modular VET curricula can be viewed from the angle of schools which took the effort of their implementation. The most active in this respect are post-secondary and technical schools, much less – basic vocational schools, Centres for Practical Training (CKP) and lifelong learning centres (CKU). Practice proved that implementation of modular programmes causes the least problems in post-secondary schools. The educational process there can take the form of courses modelled on modular training for labour market because there is no general education there. The most popular occupations in modular education are: IT Technician, Economic Technician, Electronic Technician, Electrical Technician, Hotel Industry Technician, Mechatronics Technician, Mechanical Technician, Accounting Technician, Administration Technician and Building Industry Finishing Works Technologist.

A significant contribution to the modular approach development has the Operational Programme HR Project carried out in the years 2009-2013 by KOWEZiU entitled 'The System of Support for Schools and Educational Institutions Implementing Modular VET Programmes'. A particular attention should be given to 21 guidebooks which were made available and which aim is to give tips, advice and examples of solutions which are assistance-oriented – How to implement modular VET programmes? What is offered is:

– 5 handbooks addressed to key environments with respect to implementation of modular VET programmes, i.e. school headmasters, directors of educational institutions, managers of practical training, representatives of the leading body, representatives of the body keeping pedagogical supervision, teachers-consultants and methodological advisors.
– 16 handbooks addressed to the teaching staff at schools and educational institutions in occupational sectors in which modular education is most popularised. Schools should use branch guidebooks which are compatible with occupations assigned to a given branch.

An important scientific, methodological and implementation-related contribution was made by the Institute of Sustainable Technologies – National Research Institute (ITeE-PIB) in Radom, which, among others, developed a methodology of constructing modular programmes for the school system (MEN) and out-of--school system (MPiPS) and within the framework of the Leonardo da Vinci Project initiated development of the Polish Modular Education Network (PSKM) (www.emcet.net). The Polish Modular Education Network has been functioning since 2002 and is a voluntary agreement of the institutions acting for the promotion and development of the modular VET concept for the domestic and European labour market. PSKM provides methodological, counselling, and informative assistance and renders services in the field of design, implementation and quality

assessment of the new programme-related and organisational solutions of modular education in the school and out-of-school VET systems.

Moreover, the Institute participated in the biggest venture concerning changes in VET curricula in the history of post-war Poland and concerning development of innovative modular programmes (for 131 occupations and 3,438 educational packages prepared in the form of a Teacher's and Student's Handbooks. At present they constitute open educational resources made available by the Krajowy Ośrodek Wspierania Edukacji Zawodowej i Ustawicznej (KOWEZiU – National Centre of Support for Vocational and Lifelong Education) in Warsaw.

Another important centre for the development of modular VET in Poland is the Łodź Centre for Teacher Development and Practical Education (www.wckp.lodz.pl/).

The essence of the modular VET technology

International and Polish experience in the field of the modular VET programme implementation show clearly that the modular approach aspires to the name of an innovative VET technology.

The term 'technology of education' is defined differently in pedagogical literature. It results from several premises. Firstly, technology of education is a fairly 'young' discipline which emerged at the time of the rapid development of new technologies and from the very beginning it was more oriented toward practical solutions than theory. Secondly, the understanding of the term 'technology of education' continually evolves which is connected with both educational changes in the world and development of technology. Thirdly, the technology of education incessantly widens the range of its interests and research methods, using achievements of other developing sciences such as cybernetics, cognitive psychology, praxeology, theory of communication, theory of systems or information technology.

According to American scientists 'technology of education is a systematic way of design, implementation and assessment of the teaching/learning process taking into account specific objectives and based on the research work into learning and communication processes with the use of human potential and material resources to ensure greater effectiveness of education'[10].

The above definitions focus mainly on methodological aspects, i.e. the methods and techniques of the teaching/learning process and in this way they constitute a base for theoretical considerations and practical applications. An example of this definition implementation is 'modular education' which is perceived as an innovative way of design, selection, organisation, execution and evaluation of educational contents required on the dynamically changing labour market.

[10] J. Morbitzer (ed.), *Współczesna technologia kształcenia. Wybrane zagadnienia*, Kraków 1997.

Thus, the modular approach is a universal structural concept which offers learners access to education in different life situations and in this way supports their vocational mobility.

In VET 'modules' are a consequence of vocational functions and tasks performed by a worker, a way to develop an offer of a programme which results from an analysis of requirements of a given job. From this perspective the modular technology of VET is oriented toward:

– acquisition of interdisciplinary knowledge, as performing the real life tasks in work environment requires it,
– developing skills by practical activities, because they ensure performing different operations and activities in real-life occupational situations,
– achieving (personal and social) competences, perceived as a set of observable behaviours (attitudes) – everything that a given person knows, understands and can do, i.e. accumulated effects of learning which testify to the worker's competence and image.

Modular VET organisation is something more than just a set of structured modular units in the teaching programme/curriculum. This thesis results from a conviction that modular education is a radical change in the classically understood teaching process. It has its consequences for the design of curricula and teaching resources, development of teachers' competences and VET modernisation process. In accordance with the above said, the modular VET technology creates a new model of the vocational school functioning. The school is becoming an institution which focuses on satisfying individual learning processes leading to the attainment of specific, recognised on the labour market vocational qualifications. What is more, introduction of modular VET technology affects five VET components, between which specific relationships occur. We can call them five determinants of a successful implementation of modular education:

1. an educational institution has its own or adapted modular teaching programme which meets the requirements of the core curriculum of training in an occupation, is divided into independent and appropriately constructed and correlated modular units integrating theoretical education in an occupation with practical training;
2. educational packages in the form of a handbook for a learner and a teacher's guidebook which together provide methodological guidelines for modular units of the curriculum and play a crucial role in the planning, implementing and evaluating of educational classes;
3. it is possible for candidates to start education at different entry levels, i.e. different learning pathways are available adjusted to different levels of the previously acquired knowledge and skills, predispositions and individual needs;

4. the role of the teacher is changing – s/he now designs and carries out educational classes and supports learners with the use of educational packages and activating teaching methods leading them to the attainment of the expected learning outcomes;
5. an effective organisational structure of VET occurs which guarantees execution of educational classes combining theory and practice (holistic perception of VET) in real-life situations or situations close to those in work environment.

The research conducted by ITeE-PIB showed that lack of any of the above VET components has an adverse effect on the effectiveness of educational activities referred to as 'modular education'[11].

Figure 1 presents elements of modular VET technology in a systemic approach. It is a system of mutually related elements. Their interrelations create teaching environment oriented toward attainment of learning outcomes.

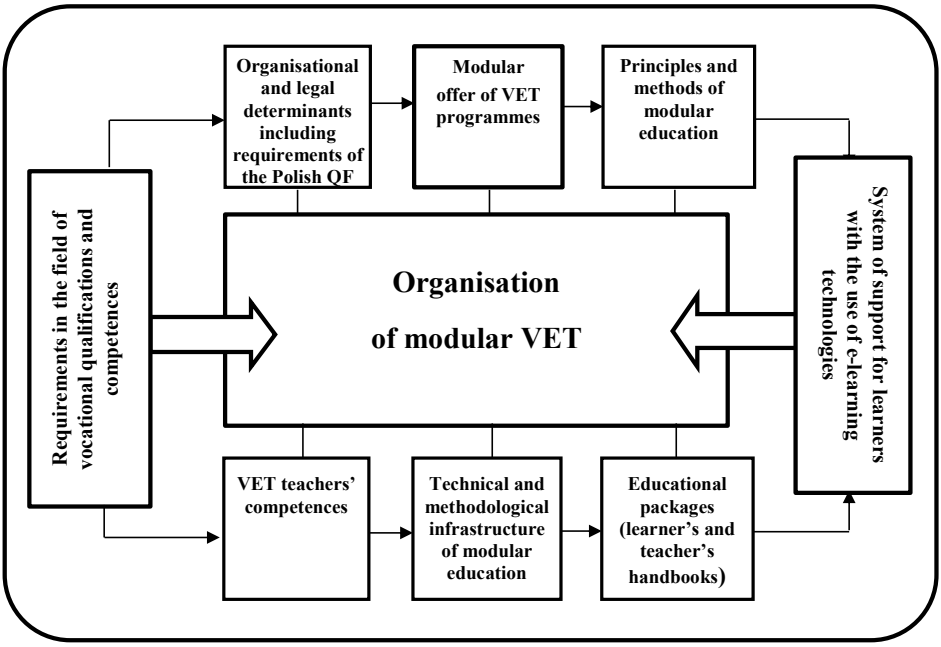

Fig. 1. Elements of modular VET technology (author's own compilation)

[11] K. Symela (ed.), *Skuteczność kształcenia modułowego w Polsce w systemie szkolnej i pozaszkolnej edukacji zawodowej*, Radom 2001.

Division of teaching contents into modules and modular units appears both in modular programmes recommended for the school use by the Ministry of National Education (MEN) (according to the classification of VET occupations) and training programmes recommended by the Ministry of Labour and Social Policy (MPiPS) (according to the classification of occupations and specialisations for the labour market). The differences appear in the way they are described, which results from the accepted methodology of the VET curriculum development. In the case of modular training programmes there is a third level of the teaching content division into 'training units', which make up a complex teaching/learning technology. In modular VET programmes the function of 'training units' is taken over by 'educational packages' (they refer to modular units), which are prepared in the form of a learner's and teacher's handbooks. However, we must bear in mind the fact that a modular VET programme concerns the entire occupation, whereas a modular training programme may concern only a fragment of this occupation (a specific part of work) or vocational tasks from different occupations.

The choice of an arrangement of the teaching programme for an occupation (by subjects or modular) depends on the programme constructors. In the programmes arranged by subjects (classical, traditional) there is a direct relationship between the subject and a specific discipline of knowledge (e.g. mechanics, electronics, mechanical engineering, etc.), whereas in the programmes of modular arrangement we deal, as a rule, with integration of theoretical and practical contents from different areas of knowledge.

If we concentrate our attention on the construction of a modular teaching programme, we can find out that it is characterised by:

• **innovativeness**, which leads to a new teaching and learning environment with respect to its organisation;

• **measurability of learning outcomes,** enabling checking whether the range of contents defined by the module translates into concrete learners' skills and knowledge. This means that the requirements specified in the module become a "unit of measure' for acquired competences;

• **exchangeability,** consisting in adequate to the learners' needs and market expectations selection and updating of contents defined as 'modules', which make up the whole teaching programme. This feature also proves the openness of the curriculum to changes caused by the educational context;

• ***mobility,*** guaranteeing the use of a module in different configurations, systems and forms of teaching/learning both in the school and out-of-school systems. Hence it is a horizontal and vertical mobility of modules;

• **flexibility,** referring to the structure and arrangement of teaching contents which are divisible into independent elements, the so-called 'modules'; this facilitates their updating and introducing new and replacing old content. This feature also indicates a possibility of individualising (customising) education.

The hitherto research conducted by ITeE-PIB reveals that the process of education with the use of modular curricula is attributed high effectiveness and usefulness, especially in vocational skill development. This type of curricula works very well where there is the need for individualisation of choices and diversification of teaching contents, where flexibility and fast and effective technique of developing competences and qualifications is indispensable[12].

What is the development of modular VET technology getting at?

In modern world three major factors of changes have been revealed: development of information society, development of scientific and technical civilisation and globalisation of economy. A consequence of these changes is development of advanced technologies which generate the need for preparing specialists having specifically oriented, interdisciplinary knowledge and skills required in many occupations and areas of economy. In this context the issue of preparing high-class specialists in the field of advanced industrial technologies for the sake of sustainable development of a country is a prime challenge for VET systems at domestic, European and worldwide levels[13].

It is also important to solve the problem of how to anticipate skills, knowledge and competences which have a future potential and how to develop the VET systems to meet future requirements generated by new technologies which determine the structure of employment.

There is no doubt that module-based VET will successively become a pragmatic way of acquiring vocational qualifications and competences which are expected by the dynamically changing labour market.

It seems that the Polish VET system responds very well to this challenge as within the framework of the OP HR systemic project pro-market solutions are being planned. This can be illustrated by undertaking development of new core curricula for education in school offered occupations, in which the fundamental concept appearing in the description is a qualification understood as a set of assumed learning outcomes distinguished in a given occupation the attainment of

[12] J. Figurski, K. Symela (ed.), *Modułowe programy nauczania w kształceniu zawodowym*. The Ministry of National Education's experiment. A uniform programme of teaching an occupation, Radom 2001.

[13] The research is carried out by the Institute of Sustainable Technologies – National Research Institute in Radom, within the framework of the Strategic Programme No. POIG.01.01.02 -14-034/09 entitled 'Innovative systems of technological support for sustainable development of economy', Task I.5.I "Innovative programmes and technologies of lifelong education supporting transformation of knowledge and transfer of advanced technologies'.

which is confirmed by a certificate or a diploma issued by an authorised body following successful passing of an examination. The modular arrangement is also given to the constructed standards of vocational competences developed by the Ministry of Labour and Social Policy in which particular vocational competences distinguished for occupations and specialisations can become a reference point for constructing modular curriculum offers[14]. Thus a division of an occupation into qualifications (system of education) and competences (system of employment) is nothing else but 'modularisation of labour contents', in other words, a logical connection between specific scopes of work into 'meta modules' expressed via qualifications and competences which can be acquired in formal, non-formal and informal learning.

It must be emphasised that in both school system and out-of-school system modular curricula are an alternative educational offer to traditional (subject-based) curricula. At present an offer of modular educational programmes is available, free of charge, on (www.ksztalceniemodulowe-koweziu.pl) and of vocational training on (www.kwalifikacje.praca.gov.pl). Both databases supplement each other and the modular programme offers can be used interchangeably by the teaching staff both in the school and out-of-school systems.

Bibliography

Figurski J., Symela K. (ed.), *Modułowe programy nauczania w kształceniu zawodowym*. The Ministry of National Education's experiment. A uniform programme of teaching an occupation, Radom 2001.

Future skill needs in Europe. Medium – term forecast. Synthesis Report, CEDEFOP, Publications Office of the European Union, Luxembourg 2008.

Guastavi A., Lsa M., *Modular vocational education and training development. Concepts and methods*, [in:] K. Symela, M. Jacyniuk (ed.), *Modular Vocational Education and Training for Labour Market*, Radom 2003.

Mager R.F., *Instructional Module Development, the Development Process*, Los Altos Hills, California, Mager Associates 1977.

Morbitzer J. (ed.), *Współczesna technologia kształcenia. Wybrane zagadnienia*, Kraków 1997.

New Skills for New Jobs. Anticipating and matching labour market and skills needs, COM(2008) 868, Brussels, 16.12.2008.

New Skills for New Jobs: Action Now, Brussels, 04.02. 2010.

PO KL project – Development of a set of national standards of vocational competences required by employers (www.standardykompetencji.pl).

Preparing for our future: Developing a common strategy for key enabling technologies in the EU. Communication from the Commission to the European Parliament, the

[14] PO KL project – Development of a set of national standards of vocational competences required by employers (www.standardykompetencji.pl).

Council, the European Economic and Social Committee and the Committee of the Regions. COM (2009) 512, Brussels. 30.09.2009.

Symela K. (ed.), *Skuteczność kształcenia modułowego w Polsce w systemie szkolnej i pozaszkolnej edukacji zawodowej*, Radom 2001.

Symela K., *Poradnik metodyczny dla autorów modułowych programów szkolenia zawodowego*. Phare 2000 Project – National System of Vocational Education, Radom 2009.

The offer of modular training for labour market is included in database supervised by MPiPS www.kwalifikacje.praca.gov.pl.

The research is carried out by the Institute of Sustainable Technologies – National Research Institute in Radom, within the framework of the Strategic Programme No. POIG.01.01.02 -14-034/09 entitled 'Innovative systems of technological support for sustainable development of economy', Task I.5.I "Innovative programmes and technologies of lifelong education supporting transformation of knowledge and transfer of advanced technologies'.

Zarys metodologii konstruowania modułowego programu nauczania dla zawodu (An Outline of the Methodology of Constructing a Modular Teaching Programme for an Occupation), the project supervised by K. Symela, Warszawa 2001.

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Leonardo da Vinci Programme – Transfer of innovations in vocational education and training as exemplified by the SkillsUp Project

Introduction

The Leonardo da Vinci programme is a part of the Lifelong Learning (LLP) programme. Its general objective is to "contribute through lifelong learning to the development of the Community as an advanced knowledge-based society, with sustainable economic development, more and better jobs and greater social cohesion while ensuring good protection of the environment for future generations[1]. In particular the programme aims to foster interchange, cooperation and mobility between education and training systems within the Community so that they become a world quality reference.

