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Educational determinants of adults' professional functioning in knowledge-based economy

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Abstract. In this article, I deal with the problem of adult work-related learning in the knowledge-based economy. I put forward and try to prove the following four theses: (1) The concept of the "knowledge-based economy" should now be understood metaphorically, not literally. Due to the dynamic socio-economic changes, the practical implementation of the assumptions of the "knowledge-based economy" is not so much about knowledge, but about permanent learning in connection with work experiences. (2) In the knowledge-based economy, scientific knowledge is important, but personal knowledge and tacit knowledge are becoming more and more crucial. (3) The effective implementation of the concept of a knowledge-based economy and the understanding of its opportunities and risks cannot be an administrative, legal or economic matter only. The knowledge-based economy uses both the potential of (scientific) knowledge and the human potential for learning and development. Learners and their communities are the key, so research in this area is necessary in the field of social sciences, in particular pedagogy. Otherwise, the idea of a "knowledge economy" will blow up spontaneously, perhaps for the benefit of industry and multinationals, but not for the benefit of individuals. (4) In the knowledge-based economy, it is clear that it is necessary to start differentiating scientific theses about the educational dimension of work depending on the nature of this work. The general models and theses of learning in the workplace and work-related learning developed so far do not take into account the specificity of various professional activities. In this article, I deal mainly with pedagogical issues, but I sought to use scientific sources outside

of pedagogy, looking in other scientific disciplines for what was pedagogically important and inspiring, and so far not present in the pedagogical discourse.

Edukacyjne uwarunkowania zawodowego funkcjonowania dorosłych w gospodarce opartej na wiedzy

Słowa kluczowe: uczenie się w miejscu pracy, całożyciowe uczenie się, edukacja ustawiczna dorosłych, gospodarka oparta na wiedzy

Streszczenie. W artykule[1] tym podejmuję problem uczenia się dorosłych w związku z pracą w gospodarce opartej na wiedzy. Stawiam cztery następujące tezy, które staram się udowodnić: (1) Koncepcja gospodarki opartej na wiedzy powinna być współcześnie rozumiana metaforycznie, a nie dosłownie. W istocie bowiem, w praktycznej realizacji założeń gospodarki opartej na wiedzy chodzi nie tyle o wiedzę, co o permanentne uczenie się w związku z wykonywaną pracą. (2) W gospodarce opartej na wiedzy ważna jest wiedza naukowa (jawna, skodyfikowana), ale coraz większego znaczenia nabiera wiedza osobista i wiedza ukryta (z ang. *tacit knowledge*). (3) Skuteczne wdrażanie koncepcji gospodarki opartej na wiedzy oraz zrozumienie szans i zagrożeń z tym związanych nie może być tylko kwestą administracyjną, prawną lub ekonomiczną. W gospodarce opartej na wiedzy wykorzystuje się zarówno potencjał wiedzy (naukowej), jak i ludzki potencjał uczenia się i rozwoju. Kluczowi są uczący się ludzie, dlatego konieczne są badania w tym zakresie prowadzone na gruncie nauk społecznych, w szczególności pedagogiki pracy i andragogiki. W przeciwnym wypadku, idea gospodarki opartej na wiedzy będzie się rozwijać samorzutnie, być może z korzyścią dla przemysłu i międzynarodowych korporacji, ale niekoniecznie z korzyścią dla jednostek. (4) Na gruncie gospodarki opartej na wiedzy wyraźnie widać, że należy zacząć różnicować naukowe tezy o edukacyjnym znaczeniu pracy w zależności od charakteru tej pracy i warunków jej świadczenia. Wypracowane dotąd ogólne modele i tezy uczenia się w miejscu pracy nie uwzględniają specyfiki różnych aktywności zawodowych. W artykule tym poruszam głównie tematykę andragogiczną i z zakresu pedagogiki pracy, dążyłem jednak do korzystania ze źródeł naukowych spoza pedagogiki, poszukując w innych dziedzinach wiedzy tego, co pedagogicznie ważne i inspirujące, a dotąd w dyskursie pedagogicznym mało obecne.

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Introduction

One of the goals of the European Union's education policy is to increase the educational engagement of adults. Lifelong learning opens up the opportunity for EU citizens to build their career potential – ‚employability', enhances their competitiveness in the labour market and accelerates the economic development of individual countries (cf. Wiśniewska, 2015).