The main priority of the „Lifelong Learning Programme" is to enhance the performance of education and training in the implementation of priorities and flagships of the EU 2020 strategy[2] defining the EU growth strategy for the next decade, to create value through knowledge-based economic growth, offering better opportunities to people in integrating societies and ensure to its citizens opportunities of lifelong learning and qualification upgrading.

Development of different forms of learning by fostering cooperation between education and training systems of the participating countries, the use of information and communication technologies, quality improvement of vocational education and training and promoting innovative approach to vocational education and development in such a way that education systems could meet the labour market needs in the best way possible – these are the key targets of the Leonardo

[1] Decision No. 1720/2006/EC of the European Parliament and of the Council of 15 November 2006 establishing an action programme in the field of lifelong learning.

[2] *The European Commission's website with all information about Europe 2020*, http://ec.europa.eu/europe2020/index_en.htm

da Vinci programme. The emphasis is put on mobility of workers in the European labour market, on graduates and workers' acquisition of new qualifications during placements and vocational training practice and development of their skills according to the modern standards. It is also important for them to develop openness and intercultural sensitivity, learn foreign languages and develop ability to adjust to the conditions of living and working in different European countries.

The aim of the programme is to foster mobility of workers in the European labour market and to implement innovative educational solutions for vocational qualification upgrading, to support solutions increasing transparency and recognition of vocational qualifications in the European countries (e.g. transfer of credit points in vocational education and training – ECVET, EUROPASS tools), as well as activities improving VET quality (e.g. European and national qualification frameworks – EQF / NQF or European systems of quality assessment – EQARF).

Projects in the Transfer of Innovations programme represent projects of multilateral cooperation consisting in transfer of innovative solutions and products to a new ground in order to improve quality of vocational education and training. In the course of international cooperation in the Skills-Up project, the partners adapted verified ideas with regard to substance matter, language, culture and legislation, and implemented them in Poland, Romania and Italy for new groups of receivers. Two of the basic aims of the programme are using the ICT technologies and quality improvement of vocational education and training. These aims determined also the direction of works in the SkillsUp project.

Characteristics of the transfer of innovation in the SkillsUp project

The Leonardo da Vinci project – Transfer of Innovation programme entitled: Supporting system for non-formal and informal learning for low-skilled workers 'Skills-Up' (No 2010-1-PL1-LEO05-11472) was executed in the years 2010-2012 by the international consortium with the participation of: Institute for Sustainable Technologies – National Research Institute in Radom; Scientific Society for Organisation and Management, Gdansk Branch; ENAIP Consortium Trieste, Italy; Galati University, Romania; and Polish Gypsum Association, Warsaw.

The basic objectives of the Leonardo da Vinci programme included: the application of ICT, i.e. information and communication technologies, improved quality of vocational education and training as well as adjustment of the education system to the labour market requirements. In the SkillsUp project, those objectives were oriented towards transfer of the innovative curriculum and IT solutions addressed to low-skilled persons working in the field of installing interior drywall systems.

In the knowledge- and innovation-based economy, continuing education and non-formal forms of vocational education and training should concentrate on learning through practical experience. The partnership was promoting innovative ways of vocational education and training, concentrating on increased efficiency and attractiveness of teaching methods as well as on bringing learning outcomes closer to the labour market needs and requirements. The problems solved within the SkillsUp project concentrate on connecting the labour market needs with vocational education and training of low-skilled persons or workers with no qualifications (Figure 1).

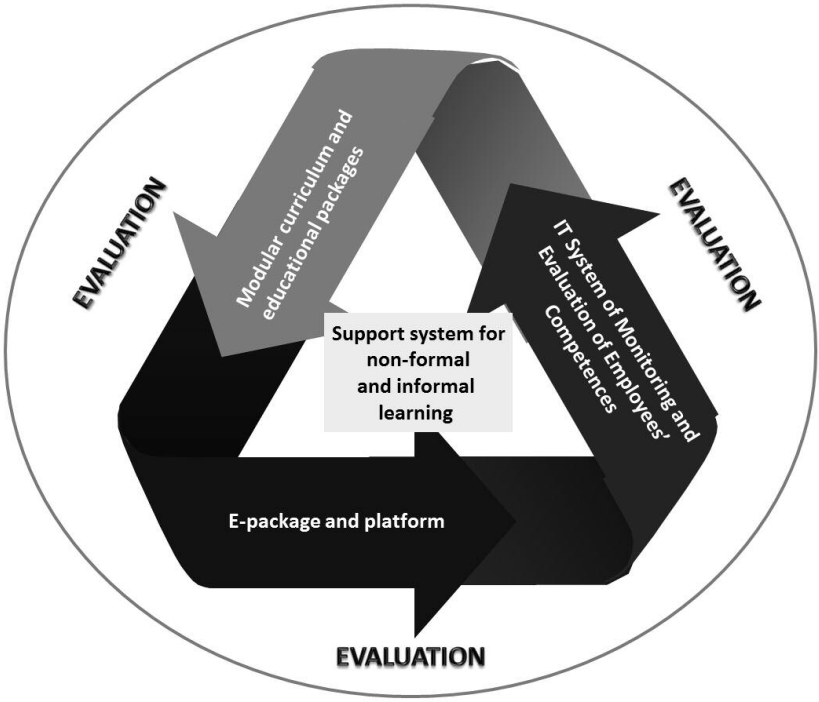

Fig. 1. Support system for non-formal and informal learning in the SkillsUp Project (authors' own compilation)

Preparation of training materials is the most important issue in the non-formal and informal learning support systems. Development of the interactive course to improve employees' competences within the Technology of interior drywall systems was the basic aspect of the project execution. Introduction of the modular curriculum and educational packages developed in four language versions as well as application of computer aided training (training supported by computers) allow

proper organisation of training or self-training and acquisition of skills. They contribute to the accessibility and improvement of low-skilled workers' competences.

Multimedia e-learning training packages are a solution facilitating independent acquisition of knowledge and skills formation. E-packages are interactive courses improving employees' competences and enabling self-learning and skill improvement at a time and place convenient to the learner. They allow current assessment of progress in professional competence development as well as assessment of acquired knowledge or self-assessment of professional skills. The project evaluation system supports quality assurance with respect to the SkillsUp project products.

The educational e-package designed as a form of support for the accomplishment of intramural and distant activities within formal and non-formal education and a tool for self-education and professional training was subject to a pilot test and assessment by a selected target group in three partner countries. The pilot implementation involved deliberately selected representatives of institutions educating and training in the Interior Drywall System Fitter occupation, including the unemployed, students and teaching staff, altogether more than 100 participants from Poland, Romania and Italy. The obtained research results and opinions of potential receivers confirmed the educational usefulness and validity of the SkillsUp project-developed educational e-packages, (which were) used in vocational education and training of Interior Drywall System Fitters. The Skills-Up project was addressed to a special target group of beneficiaries: persons with special educational needs who want to acquire new skills or improve their qualifications in the construction industry in the Interior Drywall System Fitter specialisation. This is why one of the main project objectives was activation of low-skilled persons. Another basic objective was also development of methods of recognising informal or non-formal education learning outcomes of low-skilled persons. Those objectives were supported by accomplishment of intermediate objectives, i.e. identification of employees' competence gaps. The research into educational needs took place with the use of software developed by ITeE-PIB named "System of monitoring and evaluation of employees' competences". The qualitative data obtained as a research result were applied to prepare a description of a professional competence profile for the "Interior Drywall System Fitter" occupation. It was placed in the database on www.diagnozowaniekompetencji.pl in four language versions (PL/ENG/RO/IT). The results of the conducted research are presented in international reports concerning identification of qualification requirements for the Interior Drywall System Fitter occupation. It should be emphasised that the Polish project partners as well as partners in other countries) recommend that the present name of the Interior Drywall System Fitter occupation as it is in the classification of occupations and specialisations should be more

precise for the Polish labour market needs. It should consider various interior drywall systems dynamically changing on the market.

Both the modular curriculum and the professional competence profile developed in the course of the research constituted the reference for a proposal of units of learning outcomes, which might ultimately be the subject of training and credit transfer in the international dimension according to the ECVET system (Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of European credit transfer system in vocational education and training – 2009/C155/02).

Projects in the Transfer of Innovations programme represent projects of multilateral cooperation consisting in transfer of innovative solutions and products to a new ground in order to improve quality of vocational education and training. In the course of international cooperation in the Skills-Up project, the partners adapted verified ideas with regard to substance matter, language, culture and legislation, and implemented them in Poland, Romania and Italy for new groups of receivers. The two year's of work and the obtained results confirm the applicability of the idea of transferring skills, which even seems to be essential for proper execution of occupational tasks within the technology of interior drywall systems.

In the VET practice project products can be used in forma land non-formal education, among others in the occupations of Bricklayer, Building Industry Finishing Works Technologist or Interior Drywall System Fitter. More information on the Project products is available on www.skillsup.eu.

The Specificity of the SkillsUp Supporting System

The paradigm of the specificity of educational resources produced many success stories in the field of technology – enhanced learning. In this context, an important enabler is the allocation of significant financial resources for the EU education programmes aiming to generalise technology supported lifelong learning. The Leonardo da Vinci project "SkillsUp – Supporting system for informal and non-formal learning for low-skilled persons" belongs to the category of EU projects intended to create open education resources with a precise goal. The system is destined to support computer-assisted learning for persons belonging to a special target group: low-skilled workers from building industry or entry-level students from vocational schools in the field of construction.

Low-skilled workers employed in private or public companies frequently find themselves in a dilemma: advancement in the labour market requires training, and training requires time and money. On the other hand, employers very rarely invest in upgrading skills of entry-level workers. Employers perceive that returns on training entry-level workers to be very low.

The high turnover among entry-level, low-skilled workers also increases employers' reluctance to invest in such training. The low-level of training provided for low-skilled, entry-level workers is an argument for the EU educational policy aiming to develop of such educational programmes. Based on that premise, many EU lifelong learning projects are oriented toward financing new educational programmes destined to pull low-skilled workers to that level of competence required by the better jobs on the labour market.

The SkillsUp project had as a main objective the implementation of two educational platforms:

– SkillsUp e-package and platform – a software environment for computer assisted learning
– IT System of Monitoring and Evaluation of Employees' Competences – a system for evaluating competences and abilities of users according to criteria compatible with EQF.

The above mentioned educational platforms are integrated in a common supporting system called SkillsUp, which provides two essential features of any environment for technology-enhanced learning: it assists users in the instructional process and offers on-line evaluation/validation of their competences and skills. Both platforms included in the SkillsUp supporting system can be considered typical examples of specific educational resources.

In what concerns the SkillsUp e-package, the specificity is demonstrated through the following features:

– the educational content is oriented toward the technical field of civil engineering, and is ultra-specialised, dealing with technologies related to interior drywall systems – installation, partition, jointing and surface finishing;
– the type of the educational resource: it is a handbook-type system, implemented on an e-learning platform as a sequence of lessons and test sections;
– the target group is made up of low-skilled building industry workers, or students of vocational schools training in the occupations of bricklayer and building finishing works technologist.
– The second platform – IT System of Monitoring and Evaluation – provides solutions to aggregate, process and analyse competence requirements for any profession functioning on the market.

The IT System of Monitoring and Evaluation includes a database of vocational tasks, skills and competences required in real working environments. The system is able to evaluate users' skills and competences and to propose programmes for vocational training or retraining according to the results of this evaluation. In this case, the specificity derives from the offered functions and services.

Both components of the SkillsUp support system are implemented according to a static model. The specificity of the components make the entire SkillsUp support system a typical example of educational resource oriented toward a very specialised technical domain of knowledge, and targeting a specific group of users.

SkillsUp e-package and platform structure and organisation

The instructional design of the SkillsUp system follows the general principles outlined by Dick & Carey[3], which use a systemic approach by emphasising the interrelated instructional components. The instructional design of the SkillsUp e-package has been based on the generic model ADDIE – Analysis – Design – Development – Implementation – Evaluation[4].

In this approach, the components of the educational system: the instructor, learners, educational objects, instructional activities, delivery systems, and evaluation modules are designed to work together and are subordinated to the goal of supporting the students in their evolution. This model is suitable for both individual and group based instruction systems.

Professional education courses based on modules allow relatively quick acquisition of knowledge by low-skilled persons or allow updating acquired skills to a level corresponding to new developments in production and services. Following this approach, the e-package on Drywall Technologies maintained by the SkillsUp learning platform has been built in a modular structure consisting of learning units, where each unit represents a theme of interest in the domain. Each unit is divided in smaller modules named learning chapters. A learning chapter in a unit consists of several theoretical lessons and one revision lesson (Figure 2).

Persons who want to use the SkillsUp platform in learning activities should possess the basic skills of computer literacy and should be able to use an Internet browser.

The main objectives of the SkillsUp system are to support non-formal learning in technology of interior drywall systems. Competences and skills in this domain are expressed by the mastery of domain specific terminology or activities: how to choose materials, stages and rules for installing different drywall systems, finishing operations, how to evaluate the final work. These objectives are detailed for each unit being included in two pedagogical sections: one section is destined to specify the prerequisite knowledge and competences and another is meant to indicate the learning outcomes.

[3] Dick, W., Carey, L., *The Systematic Design of Instruction* (4th Ed.), New York 1996

[4] M. Molenda, *The ADDIE Model*, [in:] A. Kovalchick, K. Dawson (Ed's), *Educational Technology: An Encyclopedia*, Santa Barbara 2003.

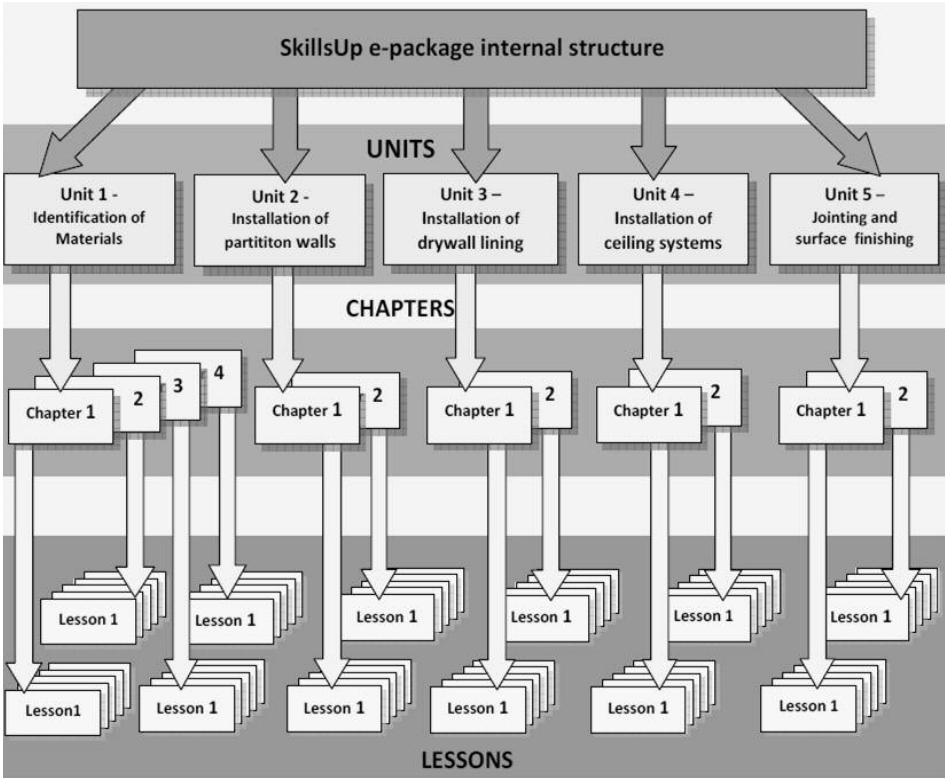

Fig. 2. Structure of the Skills-up e-package

(Source: E. Pecheanu, I. Susnea, A. Cocu, *Design of Course Materials Destined to Support Informal and Non-formal Learning through the Use of E-learning Technologies*, [in:] *Supporting system for non-formal and informal learning for low-skilled workers*, Radom 2012, p. 64)

Conclusions

Both traditional learning and computer assisted learning have specific features and advantages that cannot be transferred between each other.

Among the advantages of the IT&C environment for learning, not fully exploited yet, we can mention:

– they are learner-oriented by means of:

- personalisation of the learning path (e.g. particular assembly of the educational objects and learning models, according to the specific needs of each learner etc.);
- personalised structure of the lessons and courses: non-linear structure of the presentations with automated detection of weak points and the possibility to return to the content inadequately assimilated;

- increased autonomy – learners are free to choose their own pace, time and location for attending the e-learning lessons;
- integrated adaptive tests;
- they are distributed resources, which include electronic libraries and multimedia content,

– they are flexible in what concerns the roles of the participants by:
- the possibility to switch roles between tutors and learners within the learning group
- involving experts in the discussions of the learning group
- mixing individual and group tasks
- dynamically adjusting the structure of the learning groups depending on the current cognitive centre of interest, or on some efficiency criteria.

The specific features of an e-learning program, as identified by R.C. Clark and R. Mayer[5] are:

– it includes contents relevant for the instruction objectives;
– it uses various methods of instruction to support learning, e.g. exemplification and practical exercises;
– it uses multimedia content – text, images, animation, audio files, movies – in order to make the content more accessible and to diversify the instruction methods;
– it builds knowledge and develops competences directly connected to the individual objectives of the learner, and allows personalised learning paths.

Thus, the "e" from "e-learning" indicated only the medium of the information flow associated with the learning process; the content is digitised and becomes eContent, so it can be stored, distributed and reused in an electronic format. The interactions between the participants in the learning system are mediated by the new technologies.

The SkillsUp support system integrates all of the above mentioned advantages of the e-learning systems and is capable not only of delivering the e-Content but also of providing monitoring and evaluation of the participants evolution along the learning path.

Bibliography

Clark R.C., Mayer R., *E-learning and the Science of Instruction*, San Francisco 2003.
Decision No. 1720/2006/EC of the European Parliament and of the Council of 15 November 2006 establishing an action programme in the field of lifelong learning.

[5] R.C. Clark, R. Mayer, *E-learning and the Science of Instruction*, San Francisco 2003.

Dick W., Carey L., *The Systematic Design of Instruction* (4th Ed.), New York 1996.
Molenda M., *The ADDIE Model*, [in:] A. Kovalchick, K. Dawson (Ed's), *Educational Technology: An Encyclopedia*, Santa Barbara 2003.
Pecheanu E., Susnea I., Cocu A., *Design of Course Materials Destined to Support Informal and Non-formal Learning through the Use of E-learning Technologies*, [in:] Supporting system for non-formal and informal learning for low-skilled workers, Radom 2012.
The European Commission's website with all information about Europe 2020, http://ec.europa.eu/europe2020/index_en.htm

III. ADULTS' VOCATIONAL EDUCATION A CONDITION FOR BUILDING NEW ECONOMY

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Continuing vocational training in the process of implementing professional biographies in a post-industrial knowledge society

Education facing the instability of contemporary reality

Civilization and cultural changes make that life of a modern man is constantly accompanied by education, which determines its prosperity and activity in all areas of life, particularly in professional life.

It is especially a source of knowledge which is a necessary condition to keep **self-manoeuvrability** and worthy life. A common fulfilment of continuing education, lifelong education which last from birth until the end of person's life is a requirement of contemporary times[1]. Together with that there happens a reduction of education periods to one phase on a human's path, and a system of education becomes just one link in the educational network. However, it still remains important and necessary for proper shaping of human faith in a contemporary and complicated post-industrial civilization, but it is not enough to provide self-manoeuvrability throughout life. 'Traditional division of life into educational phases, studying, professional life and retirement does not go together with reality which puts certain demands on its members. It cannot be expected nowadays that the knowledge acquired earlier in life will be enough for the whole life. The era of stable and possibly universal learning is now coming into reality"[2]. Permanent education is a requirement of contemporary times and at the same time a condition inevitable in every person's life, playing not a minor role meaning access to knowledge and abilities to use it[3].

[1] J. Kargul, *Obszary pozaformalnej i nieformalnej edukacji dorosłych. Przesłanki do budowy teorii edukacji całożyciowej*, Wrocław 2005, p. 34.

[2] J. Półturzycki, *Pedagogika dorosłych i jej wskazania dla edukacji dorosłych*, [in:] T. Aleksander, T. Barwińska (ed.), *Stan i perspektywy rozwoju refleksji nad edukacja dorosłych*, Kraków-Radom 2007, p. 41.

[3] P.M. Senge, *Piąta dyscyplina. Teoria i praktyka organizacji uczących się*, Warszawa 1998, p. 23.

In the next phases of biography education appears in different forms and scopes. Due to that on the educational path of a modern man there are numerous very often difficult to foresee education stimuli generated by numerous subjects of different character. There are more and more of these; they are different in shape and character. They very often appear separately, they have different durability and the quality of impact. Their influence on people is determined individually, depending on a situation, preferences and which stimuli the individual faces in fulfilling his/her life.

In continuing education general education is inevitable as for many years it has been a base for vocational education[4]. It takes different forms and may intervene at each stage of life in situations that are not-foreseeable. It is mainly a source of knowledge about the world, society and the changes it undergoes.

As professional activity is one of the main forms of human activity so education as well, especially continuing education is directed at it. The scope of the notion 'professional work' has significantly changed compared to its exemplification[5]. Contemporary job is differentiated, each job place has its specifics and uniqueness which make employees constantly adjust themselves and their competencies to perform professional role (or even more often professional roles), to the changing conditions and expectations[6]. It is desired that this adjustment was connected – referring to both professional tasks and conditions of their fulfilment but also to the employee's features of character. Sometimes it requires enriching knowledge and resource as well as the level of skills, very often it is connected with the necessity to make deeper changes – in the systems of values, as well as the dynamic personal features. The shop floor treated as a learning organization is a system which connects individual learning of employees with the group one[7].

The world of work is constantly changing, numerous changes and new solutions appear which are new to the employees, and they cause feelings of anxiety and threat. Instability of modern professional work makes the risk of its loss or change an inevitable component[8]. The character of employment is also very often changing. To get the best possible economic results more often than before the employers use apart from traditional, elastic, new forms of employment[9]. In search of a compromise between employees, their expectations and employers and their preferences a new rule of flexicurity is being introduced, it prefers basic

[4] W. Okoń, *Podstawy wykształcenia ogólnego*, Warszawa 1976, p. 23.

[5] T. Nowacki, *Zawodoznawstwo*, Radom 2003.

[6] P.P. Robbins, *Zachowania w organizacji*, Warszawa 1998, p. 357.

[7] R. Tomaszewska-Lipiec, *Zakład pracy jako organizacja ucząca się – wybrane wyniki badań*, „Szkoła – Zawód – Praca" No 1/2010, p. 123.

[8] A. Giddens, *Socjologia*, Warszawa 2006, p. 436.

[9] Z. Wołk, *Kultura pracy, etyka i kariera zawodowa*, Radom 2009, p. 75.

employee protection, but at the same time it offers numerous possibilities of unstable employment to the employer[10]. It is a trial to react to the more often found situations of disturbances and threat of once common feeling of professional stabilization. The stage of stabilization which in the past was the longest period in professional life development is in present conditions a phenomena rather rarely experienced by the employees. Independently of whether the features, forms and organization of modern work are accepted or not and how they are valued – it is impossible not to take them into account and consider in the fulfilment of life and professional biographies.

The post-industrial period brings radical changes in the world of work, which from different perspectives were written about and interpreted in numerous scientific works[11]. The situation on a job market is changing especially dynamically. The employment is rather short-term one and unstable[12]. Professional stabilization was changed into instability and fluent change. What follows is the difficulty to get a matching employee-professional employment as both human competencies as employees as well as the feature characterizing the professional role are constantly changing. In such a situation it is inevitable to permanently refer to education, which also more and more often is individualised, completed throughout life not only in a school period. By education a person sometimes has the only chance to gather resources enabling to get and keep professional job. Education is also a way to restrict the threat of marginalization and social exclusion as well as an effective way of involving people already excluded or marginalized due to the loss of their employment[13]. Educational mobility, readiness to verify and update knowledge in the conditions of post-modernity reaches a status of a feature favouring efficiency in moving on the job market.

Regardless of the pace and direction of moving on a professional life map, people by themselves in a more or less conscious and efficient way influence the course of their life, including the professional one. Experiencing different professional role and not professional ones, as well as experiencing lack of job modifies own plans, very often influences the changes in the system of human values and aims. Continuous education is thus on this way a key factor.

[10] E. Kryńska (ed.), *Flexicurity w Polsce. Diagnoza i rekomendacje. Raport końcowy z badań*, Warszawa 2010, p. 13.

[11] Z. Bauman, *Płynne życie*, Kraków 2007; U. Beck, *Społeczeństwo ryzyka. W drodze do innej rzeczywistości*, Warszawa 2002; P.F. Drucker, *Społeczeństwo prokapitalistyczne*, Warszawa 1999; A. Giddens, op. cit.; J. Rifkin, *Koniec pracy. Schyłek siły roboczej na świecie i początek ery post-rynkowej*, Wrocław 2001.

[12] Z. Bauman, *Płynna nowoczesność*, Kraków 2006, p. 230.

[13] R. Gerlach, *Kształcenie ustawiczne przeciw marginalizacji i wykluczeniu*, [in:] B. Baraniak (ed.), *Wartości w pedagogice pracy*, Warszawa-Radom 2008, p. 222.

Traditional school remains a key institution, conditioning the success in life by its availability and by the educational activity. The job market however, enforces a human being to verify education, very often leading to a radical movement to different educational areas, including the post school ones. Lifelong continuous education brings thus special possibilities of a successful fulfilment of professional career. It enables to postpone the decision about choosing a job, and its verification at any stage in life. With time, so with getting mature and getting new life experiences and the knowledge about the world and oneself, a person develops professional resources which become more universal and possible to be used in further situations and circumstances.

Preparation for a successful position on a job marker requires not only getting professional knowledge connected with the fulfilment of specific tasks. It is necessary to have a wide general knowledge, enabling to understand the world and the changes happening in it, general knowledge about professional life understood as acting of people to fulfil their needs, work connected with a certain job and practical knowledge connected with activities performed in a specific post[14]. The demand to join general education and vocational one was especially highlighted in the period of dynamic development of technology and production[15]. The demand to join general and vocational education in present conditions is not only current but grew in meaning.

Professional activity and education

Continuing education offers a chance to shape a proper, dynamic relationship individual – work with unemployment taken into account. Vocational professional education frees educational activity of an individual independently of the currently taken position on a line of professional development, as well as independently of a current situation an individual is in.

One of the tasks of professional vocational education is to create a differentiated, alternative educational offer for the whole society, independently of the age, social or professional status or the place of living. On the base of a long general educational preparation it has a chance to lead an individual to a stage of making decisions connected with the first choice of profession possibly as late as possible. Due to that a person making a choice is more mature, sometimes has even first experience connected with a profession. Education for profession (for work) may be oriented mainly towards the needs connected with the future job position, so

[14] Z. Wołk, op. cit., p. 41.

[15] T. Nowacki, *Kształcenie ogólne a postęp nauki i techniki*, [in:] T. Nowacki (ed.), *Szkoła a postęp techniczny*, Warszawa 1962, p. 15; W. Okoń, *Podstawy wykształcenia ogólnego*, Warszawa 1976, p. 218.

the length of time can be meaningfully shortened. Specialised and skilful preparation requires a shorter period of education and is very often completed at a company's premises, for a company, so it takes its specifics and preferences into account. As currently the employee more and more often has to change the job or its character it is necessary to prepare an educational offer that will provide the employee with competencies necessary to perform other, different tasks. By having different out of school educational offers it is possible to develop professionally or to change one's qualifications. The previously acquired ones may significantly be used in a new work place. They are also a good starting point for getting new qualifications and competencies.

This way the chance for permanent development is created, it joins own experience with current qualifications and the results of any educational effort. These are very often short term but at the same time current and fulfilling the demand. Together they establish a professional competency of an individual so individual's force on the market and in life.

In search of education-work matching

Profession currently requires from each employee certain competencies and even the simplest jobs more and more often require a high level of culture of work[16]. Throughout the whole period of civilization ways to strengthen human physical power and mind potential were sought. The development of technology led to a situation in which the fitness of muscles and human brain were multiplied by machines and equipment[17]. Their rational and careful use both in profession and not only requires using certain knowledge and having skills. In reference to profession it is applied both to high class specialists and unqualified employees as well. Certainly in each case we talk about different qualifications so different knowledge and skills. What is common for everyone is however responsibility for work though dependently on the job position its level is different.

Getting professional competencies requires education which is often completed while school education or by experience that is acquired while working. Previously, when professional reality was not as changeable as today preparation for performing a job was much more organized and systematic. Such type of completing professional biography can be found in practice however very popular individual ways of completing educational and professional career are[18].

[16] Z. Wołk, op. cit., p. 39.

[17] T. Nowacki, *Praca ludzka. Analiza pojęcia*, Radom 2008, p. 94.

[18] A. Bańka, *Psychologiczne doradztwo karier*, Poznań 2007; E. Frątczak, *Droga życiowa (Biografia życiowa, rodzinna i migracyjna)*, Warszawa 1989; M. Piorunek, *Bieg życia zawodowego człowieka. Kontekst transformacji kulturowych*, Poznań 2009; M. Suchar, *Kariera i rozwój zawodowy*, Gdańsk 2003.

Contemporary education is of a net character, it is experienced individually as far as its level and content is concerned and it is also individually spread in time. The learners very often themselves decide about the pace and the scope of learning[19]. Shorter or longer breaks in learning are possible, it is connected either with trying to complete other development tasks or with trying to get practice and work experience and very often life one as well, sometimes – it is connected with life situation. A faster pace od education is not excluded, especially in case of people who are talented and have developed interests connected with their profession. Individualisation of education has special possibilities of being completed at a higher education level especially university one[20].

Searching for the best match of employee's possibilities and employers expectations was supposed to provide company's owners the use of the best potential of their employees. Currently apart from this aim, still being a key one, a somehow reversed match is being looked for – matching the working conditions to the employee's possibilities and expectations. Such matching creates a chance of reaching a compromise between employer and employee which leads as a result to getting better work results.

Having in mind preparation for professional life, education has a task of providing the learner with competencies necessary to solve problems that might appear at work and for good performance of tasks. Four concepts of preparation for professional life can be distinguished:

1. Traditional solution, in which the choice of profession is a single act.
2. Wide profile approach – which is connected with preparation to work within a certain group of jobs and allows moving between the group.
3. A solution directed at the frames of professional competencies. Preparation in this case does not concern a certain job, but certain work competencies.
4. Elastic approach using each of the previously mentioned ways.

Traditional approach is the oldest one. It refers to Times when the pace of economic changes was fast, and preparation for life and work was received while school education and was enough for the whole life. Vocational education was then one of the stages of preparation for work and lead to getting a job which was then performed throughout the whole period of professional activity. Binding professional decisions were taken at the first stage of education. In the past in Poland it happened right after graduating from the Primary school. These were

[19] K. Dzieńdziura, *O potrzebie kształcenia ustawicznego w sytuacji zmian cywilizacyjnych*, „Zeszyty Naukowe" No 7, *Nauczanie w szkołach zawodowych w dobie integracji europejskiej*, Wrocław 2001, p. 39.

[20] K. Denek, *Uniwersytet w perspektywie społeczeństwa wiedzy. Nauka i edukacja w uniwersytecie XXI wieku*, Poznań 2011, p. 59.

decisions for the hole life, as they were rarely corrected, which was caused by mainly formal reasons, but a great influence was also by some socially accepted schemas which did not take a change of profession into account. This in many cases leads to undertaking a job which was unaccepted and with no chance of change. It referred mainly to people who had some basic education only. Vocational education was then not wide in profile and that somehow forced to stay in the learned job even if it was not accepted by the employee and was visible only after starting a job.

Professional matching was traditionally based on the formal qualifications that were received by participation in vocational training, these were found unquestionable criterion of professional suitability. They were clear so it was an obvious advantage of this solution, of course in conditions of stable employment and professional stability.

Greater and greater instability and changeability of work connected with technical and scientific development forced the change of approach to vocational training which started to be oriented towards wide profile education[21]. Developed until now narrow profile education was treated as insightful, deepened professional training, preparing high class specialists in a narrow filed did not sustain the pressure of the job market. Wide profile approach was in the initial period a reaction to the changeability of the job market and to the changing expectations towards employees and their qualifications. A new situation appeared which is characterized by submission of offered products to expectations of the more and more demanding clients. It was connected with the surplus of workforce over its demand so the unemployment in a greater scale appeared. Following that the search of employees, who will be able to fulfil the needs of clients, started. The employees were required to fulfil the needs of clients, not focusing on making a mass product which in each case had its buyer. It refers also to non-material products especially services.

A new approach towards preparation for work is connected with the introduction of qualifications framework[22]. Together with that the expectations to vocational training are meaningfully changing, and new perspectives for its completion are opening. Continuous education becomes an alternative solution in which both educational subjects as well as the receivers of services are facing the possibilities of completing certain expectations of the job market with a clear orientation on shaping real competencies.

[21] H. Bednarczyk, *Zintegrowany wielopoziomowy system ustawicznej edukacji zawodowej*, [in:] H. Bednarczyk, L. Łopacińska, A.M. Charrauda (ed.), *Kształcenie zawodowe w kontekście Europejskich Ram Kwalifikacji*, Radom 2009, p. 113.

[22] B. Baraniak, *Ramy kwalifikacji zawodowych nowym obszarem badań poradnictwa zawodowego*, [in:] R. Parzęcki (ed.), *Poradnictwo zawodowe w teorii i praktyce*, Gdańsk 2010, p. 63.

Alternative ways to work and profession

Vocational training is an intended educational action aiming at the preparation of people to participate in the social division of labour. In post-industrial conditions terms it has become an extremely difficult task. The fluidity of modernity in all its dimensions makes virtually nothing is repeated, even once produced on a massive scale technical products are of unique nature adapted to individual needs and tastes of customers. This also applies to education, in particular vocational education.

In post-modern conditions it has become necessary as never before the individual setting up all components of the work, including the employees' personal possibilities. Employers are able to quite precisely determine their expectations and preferences concerning employees and candidates for work, however, expectations are up to date, typically necessary to be immediately met. This leads to the selection of candidates taking more and more sophisticated forms.

Training completed in the system of education and higher education is typically of a collective character, as a result the walls of vocational schools and colleges each year are left by the groups of graduates of a similar (standard) education and preparation. Their chances on a job market are decided to g a great extent by their individuality and individual experiences which make some of them stand out from the group. In the collective education, sometimes mass one, it is difficult to prepare individually. Taking these facts into account companies more and more often do not count on the actions on this side of the system of education but they train themselves employees and candidates for work taking their present needs, in many very new ones, into account. There is thus no time for long term vocational preparation. Vocational education is not bale to fulfil the demands of the kb market and it should not be expected to do so, nor even think it will be once real. It is however a stone of professional education and as one if he ways is fully needed. It requires searching for real ways of leading modern vocational education and optimal use of its potential within the differentiated themes and by different forms of organization. What is especially needed is education in alternative forms, even more, that visible is the orientation of market subjects on getting by employees and future employees real not formal competencies. Probably in the future there will still be jobs which performance will require getting formal approval received as a result of education proven by some diplomas or certificates. In case of many work places it will however be not necessary as specific skills will be even more important. In many cases what decides about usefulness for a certain job are key competencies whereas specialised professional ones are of a secondary meaning.

While searching for ways of vocational education it is necessary to create for each learner independently of age and the stage of professional career the following possibilities:

1. Free choice of ways and time of education
2. Correcting former choices connected with education and work
3. Completing education throughout life according to individual needs and possibilities
4. Creating free access to education in the whole European area of knowledge
5. Allowing getting employment on the basis of the competencies

One of the superior rules connected with preparation to move in the world of work is the rule of individualisation of education. It is not a new rule however its meaning significantly influences the contemporary education which more and more often treats the learner in a subject way and takes learner's plans and expectations into account.

Individualisation of vocational education requires especially:

– Allowing education according to individual syllabuses;

– Equal opportunities with reference to getting professional competencies by formal, non-formal and informal education;

– Wider involvement of the subject of the world of work into the process of preparing employees and candidates to work.

The choice of profession is nowadays not a single act that decides about one's whole future career as it used to be. It can be noticed that it is the opposite. Candidates for work are valued by the number and diversity of work experience. Changing ones qualifications which create opportunities of getting a new job by the learners is one of the most common ways of fighting with unemployment. Professional career takes different forms, but the classical, line one is rarely spotted. The relationship individual – job is an unstable relationship which is connected with the more and more common contract employment. Due to the necessity of changing work place, which is unavoidable nowadays, it is necessary to refer to education in different circumstances and on different stages of human career and life. Dependently on individual circumstances educational needs may refer to getting formal competencies, real, or only a certain skill. Their fulfilment may take place in a school system, apart from it, in relationship to each age or profession category. It is thus not only about openness and access to education but especially about adjusting it to individual preferences. These preferences result from individual situation in which each person may find oneself at each stage of life.

In individual configuration of professional competencies which depends on the employee's needs and the expectations of the job market what can be helpful is the orientation on the framework of competencies involved in lifelong learning.

Together with that there is a traditional understanding of profession as a final set of activities connected with performing employee's tasks. This orientation causes:

– Stepping aside from the monopoly of the formal system of education referring to getting professional competencies;
– Shift form the system of education oriented on' teaching the topics and content' towards system oriented on 'effect of teaching';
– Raising mobility by enlarging the scope of people's resources connected with wok;
– Raising the freedom of educational institutions within creation and choice of syllabuses;
– Adjustment of education within the EU countries.

The framework of competencies is a scale of reference that allows free choice of ways of getting professional competencies. Their acknowledgement does not require completing a certain way of education what makes that the competencies received in short forms of education, by self-education as well as by professional life and experience may be acknowledged[23]. Framework of qualification may significantly change the market of educational services. It should be taken into account that the educational offer prepared by vocational schools on different levels and by higher education will be enlarged by different], new forms suitable for the need of the job market. Very probable is the development of educational activity completed apart from the formal system of education, including different forms of self-education and education completed by companies with regard to their needs.

An insight into the future

The post-industrial period is characterized by radical changes in the world of work. A constant and dynamic economic development takes place; it is accompanied by numerous threats and crisis that happen on all the levels of economy, its organizations which influence biographies of people. Changeability and fluidity of contemporary reality is escalated by the complexity of contemporary times. It leads to complicating people's faith, results in specific due to Times approach to life and professional life which is less and less spontaneous and very often is a result of completing strategies and planned carers[24]. Planning careers cannot however guarantee its completion, on the contrary – such plans very often require verification and numerous corrections[25].

[23] Ibidem, p. 58.
[24] M. Suchar, *Kariera i rozwój zawodowy*, Gdańsk 2003, p. 52.
[25] A. Bańka, *Psychologiczne doradztwo karier*, Poznań 2007.

The youth on each level of general and professional education, as well as learning adults who have no professional experience have only a slight knowledge about the specifics of professional career they aspire to. Their choices and plans are connected mainly with the completion of own images about the future life, its conditions and standard, rarely with the possibilities of self-development[26]. The world of work is for them still abstract and alien. Even if there are conditions to get to know they have no motivation to be active in this sphere. What dominates in their projects is the expectation that job offers will fulfil their expectations as to the results (level of earnings) than conditions and character of work. Only the experience received on a job market contributes to taking into account in professional plans the characteristics of jib offers. Together with that a key role connected with completing requirements and expectations of a job market is to be fulfilled by adults' education. The subject that decides about its cope and themes is usually the employee himself[27]. Its character forms and offers have to be diversified and flexible, allowing creation of individual educational paths. It does not matter if it is completed by formal, non-formal or informal way. Co-occurrence of different forms of education and their diversity are not that important as their availability and flexibility which allows being available for people who need it.

The diversity of possibilities to complete and individual way to professional work may contribute to projecting own future taking into account the real expectations of the world of work[28]. In such projects a key role is ascribed to continuous education which influences the completed patterns of life[29]. By its intervention in different professional situations, impossible to be foreseen earlier, there is a possibility to verify and enlarge the scope of competencies due to the current requirements resulting from certain tasks that the employee has to fulfil. Mobile job market creates employees whose 'potential is not knowledge but static skills, unchangeable ones but a constant flow of new information, constant (self) education, widening ones cognitive horizons, searching for new solutions'[30]. Readiness for education is a condition of organization's and its units' success. 'Where there is a vision, people constantly learn and not only because they are told to do so but because they want to'[31]. The meaning of continuous education is not restricted to raising competencies of individuals but it is important sue to the fact that

[26] E. Solarczyk-Ambrozik, *Kształcenie ustawiczne w perspektywie globalnej i lokalnej. Między wymogami rynku a indywidualnymi strategiami edukacyjnymi*, Poznań 2004, p. 74.

[27] J. Kargul, op. cit., p. 138.

[28] M. Prawda, *Cykl życia jednostki a wartość pracy*, Wrocław-Warszawa-Kraków-Gdańsk 1987.

[29] E. Hajduk, *Wzory przebiegu życia*, Zielona Góra 1996, p. 97.

[30] P. Krzychała, *Ryzyko własnego życia. Indywidualizacja w późnej nowoczesności*, Wrocław 2007, p. 138.

[31] P.M. Senge, op. cit., p. 22.

'education is not a clear process of transferring information, but a social process which is completed by interaction of learning individuals which leads to the creation of a so called social capital'[32]. It is also very important form the point of view of radical changes in economy and culture. Among different forecasts concerning the future one may encounter a vision of a third industrial revolution[33]. Even if this original and probable concept will not fully take place it surely shows an undiscovered today and difficult to foresee future of human beings. It points to a great meaning of education as a way to overcome problems, to change and be flexible in the individual and social dimension.

Bibliography

Bańka A., *Psychologiczne doradztwo karier*, Poznań 2007.

Baraniak B., *Ramy kwalifikacji zawodowych nowym obszarem badań poradnictwa zawodowego*, [in:] R. Parzęcki (ed.), *Poradnictwo zawodowe w teorii i praktyce*, Gdańsk 2010.

Bauman Z., *Płynna nowoczesność*, Kraków 2006.

Bauman Z., *Płynne życie*, Kraków 2007.

Beck U., *Społeczeństwo ryzyka. W drodze do innej rzeczywistości*, Warszawa 2002.

Bednarczyk H., *Zintegrowany wielopoziomowy system ustawicznej edukacji zawodowej*, [in:] H. Bednarczyk, L. Łopacińska, A.M. Charrauda (ed.), *Kształcenie zawodowe w kontekście Europejskich Ram Kwalifikacji*, Radom 2009.

Chojnicki Z., *Charakter i rola wiedzy naukowej w rozwoju społeczno-gospodarczym*, [in:] *Gospodarka oparta na wiedzy. Perspektywy Banku Światowego*, A. Kukliński (ed.), Warszawa 2003.

Denek K., *Uniwersytet w perspektywie społeczeństwa wiedzy. Nauka i edukacja w uniwersytecie XXI wieku*, Poznań 2011.

Drucker P.F., *Społeczeństwo prokapitalistyczne*, Warszawa 1999.

Dzieńdziura K., *O potrzebie kształcenia ustawicznego w sytuacji zmian cywilizacyjnych*, „Zeszyty Naukowe" no 7, *Nauczanie w szkołach zawodowych w dobie integracji europejskiej*, Wrocław 2001.

Frątczak E., *Droga życiowa (Biografia życiowa, rodzinna i migracyjna)*, Warszawa 1989.

Gerlach R., *Kształcenie ustawiczne przeciw marginalizacji i wykluczeniu*, [in:] B. Baraniak (ed.), *Wartości w pedagogice pracy*, Warszawa-Radom 2008.

Giddens A., *Socjologia*, Warszawa 2006.

Hajduk E., *Wzory przebiegu życia*, Zielona Góra 1996.

[32] Z. Chojnicki, *Charakter i rola wiedzy naukowej w rozwoju społeczno-gospodarczym*, [in:] A. Kukliński (ed.), *Gospodarka oparta na wiedzy. Perspektywy Banku Światowego*, Warszawa 2003, p. 314.

[33] J. Rifkin, *Trzecia rewolucja przemysłowa. Jak lateralny model władzy inspiruje całe pokolenie i zmienia oblicze świata*, Katowice 2012.

Kargul J., *Obszary pozaformalnej i nieformalnej edukacji dorosłych. Przesłanki do budowy teorii edukacji całożyciowej*, Wrocław 2005.
Krzychała P., *Ryzyko własnego życia. Indywidualizacja w późnej nowoczesności*, Wrocław 2007.
Kryńska E (ed.), *Flexicurity w Polsce. Diagnoza i rekomendacje. Raport końcowy z badań*, Warszawa 2010.
Nowacki T., *Kształcenie ogólne a postęp nauki i techniki*, [in:] T. Nowacki (ed.), *Szkoła a postęp techniczny*, Warszawa 1962.
Nowacki T., *Praca ludzka. Analiza pojęcia*, Radom 2008.
Nowacki T., *Zawodoznawstwo*, Radom 2003.
Okoń W., *Podstawy wykształcenia ogólnego*, Warszawa 1976.
Piorunek M., *Bieg życia zawodowego człowieka. Kontekst transformacji kulturowych*, Poznań 2009.
Prawda M., *Cykl życia jednostki a wartość pracy*, Warszawa-Kraków-Gdańsk 1987.
Półturzycki J., *Pedagogika dorosłych i jej wskazania dla edukacji dorosłych*, [in:] T. Aleksander, T. Barwińska (ed.), *Stan i perspektywy rozwoju refleksji nad edukacja dorosłych*, Kraków-Radom 2007.
Rifkin J., *Koniec pracy. Schyłek siły roboczej na świecie i początek ery postrynkowej*, Wrocław 2001.
Rifkin J., *Trzecia rewolucja przemysłowa. Jak lateralny model władzy inspiruje całe pokolenie i zmienia oblicze świata*, Katowice 2012.
Robbins P.P., *Zachowania w organizacji*, Warszawa 1998.
Senge P.M., *Piąta dyscyplina. Teoria i praktyka organizacji uczących się*, Warszawa 1998.
Solarczyk-Ambrozik E., *Kształcenie ustawiczne w perspektywie globalnej i lokalnej. Między wymogami rynku a indywidualnymi strategiami edukacyjnymi*, Poznań 2004.
Suchar M., *Kariera i rozwój zawodowy*, Gdańsk 2003.
Tomaszewska-Lipiec R., *Zakład pracy jako organizacja ucząca się – wybrane wyniki badań*, „Szkoła – Zawód – Praca" No 1/2010.
Wołk Z., *Kultura pracy, etyka i kariera zawodowa*, Radom 2009.

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Career development in the context of global, organization and employees' requirements
Methodological remarks

Professiology in the contexy of work sciences

Career development is becoming an increasingly decisive category in a person's development. This category is subject to theoretical analysis and practical studies more often than others; it is the basis for scientific treatises. Analyses and practical measures with respect to a person's career development constitute a basis for professiological theories. The general principles of professiology as the science of career development, shaped by K. Czarniecki[1], define the goals and tasks, as well as the subject and problem areas of this new scientific discipline. Professiology is included into the body of work sciences. The deepened analysis of the relationships of the basic problem areas of work sciences, as made by Z. Wiatrowski, indicate that these are determined by the following:

– Labour Pedagogy,
– Knowledge of Professions,
– Knowledge of Counselling,
– Professiology[2].

The process of employees' preparation and improvement progresses within the framework of the problem areas, as presented. An analysis of the objective scopes of these scientific disciplines suggests a need to include one more problem area connected with shaping work conditions, as well as occupational personality, actively influencing the employee's behaviour, both in relation to himself/herself, the team of co-workers, and safety in the working environment. This sphere is ergonomics, which subject matter was defined by our fellow countryman –

[1] As cited in: K. Czarnecki, *Profesjologia w zarysie (Zarys nauki o rozwoju zawodowym człowieka)*, Warszawa 1986.

[2] Z. Wiatrowski, *Działalność zawodoznawcza w kontekście rozwoju zawodowego czlowieka*, „Problemy Profesjologii" No 1/2005, p. 25-33.

Wojciech Jastrzebowski[3] – as early as 156 years ago. Ergonomics poses a particular challenge today, for it responds to the social needs of work. We are considering work as a heterotelic value here, as leading to material values, as well as spiritual ones, and comprising a basis for achieving other values[4]. Ergonomics constitutes a basis for designing work, work environment, manufacture, rest, recreation, etc. It remains an element of the contents of the educational process and career development. The line of ergonomic development is taking shape in the process of occupational and employee education. Thus, the basic scope of work science, first of all within the educational dimension, includes the relationships of the problem areas, as presented below.

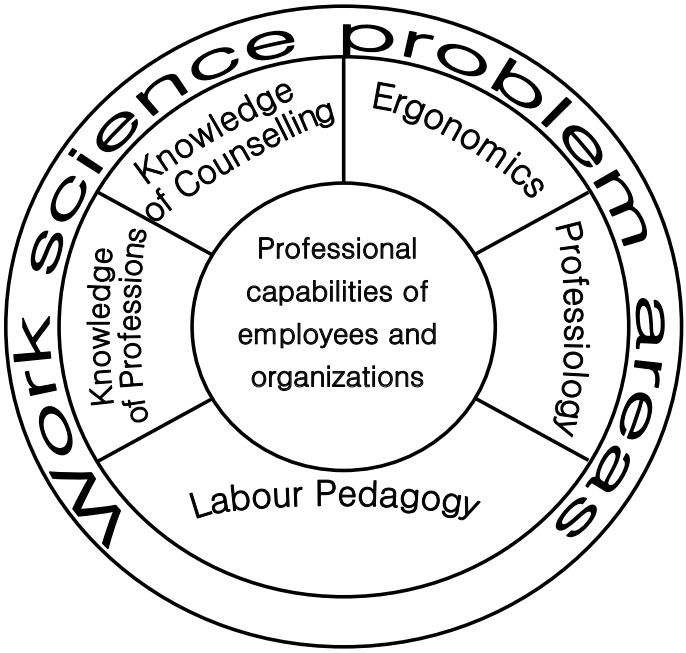

Diagram 1. Work science problem areas

The multilayered discussion concerning the tasks and significance of the abovementioned work sciences expressly assigns a leading role within these problem areas of work sciences to labour pedagogy as the theoretical and practical basis for career preparation and development in the professional world.

[3] W. Jastrzebowski, *Rys ergonomii, czyli nauki o pracy*, „Tygodnik Przyroda", Przemyśl-Poznań 1857.

[4] As cited in: T. Nowacki, *Miejsce pracy w systemie wartości innego człowieka*, „Nauka o Pracy", z. II, ed. W. Rachalska, Częstochowa 1990, p. 18 and subsequent.

The process of shaping employee activity, the requirements imposed upon the employee and organization necessitate advancing theses, both theoretical and practical ones, which enable influencing the course of employees' career development[5].

Employees' career development – conditions

Conceiving the problem of career preparation and development, it needs to be emphasized that these issues require a new diagnosis of the reality within which the process continues of preparing for a career and acquiring qualifications as well as professional and social competences within the workplace. At this stage of our considerations, we assign a particular role to the problem of career development. We assume, therefore, that it is a lifelong process, consisting of acquiring qualifications and professional and social competences, as necessary for active operation within the occupational and non-occupational area (or areas). Such an approach necessitates possession of psychophysical capabilities providing for effective, efficient performance of duties and solving problems in various occupational situations, creative influence upon the course of work, as performed, work environment and one's own development in general.

This is a requirement of the socio-economic space within which professional work is pursued, as inspired by the globalization processes. Achievements in various areas of science and practice, such as biology, economics, information technology, engineering, on the one hand, have resulted in revaluation within the realm of education and practical activity, both individually and socially. Such events, apart from indisputable achievements for human development, also generate hitherto unknown threats in peoples' lives (e.g. ambiguity concerning one's activity, stress, problems with decision making, etc.). Consequently, our occupational activity at present requires special preparation to communicate within this complex reality. A person's non-occupational life changes as well. The world order is regulated by peoples' relationships with the surrounding reality. Establishing relations with other people is one of the basic challenges which a modern individual has to face, pursuing his/her ambitions, aspirations, needs. Striving to take appropriate steps up the career ladder, one must rise to challenges which, as far as one's career, concern first of all the following:

– selection and mastering of a profession and a job,
– occupational activity,
– career development.

[5] As cited in: B. Pietrulewicz, *Pedagogika pracy a kształtowanie aktywności pracowniczej*, [in:] Z. Wiatrowski (ed.), *Pedagogika i andragogika w konstelacji europejskiej i globalnej*, Włocławek 2006.

The present assigns a particular sense to these problems, since both educational and professional decisions, work systems and ability to pursue one's individual aspirations are factors which determine a worker's success, also in shaping the operation of the organization within which he/she operates and his/her non-occupational activity. Recognizing the subjectivity of work, we see that work remains, undeniably, the space within which a person "becomes a person in a way" [John Paul II]. In some sense, work makes a person. This should be a message for establishing a humanized system of preparation for work, work conditions, career development.

A crucial issue, basic in the context of professional work, for an individual and his/her occupational activity is acquiring a profession. It seems that such problems, as occurring, are important here:

1. Professional preparation with respect to adequate level of schooling and professional development should concern professional areas rather than the job itself.
2. Acquiring professional qualifications should be supported with key competences offering an opportunity to be creative with respect to one's occupational activity, as well as labour market mobility.

Education (career preparation and development) is a multidimensional space which co-determines one's job and professional work. It attempts to meet the requirements it faces (both individual and social ones). Research and analyses of the problem, as pursued, indicate that:

– The contents of education and career development are not being adapted to socio-economic needs and requirements as fast as they should. Occupational maladjustment still remains a matter of demand for change;
– There is no lifelong professional education concept within the dimensions of global change;
– Organization of the process of acquisition of professional competences does not fully meet regional, social needs[6].

The issues outlined above alone indicate that the problem remains concerning career preparation and development so that the individual himself/herself, the organization, the social processes within the society, were able to meet the requirements in this respect.

[6] As cited in: Cz. Plewka, *Człowiek – obywatel – pracownik w realiach gospodarki opartej na wiedzy*, [in:] Cz. Plewka, H. Bednarczyk (eds), *Człowiek – obywatel – pracownik na rynku pracy*, Szczecin 2011, p. 20-32; B. Pietrulewicz, *Problemy edukacyjne i profesjologiczne w rozwoju organizacji*, [in:] R. Gerlach (ed.), *Edukacja i praca. Konteksty – wyzwania – antynomie*, Bydgoszcz 2008; B. Pietrulewicz, *Multipotencje człowieka w rozwoju zawodowym*, „Problemy Profesjologii", No 1/2005 et al.

The problems of supporting an individual's career development remain an important issue for the process of becoming a professional. One should indicate, first of all, the need to:

– improve the process of occupational counselling to match the requirements of a person at every stage of career development (education, professional work, being between jobs),
– combine, to a greater extent than now, education with occupational counselling,
– to popularize counselling (e.g. for inhabitants of rural areas) so that it is available for every category of individuals.

Also while entering a workplace, an employee needs to be supported as far as his/her professional activity, the more so that the situation in the labour market is not becoming stable. Therefore, it is necessary:

– to determine the tasks of the social work environment within an individual's career development,
– to define the influence of the material and social interrelations of work environment upon the course of employees' professional career and career development,
– to determine the practicability of shaping employees' professional capabilities within the organization,
– to establish the role of the workplace in the concepts of employees' personal and career development.

Focusing on the triad: education, employee, organization – demands that new diagnoses be made, despite the fact that these problems have been analyzed by a great number of researchers. Nevertheless, the concept of the problems, as outlined by us, shows that these are the basic issues which determine employees' success and professional activity within the globalization changes, as occurring. Considering these against the idea of life long career development is a need and a must today. The situation requires then that problems be dealt with which may improve work processes, the operation of an organization, employees' occupational and non-occupational activity.

Taking the present state of affairs, professiological research should concentrate on:

1. Defining the goals and tasks of the process of career development in the changing space of professional life;
2. These elements of the process of career development need to be analyzed which are connected with:
   – the transition from the system of education to the workplace environment,
   – the transition from the area of the present job to a new workplace environment,
   – the transition from the between-jobs environment to the workplace environment.

The above processed have a significant impact upon the course of employee's careers. The educational and professional transitions, as indicated, refer to particularly important employee situations which call for support from labour market advisory organizations. This is, obviously, to suggest a certain direction in which principal activities should go. It seems that the complexity of the problem necessitates further, deepened analyses. A number of organizational issues remain to be determined. An example may be the insufficient record of qualifications and professional competences in a CV. For both the individual and the organization, full awareness of qualifications and professional competences, as possessed, is indispensable. Moreover, educational organizations would find determination of one's professional capabilities useful with respect to their educational and training activity, more effective in shaping professional profiles, both for the employee and the workplace. The passport, the professiogram, the career development log – these are needed considering the swiftly changing reality of ours.

Such systemic grasp of the processes in questions (work and career development) also determine adequately changed or newly defined operation of institutions and organizations responsible for the course of an individual's education and career which support these processes. Thus, one should:

- Modify the system of continuing education so that it assumes responsibility for real employee career preparation and development which meets the needs. Closer connection of the system of education with the system of work and employment is required;
- Include employee education centres, as organized to assist small business, into the career development system. These organizations could improve employees' professional capabilities better than now, as well as enhance mobility of organizations, making use of their educational, counselling, agency potential for the purpose of employees' career development and effectiveness of operation of organizations. Entrepreneurs have expressed their interest in research, as done in this respect, which also confirmed its importance for employees and organizations[7];
- Consider problems of education with respect to ergonomics, extending this education to include work professionalization issues, thus improving employees' qualifications and competences and making employee education be more focused on the needs of employees and organizations.

The organizational and methodological problems, as outlined above, refer to the practical operation of employees and organizations. In order to solve the above

[7] B. Pietrulewicz, *Problemy edukacyjne…*; idem, *Pedagogika pracy…*; B. Pietrulewicz, Z. Wołk, *Edukacja pracownicza – stan i propozycje rozwiązań*, „Zastosowania Ergonomii", Special Edition 2003, p. 103-109.

mentioned problems, there remain theoretical issues which constitute the basis for practical activities.

First and most of all, the problem of the contents of career preparation and development should meet the current requirements of both theory and practice with respect to specific tasks and professional, social situations. Therefore, it is required that:

– The training curriculum be developed, as adequate for particular positions. This demands that the scope of contents, as presented, be verified on an ongoing basis, in the context of global and individual requirements for the workplace and the occupational area;
– The social capital of employees be shaped, determining the strength and potential of the organization. One should emphasize the necessity to include into employees' education an advisory system with respect to the question of social problem solving, communication, stress management, entrepreneurship, creativity, etc.

Final remarks

Theoretical solutions and practical action taken, as outlined in this study, comprise the most important issues, in our opinion, which are necessary to improve work and organization processes. The above actions, framed into a system of activities, may bring results for the employee and the organization which will influence their work significantly. For employees, these would include:

– Career development security and, as a result, an increase in the intellectual and social capital;
– Effective dealing with professional tasks;
– An increase in the level of entrepreneurship, creativity and innovation in shaping one's workplace environment and career;
– Increased opportunities in creating oneself in the labour and employment market.

Such activities might take better advantage of employees' professional capabilities, the organization's growth potential, enable safer operation within the socio-economic system.

This comes from the fact that the employer:

– would obtain more complete information on the employees' intellectual and social capital,
– could plan the employees' career development better, thus shape the employees' efficiency, mobility, creativity faster,
– would shape the strategy of development of the organization more efficiently and effectively.

* * *

The educational, organizational, counselling, etc. processes within the operation of an organization may be effective if they are assisted by and supported with adequate legal changes enabling the employer to take on workers in a more flexible way, to take advantage of tax allowances, to invest in systemic organization professionalization solutions. Such an incentive scheme works as a particular stimulus thanks to which outlays, for the employee, the employer and the State, are reimbursed quickly. In the system of continuing education the need remains to create professiological centres supporting small organizations with respect to educational matters, running a business, HR issues, cooperation with the surrounding environment, etc. Such an approach will enable employees and organizations to meet the needs of globalization defining new requirements for employees and organizations (efficiency, thrift, competitiveness). This is also a concept of solving the issues of employee qualifications and competences, a new approach to the problems of the labour market (unemployment), development of creative, entrepreneurial attitudes of people towards work and employment.

Bibliography

Czarnecki K., *Profesjologia w zarysie (Zarys nauki o rozwoju zawodowym człowieka)*, Warszawa 1986.

Jastrzebowski W., *Rys ergonomii, czyli nauki o pracy*, „Tygodnik Przyroda", Przemyśl-Poznań 1857.

Nowacki T., *Miejsce pracy w systemie wartości innego człowieka*, „Nauka o Pracy", z. II, (ed.) W. Rachalska, Częstochowa 1990.

Pietrulewicz B., Wołk Z., *Edukacja pracownicza – stan i propozycje rozwiązań*, „Zastosowania Ergonomii", Special Edition 2003.

Pietrulewicz B., *Multipotencje człowieka w rozwoju zawodowym*, „Problemy Profesjologii" No 1/2005.

Pietrulewicz B., *Pedagogika pracy a kształtowanie aktywności pracowniczej*, [in:] Z. Wiatrowski (ed.), *Pedagogika i andragogika w konstelacji europejskiej i globalnej*, Włocławek 2006.

Pietrulewicz B., *Problemy edukacyjne i profesjologiczne w rozwoju organizacji*, [in:] R. Gerlach (ed.), *Edukacja i praca. Konteksty – wyzwania – antynomie*, Bydgoszcz 2008.

Plewka Cz., *Człowiek – obywatel – pracownik w realiach gospodarki opartej na wiedzy*, [in:] Cz. Plewka, H. Bednarczyk (eds), *Człowiek – obywatel – pracownik na rynku pracy*, Szczecin 2011.

Wiatrowski Z., *Działalność zawodoznawcza w kontekście rozwoju zawodowego człowieka*, „Problemy Profesjologii" No 1/2005.

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Psycho-pedagogical aspects of employee's professional development

A person's career is influenced by a number of factors. These include among others: values that a person prefers; individual features; cultural factors; internal possibilities. Each of these factors to a different extent influences the choices made by an individual, it also determines individual's whole professional development. A human being has at his/her disposal some features, i.e. has certain physical features such as: the state of health, functioning of specific internal body organs, especially the nervous system. A person also has a certain level of psychical features. What is currently highlighted is a specific role of a system of values that a person uses in life. It is pointed out nowadays that being in a role of an employee a person should have such system of vales that would refer to flexibility in adjusting to the requirements of the market economy. This system should be provided by a period devoted to individual's professional education.

It should be noticed that there is a close relationship between the adopted system of values, needs, competencies of an individual and a chosen path of professional life. Thus a thesis can be formed about the importance of shaping a certain system of values, including professional values concerning the choice of suitable forms and methods of preparing a person for professional self-development including: professional activation. It refers to: motivation, readiness for professional tasks, and activity in a chosen area. Professional values in an objective sense are of a universal character and can be seen as general social norms which specify the wanted features of subjects, aims as well as ideals. On the other hand, professional values in a subjective sense, as such being subject of this article, are treated as basic elements of human personality. To make the personality of an employee competitive nowadays the employee should have a system of market values, scope of which includes personal features, knowledge of technologies and software, knowledge of languages; certain professional experience is important as well. The highlighted values should be provided in the period of life which a person devotes to vocational education.

Mobility of a society, new professions, changes on a job market and diversity of surrounding us socio-economic conditions are such elements of a reality which never before in a history played such an important role in preparing a person for professional life. Finding oneself in the dynamics of the changeable world is a huge challenge for an employee nowadays[1]. Human personality has to be shaped throughout life and especially in the period of childhood and youth by numerous external stimuli, as well as individual's activity. Numerous biophysical features are of a great importance as well[2]. It can be stated that the ability to adjust to contemporary socio-economical requirements is a major competence demanded by employers. They expect: ability to learn, communicate, ability to cooperate and adapt fast. It seems that the problems in adjusting to the changes on the job market result from the lack of the shaped employee's personality to face the challenges and need of market economy.

One of the most important theories adopted by work psychologists and work pedagogy says that: 'human professional development is a compromise between psychophysical possibilities of an individual and socio-economic conditions in which the individual is functioning'[3]. Another thesis can be thus formed that it is important for vocational education to shape in a person such a personality, connected with the system of employee's values, which will be connected with activity and effective development and professional career.

At this stage of considerations it is worth establishing differences in defining 'professional development' and 'professional career'. E. Podoska-Filipowicz states that: 'the notions – professional development and professional career should not be used interchangeably; professional career can be treated as a kind of attitude of human professional career. Most of well-known theories of professional development assume that it lasts throughout human life; some stages were distinguished starting from childhood ending with the retirement period. Professional career is associated with the period of professional activity though it is said about orientation on a career, e.g.: in the period of education at school or studies. Professional career understood as 'climbing' different professional stages takes place mainly in the period of human professional activity'[4].

Individual's activity is: 'a separate factor connected with the quality of the nervous system so the temper which is an inborn feature. However, directing this

[1] M. Grodek, *Praca i edukacja a wyzwania ponowoczesności*, „Edukacja i Dialog" No 8/październik 2005.

[2] Polskie Towarzystwo Psychologiczne, wersja elektroniczna: http://www.psychologia.edu.pl/index.php?dz=slownik&op=spis&id=2113

[3] W. Szewczuk (ed.), *Encyklopedia psychologii*, Warszawa 1998, p. 766.

[4] E. Podoska-Filipowicz, *Rozwój zawodowy czy kariera zawodowa*, [in:] S.M. Kwiatkowski (ed.), *Edukacja ustawiczna – wymiar teoretyczny i praktyczny*, Warszawa 2008, p. 163.

activity does not depend on conditions an individual is living in, moment directing its actions, the acquired system of values'[5]. Dependently on the socio-economic conditions, in which an individual lives, influences, type and number of stimulus an individual encounters and own reactions to them, individual's professional path is shaped. The level of individual's activity determines the level of the previously mentioned compromise. External conditions may enable activity, trigger it or stop it. However, both unorganized influence of the nearest environment, mass media, scientific and technological developments, as well as a planned activity of a family and school must be taken into account when one considers the quality of individual's professional development.

Professional path is a path of a specific person who should plan it with consciousness of possible results of the undertook decisions. However, the participation of the environment is unavoidable and necessary. Thus it should be correct and well-thought.

Z. Wiatrowski highlights that: 'In the contemporary professional activity the importance of intellectual activities will grow in meaning, even more that the information civilization is spreading. It does not mean however that at any time a person will be let free of performing numerous simple and physical activities. Intellectual activities lead us to a category of work, especially work of people with high professional qualifications. Since we talk about work in a global sense, it is necessary to be aware that it has a number of faces, including creative work, services and scientific work, but also managerial and steering works, organizational ones, work referred to learning and studying, and finally works in the garden, hobbies and many other'[6].

A notion of the role each person plays, being an integral part of the working organization, deserves a lot of attention. It is a key factor and way of developing competencies required at a job market. Personal features of the contemporary person can be presented on the base of five factors personality model by P. Szarota. This model uses, as the name suggests, five main factors (features) and sixty adjectives. Each factor (feature) is thus described by twelve adjectives:

1. Expedience: big-hearted, obliging, trusting, understandable, good-natured, caring, tender, generous, hospitable, supportive, noble, honest.
2. Conscientiousness: careful, meticulous, thorough, systematic, solid, studious, dutiful, conscientious, precise, diligent, considerate, responsible
3. Dynamics: fast, agile, bold, effective, courageous, dynamic, energetic, enterprising, active, clever, busy.

[5] W. Szewczuk (ed.), op. cit., p. 767.

[6] Z. Wiatrowski, *Znane i nieznane wyznaczniki edukacji zawodowej w XXI wieku*, [in:] R. Gerlach (ed.), *Edukacja zawodowa w aspekcie przemian społeczno-gospodarczych: wyzwania, szanse, zagrożenia*, Bydgoszcz 2007, p. 16-32.

4. Excitability: explosive, impulsive, excitable, sharp, hot-headed, hot-tempered, impetuous, emotional, nervous, discomposed, choleric.
5. Intellect: smart, talented, creative, teachable, well-read, cute, thoughtful, wise, intelligent, capable, talented, visionary[7].

As there is a greater and greater competition in many of the job market sectors the employees are expected to reach a maximum effectiveness of work in the shortest time. It may be enforced by providing adaptive programme which: motivates employees, builds in them a feeling of having skills, and allows employees at all levels to undertake their own decisions.

It has to be highlighted that a system of vocational education very often does not guarantee its graduates acquiring this type of competencies[8].

The results of a research conducted within this subject say that the majority of future professionals perceive work in old-fashioned categories, they cannot connect the importance of their own personal potential with success in professional life, they do not perceive the importance of contemporary motivation in using their own creative potential as a source of creative ideas and effective professional development. At present graduates who enter the job market are not very often well-oriented in modern trends and market forecasts. Together with the changes of a job market and requirements put forward by it what needs to be changed are not only knowledge and skills but human attitudes, lifestyle and the model of human professional development.

Inevitable seems to be such professional education which will be updated together with socio-economic needs, and will as well involve shaping in their future employees such skills and features which will not only guarantee efficient performance of job tasks but would also allow effective functioning in the contemporary work conditions.

Vocational education, both the school one an out-of-school one, must be thus directed at matching the personality with the present working conditions based on the rules of professional activation, adjusting courses of education, its topics and methods to the current socio-economic situation, suitable choice of professional path. Thus the shape of the compromise which is a human professional path is a result of a complex process. Securing the quality of work, effective development of human professional life requires from education projecting forms of professional activation referring to a future employee on the base of individual forms of psycho-pedagogical help concerning:

[7] R. Gerlach, *Reforma edukacji szansą dla kształcenia zawodowego?*, [in:] A. Karpińska (ed.), *Edukacja w dialogu i reformie*, Białystok 2002, p. 313.

[8] Portal Pracuj.pl, *Praca bez podstaw?*, http://www.pracuj.pl/kariera-rynek-pracy-artykuly_1062.htm#top, z dnia 28.02.2005.

– knowing the personality of the future employee, employee's cognitive and socio-emotional resources;
– professional activation;
– development of motivation of achievements;
– the development of the capacity to communicate, work effectively within a group;
– deepening the awareness of the consciousness connected with todayąs requirements and needs of a market economy, verification of own personal and professional experience;
– development of the responsibility for the results of own work, professional independence, creativity, creative abilities and skills;
– development of innovation and entrepreneurship.

The main aim of vocational education, especially of the young generation which will enter the job market is aiding the changes and the process of learning by using individual psycho-pedagogical help in the future professional development. Crucial seem to be the following:

– managing of the new socio-economic roles;
– real evaluation of personality, abilities and skills;
– development of modern professional thinking;
– shaping oneself as a competitive employee;
– development of life and professional activity (ability to adequately and operatively react to the changes happening at a job market);
– mastering the modern system of professional competence;
– the preparation of the future employee to real working conditions, specifics jobs;
– readiness to constant correction of own professional development program (Fig. 1)[9].

Person's readiness to a real self-evaluation is of a great importance in one's professional life. The level and character of the self-evaluation as a complex system of psychical shaping of personality is an important parameter which may have influence on one's professional achievements. The level of self-identity in the context of development may be high, medium or low which is connected with the level of personality development. It needs to be highlighted that the level of own identity influences mainly human direction of activity as well as the character of self-evaluation – stability and dynamics of behaviour and activity of an individual, the level of trusting others. Only by the character of self-evaluation of one own skills and abilities a suitable choice of professional way can be made. These processes are

[9] W. Łozowiecka, *Problemy adaptacji zawodowej na współczesnym rynku pracy*, „Problemy Profesjologii" No 1/2006, p. 175-185.

also influenced by individual ability to reflect. Moreover, in achieving professional success a huge role is played by personal self-regulation. Professional development is a process of constant overcoming of internal and external challenges and difficulties. Prophylaxis within this aspect requires a special preparation referring to the prevention of will weakness, inability to be organized, control oneself and own emotions and behaviour, securing the persistency and resistance to stress.

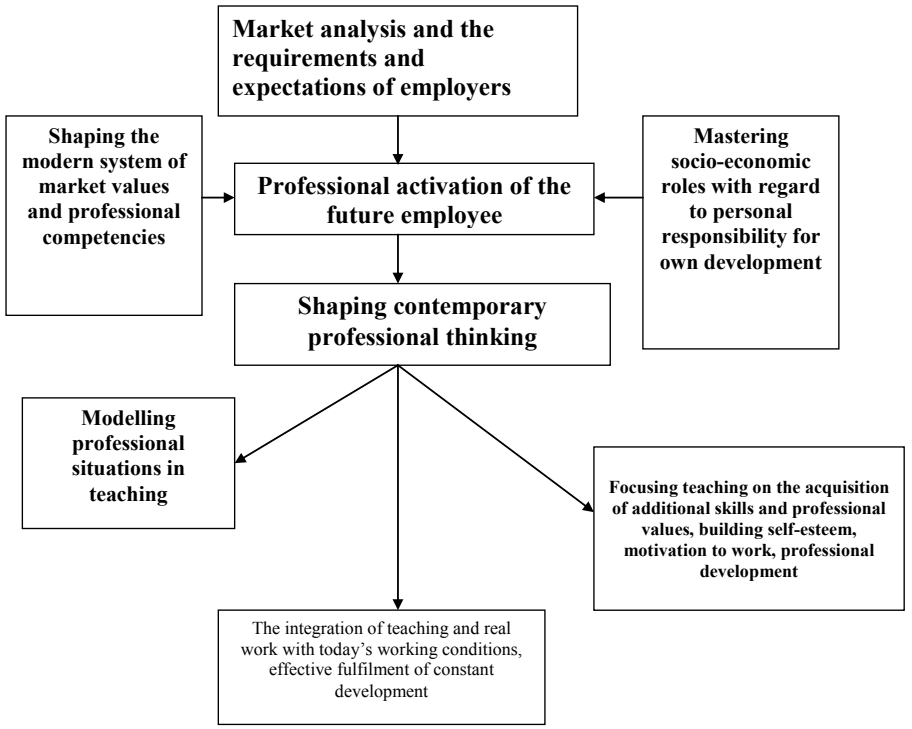

Fig. 1. General model of psycho-pedagogical help in professional development of the future employee (own source)

Personality is of a changeable character and its shaping depends on individual's activities based on the rules of certain professional thinking style.

R. Gerlach highlights that contemporary thinking does not close in the schema of instrumental-compensation functions within knowledge and professional skills but also creates conditions for a holistic concept of a human being, human pursuit to self-fulfilment as a social subject which has certain skills, abilities, motivation, activity or ambition[10].

[10] R. Gerlach, *Kwalifikacje nauczycieli przedmiotów zawodowych*, [in:] S.M. Kwiatkowski (ed.), *Kwalifikacje zawodowe na współczesnym rynku pracy*, Warszawa 2004, p. 94.

Crucial in securing the effective professional development of the future employee is shaping the contemporary professional thinking in a form of an algorithm which involves:

– analysis of problematic professional situations;
– analysis and explanation of the problem-solving factors for securing competitive work product ability;
– comparative analysis of professional experience;
– contrast and analysis of different thoughts on effective solutions to professional problems;
– undertaking professional decisions;
– forecasting the results of professional activity[11].

The above mentioned elements connected with own experience allow to offer the following scheme of psycho-pedagogical conditions of shaping modern professional thinking as a base of human professional development:

1. learning in the process of learning-teaching about the real socio-economic conditions;
2. securing the suitable perception of need and requirements of employers;
3. shaping communicatively, ability to cooperate within a group;
4. shaping functional professional skills with analysis and forecasting of work results.

It has to be highlighted that a teacher plays a key role in preparing a person for vocational life in new working conditions, with shaping a certain system of professional and private values, referring to self-efficiency. Teacher's competencies are a deciding factor which conditions human readiness to effective professional development, establishes orientation on oneself and realistic ways of achieving professional success, especially: adjusting to the market environment by shaping market values (conscious responsibility for work results and own future); development of emotional competencies: interpersonal communication, tolerance of personality, its ability to keep open contact, effective collaboration.

* * *

To conclude with it can be stated that all the changes in the structure of a market economy which is currently changing into a new model – knowledge based economy – make it necessary to shape within the vocational education both school and out-of-school one, employees personality based on personal competencies and professional values.

[11] W. Łozowiecka, *Psychologiczno-pedagogiczne warunki kształtowania współczesnego typu myślenia specjalisty młodszego*, [in:] *Naukowe notatki Winnickiego Państwowego Uniwersytetu im. Kociubińskiego*, Seria: Pedagogika i psychologia, 2000, Wyp., 3, p. 142-147.

A crucial element of preparing a person for professional life within vocational education is helping in adjusting to new socio-economical roles in which the person will exist; shaping of a system of professional values; professional thinking; development of activity and professional self-efficiency as well as readiness for effective work. The mentioned psycho-pedagogical competencies shall this way become a kind of a basis of professional development. Preparing a person for real professional life cannot concentrate only on providing knowledge, but most of all should be focused on shaping skills and attitudes. We all have to learn nowadays how not to be passive observers of socio-economic life. These aims should be completed from the beginning of education, especially vocational one, by implementing self-efficiency within getting information, planning, organizing and analysis of the results of own work. It is important to evaluate ourselves and our results constantly, strengthening of the forces in us, stimulating the physical, psychical development as well as the spiritual one and permanent development of the potential competencies in us as main determiners of effective professional development.

Bibliography

Gerlach R., *Kwalifikacje nauczycieli przedmiotów zawodowych*, [in:] S.M. Kwiatkowski (ed.), *Kwalifikacje zawodowe na współczesnym rynku pracy*, Warszawa 2004.

Gerlach R., *Reforma edukacji szansą dla kształcenia zawodowego?*, [in:] A. Karpińska (ed.), *Edukacja w dialogu i reformie*, Białystok 2002.

Grodek M., *Praca i edukacja a wyzwania ponowoczesności*, „Edukacja i Dialog" No. 8/2005.

Łozowiecka W., *Psychologiczno-pedagogiczne warunki kształtowania współczesnego typu myślenia specjalisty młodszego*, [in:] *Naukowe notatki Winnickiego Państwowego Uniwersytetu im. Kociubińskiego*, Seria: Pedagogika i psychologia, Wyp. 3, 2000.

Łozowiecka W., *Problemy adaptacji zawodowej na współczesnym rynku pracy*, „Problemy Profesjologii" No 1/2006.

Podoska-Filipowicz E., *Rozwój zawodowy czy kariera zawodowa*, [in:] S.M. Kwiatkowski (ed.), *Edukacja ustawiczna – wymiar teoretyczny i praktyczny*, Warszawa 2008.

Polskie Towarzystwo Psychologiczne, wersja elektroniczna: http://www.psychologia.edu.pl/index.php?dz=slownik&op=spis&id=2113

Portal Pracuj.pl, *Praca bez podstaw?*, http://www.pracuj.pl/kariera-rynek-pracy-artykuly_1062.htm#top, z dnia 28.02.2005.

Szewczuk W. (ed.), *Encyklopedia psychologii*, Warszawa 1998.

Wiatrowski Z., *Znane i nieznane wyznaczniki edukacji zawodowej w XXI wieku*, [in:] R. Gerlach (ed.), *Edukacja zawodowa w aspekcie przemian społeczno-gospodarczych: wyzwania, szanse, zagrożenia*, Bydgoszcz 2007.

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Age management and employees' development

Throw a stone at a crowd and you'll hit an old person

The experience of growing old has always been observed with interest and now, when the human life span is getting longer and longer as a result of the dynamic civilisation progress, achievements of medicine, genetics, gerontology, etc. have been disclosing more and more factors determining the human ageing process. The present paper attempts to show the significance of age management as closely connected with the notions of 'a learning organisation' and 'the silver economy'.

The motto above, though seemingly funny, has become a fact worldwide. In 2005 the industrialised countries had as many as 15% of their population above the age of 65, and it is estimated that the number will have reached 26% by 2050[1]. For some time now the lengthening of human life has been observed and, therefore European and North American governments have decided to raise the retirement age for their citizens. However, it does not change the fact that the time spent in retirement has also increased. A trend observed in Poland called the 'early-exit culture' refers to decisions to retire and pass into professional inertia considerably early in life. In 2010 the employment rate for ages 55-64 amounted to 34% and was lower than the EU average by over 12 percentage points (Figure 1 below)[2].

The present difficult situation might be changed by the pension system reform launched in 2012 which aims at lengthening "worklife" and creating safe public pension system. The new act on pensions introduces gradual retirement transitions and equal retirement age for women and men. Starting in 2013 the age will be raised by three months every year. Thus, the target retirement age, i.e. 67, will be reached by women in 2040 and by men in 2020[3].

[1] E. Nieckula, *Zmierzch ery etatów*, http://coaching.focus.pl/2012/10/25/zmierzch-ery-etatow/ [accessed on 23.01.2013].

[2] U. Milewska-Marzyńska, *Aktywność zawodowa osób z grupy 50 plus*, No. 17, p. 2, www.obserwatorium.pracodawcyrp.pl [accessed on 17.01.2013].

[3] *Pension reform 2012*, www.mpips.gov.pl [accessed on 23.01.2013].

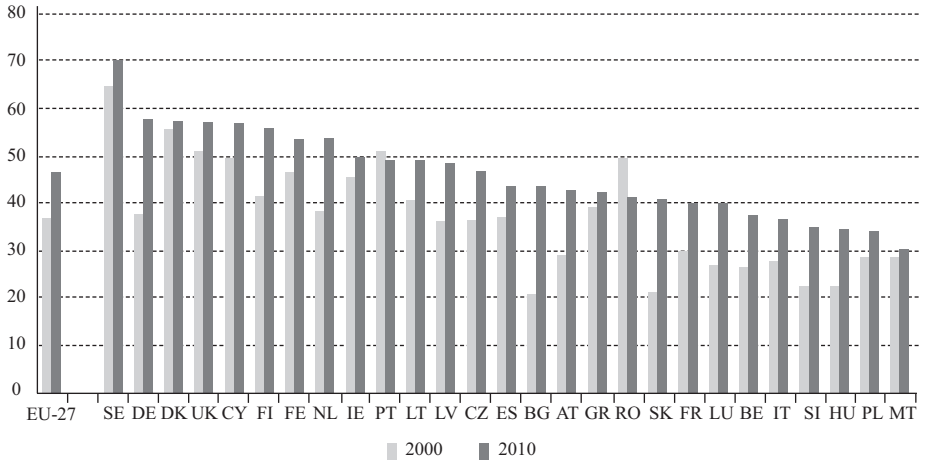

Fig. 1. Employment rate for ages 55-64 in the EU countries in 2000 and 2010 (%)
Source: U. Milewska-Marzyńska, *Aktywność zawodowa osób z grupy 50 plus*, Biuletyn obserwatorium regionalnych rynków pracy, No. 17, p. 2, www.obserwatorium.pracodawcyrp.pl

Definition of the ageing process

Ageing is a process that may give rise to fears, anxiety, feelings of uncertainty and concern. How many of us have been wondering when exactly the old age starts? When we are forty, fifty or seventy? Or perhaps when we have lost our young and fresh looks and we can see in the eyes of other people that the time to call ourselves elderly has already come?

The ageing process has not been strictly defined and it is impossible to determine the moment in the body development process which we can call the old age which, however, is an inescapable result of growing and ageing[4]. Ageing, as every other stage of life, follows from the human development as the progress never ends. The development – a continuous process integrated with social life processes – cannot be regarded as an inseparable part of any single stage of human life or delimited due to civilisation progress. It is just the development together with the transforming reality that forces the man to adapt to changing life conditions. The elderly are expected to actively reorganise their lives themselves and shape their existence in such a way as to feel its meaning and derive from it individual satisfaction[5]. The ageing process may be considered in its biological, mental or economic sense, however, the way the process advances depends not

[4] A. Zych, *Słownik gerontologii społecznej*, Warszawa 2001, p. 202.
[5] A. Chabior, *Edukacja w życiu ludzi starych – komunikat z badań*, „Edukacja" No. 4/1997, p. 101.

only on an individual but also on health, social and economic factors. Therefore, ageing people may be observed to resign, physically and mentally degrade, stagnate or turn to other people for help[6]. Ageing is a three-level phenomenon. Medical scientists describing the ageing process indicate mainly the biological area that is constant for every species. Ageing psychology draws attention to changes concerning personality degradation, withdrawing from contacts, feelings of being misunderstood or lonely. Social sciences specialists describe ageing as referring to changes in individuals' activity, in social and family roles and even in the material situation. The way a person ages in all respects depends of the ontogenetic development as well as genetic, social, cultural, psychological and ecological factors[7]. As the present paper focuses on questions of age management in its narrow sense, it is essential to define who should be regarded as an elderly or ageing person. As literature on age management presents no explicit definition, the concept of an ageing person used in the present study is based on ideas proposed by such scholars writing about age management issues as O. Czerniawska, A. Zych, B. Szatur-Jaworska or S. Steuden. Some authors of research and publications concerning the situation of the elderly on the labour market include into the ageing group people over 40 or 45; some researchers assume that the set age limit is 50 or 55 years of age, while others believe it is the retirement age, i.e. 60 or 65[8]. The World Health Organisation offers an interesting definition of the ageing describing them as people at the age of 45 and working. On the other hand, Polish research and publications attempting to define the concept describe the following criteria for recognizing a person as an ageing one. (…) The old age is assumed to begin about 60 or 65 years of age, what very often means the retirement age, and the time commonly referred to as the older age covers at present a period of over 40 years. (…) The old age is now divided into periods of early old age (called also advanced age, from 60 to 74), late old age (75-89) and very late old age (called also longevity, over the age of 90)[9]. However, A. Giza-Poleszczuk et al. (2008) defines ageing people as women at the age of 50 and over and men at 55 and more, i.e. people with not more than 5 more years left before retirement[10]. Nonetheless,

[6] K. Wiśniewska-Roszkowska, *Starość, jako zadanie*, Warszawa 1989, p. 7.

[7] I. Mandrzejewska-Smól, *Uwarunkowania aktywności edukacyjnej osób starzejących się*, [in:] T. Aleksander (ed.), *Edukacja dorosłych, jako czynnik rozwoju społecznego*, vol. 2, Kraków 2010, p. 460.

[8] T. Furunes, R.J. Mykletun, *Age management in Norwegian hospitality business. Scandinavian Journal of Hospitality and Tourism*, Vol. 5, No. 2/2005, p. 15.

[9] B. Tobiasz-Adamczyk, M. Brzyska, *Wybrane aspekty socjologiczne wieku starczego*, www.swiat-problemow.pl/2011_11_1.html [accessed on 3.03.2013].

[10] J. Liwiński, U. Sztanderska, *Wstępne standardy zarządzania wiekiem w przedsiębiorstwach*, Warszawa 2010, p. 9.

it should be stated that no set age can explicitly distinguish people with full work ability from those that already suffer from some limitations, since differences relating to susceptibility to diseases and injuries following from individual conditions, health and genetic factors make it entirely impossible. Thus, the set age may be considered only and exclusively as a general guideline making it possible to compare different groups of workers for research purposes. In fact, an individual can show features of few different age groups at the same time as studies following chronological, biological or psychological criteria would determine different levels for the same person's life and work ability. The ageing process, as it has already been mentioned, may be unique for everybody and the chronological age may be misleading and disadvantageous if it is used to describe ageing in professional life[11].

The concept of age management

In the contemporary world modern management is one of prerequisites for an enterprise to be counted among competitive businesses. Additionally, the scientific, technological and organisational advance shows that so-called "learning organisations" stand the best chance of development. The learning organisation is a metaphoric term widely used in analysis of ways of generalising knowledge[12]. The stock exchange value of a company and its position on the market have been following less and less from its material assets and its finances as intellectual resources, i.e. knowledge, skills and experience of the people the company employs, have become the main source of capital[13]. The present situation in Poland, closely linked to the pension reform, has made it necessary to implement changes in the area of human resources management and the "age management".

The theoretical and practical research on "age management" has been developing for several years primarily in the United States and Western European countries like Great Britain or Finland whereas in Poland the phenomenon has been written about only for 3-4 years[14]. However, the term has been slowly appearing in the scholarly, media and branch discourse associated with the issues of human resources management or silver economy. Age management may be defined as a dynamic set of regulations, methods, instruments, etc. concerning

[11] J. Ilmarinen, *Towards a Longer Worklife. Ageing and the Quality of worklife in the European Union*, Helsinki 2005, p. 12-15.

[12] J. Gajda, A. Gaudy, *Wiedza, jako elementarny zasób organizacji uczącej się*, „Edukacja dla Bezpieczeństwa", year V, no. 3 (16)/2012, p. 169.

[13] Cf. R. Tomaszewska-Lipiec, *Edukacja w zakładzie pracy w perspektywie organizacji uczącej się*, Bydgoszcz 2012.

[14] T. Schimanek, *Mini przewodnik zarządzania wiekiem*, Warszawa 2011, p. 1.

work and employment ability, contributing to the economic and social productivity throughout the course of life and enabling employees at every age to lead healthy life including the retirement period[15]. Yet, like majority of contemporary concepts, age management is defined in many different ways. The broadest definition reads that it is a way of managing a company concentrating on age diversity among the staff, while the diversity is considered an advantage that the company should use for the good of its staff and the company itself. Age management is also an approach towards human resources management allowing making the most of employees at different ages[16]. A. Walker (1997) defines age management as management concerning "(…) different areas within which human resources are managed in an organisation, focusing on ageing of the staff, and also, more generally, universal management of employees' ageing process by means of the state policy or group negotiations" (own translation)[17]. Thus, age management uses instruments and tools of human resources management and, in this respect, is a variety of a broader concept referred to as diversity management understood as managing groups diverse as far as staff age, sex, race, religion, etc. are concerned.

Age management accounts for needs and abilities of employees at various ages. The concept concerns all age groups and should be applied throughout every individual's course of life. In majority of cases, while discussing age management we focus on undertakings aimed at the elderly and, therefore, in practice it is interpreted as a narrow concept involving solutions friendly for aged, which most often means employees over 50 years of age (50+). The fact that that group has been singled out results from its particularly difficult situation on the labour market in Poland as members of the 50+ group need special support in starting work and maintaining their jobs. However, the age management concept concentrating on the elderly is a recovery approach, not a preventive one. From the point of view of companies and individuals, it is more justified to introduce holistic solutions aimed at different generations, including both preventive measures (lifelong learning, adjusting work) and remedial action (e.g. specialist trainings for ageing employees). Such an approach focuses on the whole course of worklife, not exclusively on its last stage. Thus, one of the purposes of age management is combating the negative stereotype about age influencing employment perspectives and opportunities. The analysed concept is determined by the current economic and social situation, i.e. low employment rate for 50+ workers, increasing life span, dangers of public finance collapse and the pension reform[18]. Age management

[15] M. Czernacka, P. Woszczyk, *Podręcznik do zarządzania wiekiem w organizacjach*, Łódź 2011, p. 36.

[16] T. Schimanek, op. cit., p. 2.

[17] J. Liwiński, U. Sztanderska, op. cit., p. 7.

[18] M. Czernacka, P. Woszczyk, op. cit., p. 37.

concentrates on undertakings aiming at improving work effectiveness of the staff, including ageing employees. The purpose is to improve work environment and organisation, to make it friendly for employees at all ages and on all positions. To achieve this, the employer should create work conditions in which all workers can feel well and which would be suited to their abilities and needs. On the other hand, the conditions should make it possible to take full advantage of potential and competences of the staff, depending also on their age, effective cooperation and combining potentials of the employees at different ages[19].

Age management may concern all the staff and mean adjusting goals to groups of employees of different ages and, what follows, also to characteristics related to the age. However, the time and place of implementing the standards result in the tendency to focus on management aimed at ageing workers as an urgent need is observed in Poland to extend the worklife on the part of:

– businesses – it is estimated that in the next years entrepreneurs will experience the growing shortage of new workers and retirement of ageing workers. Consequently, they are going to face losing valuable human resources attained by the employees throughout their lifelong professional practice,
– employees – new retirement regulations are going to result in low pensions in case of early retirement and thus, employees at the pre-retirement age will be interested in extending their professional careers,
– the society – the danger of collapse of the pension system and public finance necessitates extending worklife[20].

Age management may thus refer to the employers' attitude towards ageing employees as well as the attitudes of the aged towards work and career. It may also concern employers' activities as well as the state intervention aiming at improving the general situation of ageing employees in the labour market.

The paper below concentrates on aspects of age management relating to employers, which, as a consequence, are of major importance also for human resources management specialists.

Good practice in age management

The age management implements activities aiming at increasing efficiency of ageing people and, as a consequence, also their employability. Possible initiatives in the area may range from those concerning different stages of

[19] T. Schimanek, op. cit., p. 2.
[20] J. Liwiński, U. Sztanderska, op. cit., p. 7.

employment (starting from recruitment to leaving the job) to those concentrating on employees themselves, their physical and mental skills and also their environments. Age management bases on methods of investing in and developing human resources of a company so as to make work of every staff member profitable for the company and personally satisfying for the employee. Undertakings launched within the framework of age management may be divided into five groups shown in the Figure 2 below[21].

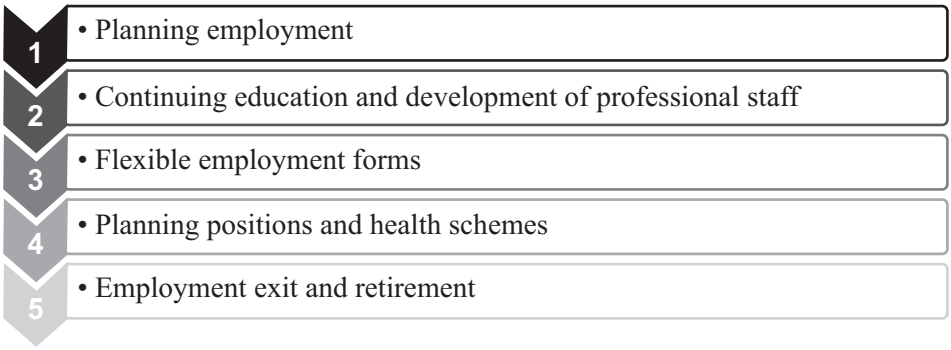

Fig. 2. Age management areas in an organisation
Source: M. Czernacka, P. Woszczyk, *Podręcznik do zarzadzania wiekiem w organizacjach*, Łódź 2011, p. 42.

Studies on the subject offer a few classifications of age management areas formed in the course of several years. One example is the prepared in 2000 by Eurolink Age[22] proposition of the European Code of Good Practice[23]. The code arose as a result of consultations between employers, employers' associations, trade unions, representatives of EU governments and politicians. The suggested guidelines concern good practice in the domain of age management, however, their implementation is obligatory for enterprises. The code may be used by all enterprises and organisations (small, medium-sized and large) and its purpose is to assist them in effective age management. The code distinguishes 7 areas within the recommended activities:

[21] M. Czernacka, P. Woszczyk, op. cit., p. 42.

[22] Eurolink Age – a European organisation disseminating information, mainly by means of its newsletter, about major EU events concerning the elderly. Campaigning and lobbying in favour of recognition of older people's interests in the EU policy including: health, transport, disability, equal opportunities, employment, technology, research, education, etc., organising panel discussions of experts on the policy (concerning e.g. education, disability, health technology, family caregivers).

[23] Eurolink Age, *Ageing in Employment A proposal for a European Code of Good Practice*, London 2000.

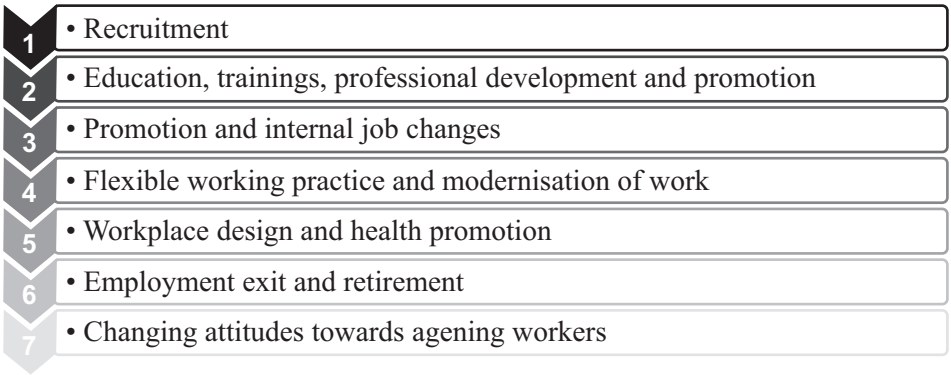

Fig. 3. Guidelines and recommended measures within age management
Source: Eurolink Age, *Ageing in Employment A proposal for a European Code of Good Practice*, London 2000.

One of major elements of good practice within the age management in an organisation, and in particular in the second of the areas above, is professional education and development of the staff. In that respect the good practice proposes:

– ensuring ageing workers the same education and professional development opportunities as younger workers,
– ensuring staff education and training opportunities throughout the working life,
– adjusting education methods by taking into account ageing employees' capacities,
– if possible, compensating for age barriers in education if such discrimination has occurred[24].

It has become necessary for entrepreneurs to maintain the invaluable pragmatic knowledge of ageing employees in their companies. The knowledge results from filtering theoretical information through years of practical experience what occurs in majority of jobs. Replacing or losing a person with considerable pragmatic knowledge is extremely costly for any company[25]. Ageing workers have unique competences contributing to the human capital that in turn is the key element of human resources within a company; on the other hand, they may also show competence deficiencies. The latter ones may result in a situation that, despite their pragmatic knowledge, the employer may start doubting if continuing employment of ageing workers is profitable and, as a consequence, may stop investing in the development of the employees and consider making them

[24] A. Walker, *Combating Age Barriers in Employment. European Research Report, European Foundation for the Improvement of Living and Working Conditions*, Dublin 1997, p. 56 and subsequent.
[25] T. Schimanek, op. cit., p. 3.

redundant. Such actions result in the snowball effect. No further development opportunities, including education, lowers effectiveness of ageing workers and convinces them of their own redundancy. Their belief that will have to leave their jobs soon results, in turn, in lower job motivation and limits the employees' effectiveness. Productivity decrease below the payment level gives rise to a situation when further employment of an ageing person is unprofitable, and as a consequence, the worker loses his/her job[26]. As research on deactivation of ageing people has shown, the mechanism exists and can be observed in Polish enterprises. However, lack of interest in investing in professional training for ageing employees results not only from the belief that they show no capacity to learn new skills (e.g. learn computer skills) but also from the conviction of the employer that the workers are going to retire soon and thus their development is not worth investing in[27].

Ensuring equal professional training opportunities for all employees irrespective of their age is the foundation of age management in the domain of education. For an employer, the age should not matter when sending an employee to, e.g. a training, course, coaching or any other form providing development opportunities.

The Second World Assembly on Ageing held in Madrid in 2002 and the International Labour Organisation put forward a proposition for national labour market policies to include the following guiding principles determining the concept of age management in a company:

– gentle and gradual transition from professional activity to retirement and enabling ageing workers to work as long as they wish to;
– combating age discrimination in the labour market;
– making it possible for ageing people to take advantage of educational opportunities;
– using new IT and communication technologies to include the ageing into the labour market;
– equal treatment for men and women in social security systems;
– need to combat negative age stereotypes about ageing workers[28].

For the guidelines above to be implemented in Poland it is necessary to change the pension policy and to provide the ageing employees with appropriate

[26] J. Liwiński, U. Sztanderska, op. cit., p. 37.

[27] A. Giza-Poleszczuk, M. Góra, J. Liwiński, U. Sztanderska, *Dezaktywizacja osób w wieku okołoemerytalnym*. Raport z badań, Departament Analiz Ekonomicznych i Prognoz, Ministerstwo Pracy i Polityki Społecznej, Warszawa 2008, p. 26-28.

[28] *W trosce o pracę. Raport o Rozwoju Społecznym Polska 2004. Program Narodów Zjednoczonych ds. Rozwoju*, Warszawa 2004, www.undp.org.pl/nhdr2004 [accessed on 8.02.2013].

skills what can be feasible only by creating educational offer specially suited to the needs and capacity to learn of old people. Over the last years a few research and educational projects have been launched in Poland aiming at expanding knowledge of ageing workers' situation in the labour market, factors influencing their activity and using the potential of the group of employees. The projects include:

- Alliance for Work – a partner project implemented within the framework of the Community Initiative Equal.
- Profit from Maturity – a project implemented by the Academy for the Development of Philanthropy in Poland.
- Age plus – training for enterprises – a project implemented with the Polish Agency for Enterprise Development (PARP).
- The elderly in the labour market in the kujawsko-pomorskie province. Developmental trends and activation opportunities – a research project of the Faculty of Economic Sciences and Management of Nicolaus Copernicus University (UMK) in Toruń.
- Withdrawal from the labour market of people around retirement age – a project commissioned by the Ministry of Labour and Social Policy[29].

New actions to be launched in the near future should result in creating practical tools and instruments to be used by both, employers and employees. Yet not very long ago limiting the labour supply was a conscious strategy of the state enabling the ageing workers to take early retirement. However, all demographic forecasts, both by GUS (Central Statistical Office) and by Eurostat, indicate that in the next two decades Poland will experience intensified processes of depopulation and society ageing following from two factors: the decreasing birth rate and the gradually increasing life expectancy. The alarming changes in the age structures are shown in the population pyramid below (Figure 4)[30]. Data for the year 2030 show the shrinking base and centre and noticeably expanding top of the pyramid representing the ageing population. The present unfavourable demographic forecasts and threat of the pension system collapse make the need for extending career evident. The forecasts show that the upcoming demographic changes will cause enormous changes to the labour market. At the same time they also indicate the necessity for implementing the age management concept in practice in businesses.

[29] Cf. A. Kwiatkiewicz, *Analiza dobrych praktyk dotyczących zarządzania wiekiem w polskich przedsiębiorstwach – studium przypadku*, Warszawa 2010, www.parp.gov.pl [accessed on 27.02.2013].

[30] Kancelaria Prezesa Rady Ministrów, Zespół Doradców Strategicznych Prezesa Rady Ministrów, *Polska 2030*, July 2009, www.premier.gov.pl/files/file/Dokumenty/PL_2030_wyzwania_rozwojowe.pdf [accessed on 27.02.2013].

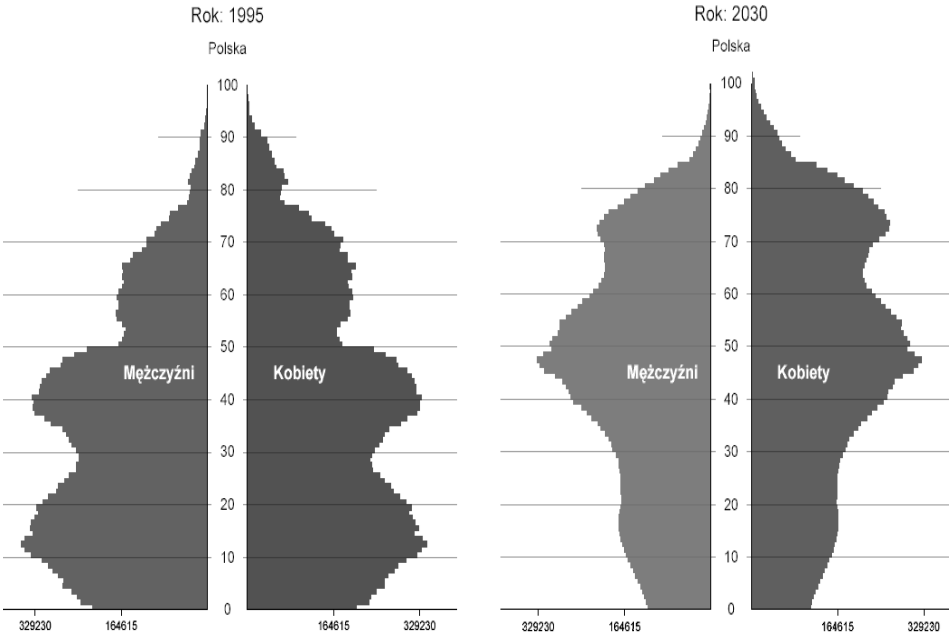

Fig. 4. Structure of Polish population in the years 1995 and 2030
Source: Kancelaria Prezesa Rady Ministrów, Zespół Doradców Strategicznych Prezesa Rady Ministrów, *Polska 2030*, July 2009, www.premier.gov.pl/files/file/Dokumenty/PL_2030_wyzwania_rozwojowe.pdf

Professional training of ageing employees

Experience and data gained as a result of the mentioned above projects in Poland indicate that education can be recommended as professional development for the ageing workers as it "(…) requires an approach taking into account needs and interests of both the organisation and its particular employees. (…) It needs creativity to determine the ways in which opportunities for development and increasing employees' loyalty can be generated" (own translation)[31]. Such an approach assumes shifting responsibilities for career management and increasing chances in the labour market to the workers, while the company is expected to support their efforts at developing and acquiring new skills and competences. Professional training may thus be effectively taken advantage of by an employee as an element of a career development plan and may at the same time constitute

[31] M. Armstrong, *Zarządzanie zasobami ludzkimi*, Kraków 2005, p. 545.

an element of the company development. However, it is necessary to identify the learning styles and aspirations of the workers as the chosen training methods can be decisive for the success of education. Besides off-the-job instruction it is worthwhile to use on-the-job trainings focusing on knowledge transfer, shaping skills and performance of employees facing the tasks in the workplace and cooperating with supervisors. The employee's potential is developed in that case in practice, by performing practical tasks and thus, is an element ideally suited for professional training of the ageing staff. With their considerable knowledge about the company and extensive experience the workers may become coaches and mentors for other employees[32]. Forms of sharing knowledge and experience in a planned and controlled way include mentoring, coaching or job rotation[33]. M. Armstrong states that coaching sessions can be essential in the area of professional development management as they enable employees to show their aspirations and ambitions which can then, during sessions, form into a plan of actions undertaken in cooperation with a company[34]. On-the-job training for employees at any age may constitute an important element of implementing one of the most effective ways the company can function on the market, the human resource model. At the above mentioned learning organisations an increasing importance of staff training has been observed. Using the age management system basing in particular on educating ageing employees allows the organisations to attain the following benefits:

- educating the ageing contributes to improvement of competences and innovative resources of a company what results in a growth of its productivity,
- participation of ageing workers in trainings organised by the company rises employability by increasing motivation to work – a consequence of recognition shown by the employer – and stimulating employment flexibility as new skills expand the range of tasks the workers can perform,
- as a result of employability increase the staff turnover decreases as the worker becomes more productive; thus, either keeping the worker on the position or his transfer to another position within the company may turn out profitable,
- lower staff turnover results in lower expenditures on new employees recruitment and selection,
- professional development of ageing workers sets an example for younger employees motivating them to develop. It has been observed particularly

[32] M. Kossowska, I. Sołtysińska, *Szkolenia pracowników a rozwój organizacji*, Kraków 2002, p. 114-116.

[33] P. Bramley, *Ocena efektywności szkoleń*, Kraków 2001, p. 67.

[34] M. Armstrong, op. cit., p. 545.

among staff showing diversity of employees' ages which facilitates exchange of knowledge between generations,
– participation in training encourages ageing workers to learn[35].

B. Mikuła considers the existence of an appropriate organisational culture in which personnel and their attitude towards changes in the organisation itself are the major developmental factor for the company as a prerequisite for the success of age management concept[36].

Conclusion

Undertakings concerning staff development in companies are complicated and expensive, require considerable financial and organisational effort, sometimes even mental changes. At present a shift in attitudes of employers towards their employees can be observed as they start perceiving the workers' learning not only in its financial aspect but as an investment and an important element of the recruitment strategy and developing labour resources. The fact concerns also ageing workers as the demand for such employees is going to grow since the contemporary society will be growing old. In that context, in the near future the age may become a feature in demand sought for by employers in the labour market. As a consequence of the proposed in the paper age management concept including also the issue of education and training, an employee may be useful for his/her organisation irrespective of the date of birth.

Bibliography

Armstrong M., *Zarządzanie zasobami ludzkimi*, Kraków 2005.
Bramley P., *Ocena efektywności szkoleń*, Kraków 2001.
Chabior A., *Edukacja w życiu ludzi starych – komunikat z badań*, „Edukacja" No 4/1997.
Czernacka M., Woszczyk P., *Podręcznik do zarządzania wiekiem w organizacjach*, Łódź 2011.
Eurolink Age, *Ageing in Employment A proposal for a European Code of Good Practice*, London 2000.
Furunes T., Mykletun R.J., *Age management in Norwegian hospitality business. Scandinavian Journal of Hospitality and Tourism*, Vol. 5, No. 2/2005.
Gajda J., Gaudy A., *Wiedza jako elementarny zasób organizacji uczącej się*, „Edukacja dla Bezpieczeństwa" No 3 (16)/2012.

[35] J. Liwiński, U. Sztanderska, op. cit., p. 40-41.
[36] B. Mikuła, *Organizacje oparte na wiedzy*, Kraków 2006, p. 23.

Giza-Poleszczuk A., Góra M., Liwiński J., Sztanderska U., *Dezaktywizacja osób w wieku okołoemerytalnym. Raport z badań*, Departament Analiz Ekonomicznych i Prognoz, Ministerstwo Pracy i Polityki Społecznej, Warszawa 2008.

Ilmarinen J., *Towards a Longer Worklife. Ageing and the Quality of worklife in the European Union*, Helsinki 2005.

Kancelaria Prezesa Rady Ministrów, Zespół Doradców Strategicznych Prezesa Rady Ministrów, *Polska 2030*, lipiec 2009, www.premier.gov.pl/files/file/Dokumenty/PL_2030_wyzwania_rozwojowe.pdf

Kossowska M., Sołtysińska I., *Szkolenia pracowników a rozwój organizacji*, Kraków 2002.

Kwiatkiewicz A., *Analiza dobrych praktyk dotyczących zarządzania wiekiem w polskich przedsiębiorstwach – studium przypadku*, Warszawa 2010, www.parp.gov.pl.

Liwiński J., Sztanderska U., *Wstępne standardy zarządzania wiekiem w przedsiębiorstwach*, Warszawa 2010.

Mandrzejewska-Smól I., Uwarunkowania aktywności edukacyjnej osób starzejących się, [in:] T. Aleksander (ed.), *Edukacja dorosłych, jako czynnik rozwoju społecznego*, t. II, Kraków 2010.

Mikuła B., *Organizacje oparte na wiedzy*, Kraków 2006.

Milewska-Marzyńska U., *Aktywność zawodowa osób z grupy 50 plus*, Nr 17, www.obserwatorium.pracodawcyrp.pl

Nieckula E., *Zmierzch ery etatów*, http://coaching.focus.pl/2012/10/25/zmierzch-ery-etatow/, 2010.

Reforma emerytalna 2012, www.mpips.gov.pl

Schimanek T., *Mini przewodnik zarządzania wiekiem*, Warszawa 2011.

Tobiasz-Adamczyk B., Brzyska M., *Wybrane aspekty socjologiczne wieku starczego*, www.swiatproblemow.pl/2011_11_1.html

Tomaszewska-Lipiec R., *Edukacja w zakładzie pracy w perspektywie organizacji uczącej się*, Bydgoszcz 2012.

W trosce o pracę. Raport o Rozwoju Społecznym Polska 2004. Program Narodów Zjednoczonych ds. Rozwoju, Warszawa 2004, www.undp.org.pl/nhdr2004.

Walker A., Combating Age Barriers in Employment, European Research Report, European Foundation for the Improvement of Living and Working Conditions, Dublin 1997.

Wiśniewska-Roszkowska K., *Starość, jako zadanie*, Warszawa 1989.

Zych A., *Słownik gerontologii społecznej*, Warszawa 2001.

SPIS TREŚCI

STRESZCZENIE

Edukacja i gospodarka rozpatrywane jako dwa odrębne obszary działalności człowieka stają się od pewnego czasu pewną spójną całością połączoną wiedzą, czyli ogółem informacji o otaczającej rzeczywistości wraz z umiejętnością ich wykorzystywania. Niewątpliwie integracji tej sprzyja kształtowanie się począwszy od przełomu XX i XXI wieku nowego modelu gospodarki określanego mianem *gospodarki opartej na wiedzy*, w którym wiedza – tworzona, poddawana dystrybucji i wdrażana do praktyki – staje się określonym produktem, niezależnym bytem, stanowiącym podstawę rozwoju świata. Do jej powstania nadal niezbędna pozostaje *edukacja*, w tym szczególnie *edukacja zawodowa*, która musi się przystosować do potrzeb ekonomii wiedzy.

Wskazane obszary – edukacji i gospodarki stanowiły podstawę do podjęcia pogłębionej refleksji w środowisku pedagogów, czego efektem stała się niniejsza pozycja redakcyjna.

W prezentowanej książce zainicjowano problemy szans i zagrożeń edukacji zawodowej wynikające z rozwoju gospodarki opartej na wiedzy. Treści przekazywanego do rąk Czytelnika opracowania obejmują zarówno rozważania teoretyczne, jak i wyniki badań empirycznych przeprowadzonych przez poszczególnych Autorów z Polski, Bułgarii, Rosji i Ukrainy, zainteresowanych tą problematyką.

Całość została podzielona na trzy części, wzajemnie dopełniające się: „Wyzwania cywilizacyjne a edukacja zawodowa", „Kierunki rozwoju edukacji zawodowej w warunkach nowej gospodarki" oraz „Edukacja zawodowa dorosłych warunkiem budowania nowej gospodarki". Podjęte w nich zagadnienia problemowe tworzą interdyscyplinarny zbiór, którego centralną kategorią rozważań pozostaje subdyscyplina pedagogiczna: *pedagogika pracy*. To właśnie w ramach pedagogiki pracy poruszane są zarówno rozważania teoretyczne, jak i podejmowane są badania empiryczne dotyczące wzajemnych relacji między edukacją a gospodarką opartą na wiedzy, w tym rynkiem pracy. Niewątpliwie spoiwem łączącym oba te światy jest właśnie edukacja zawodowa.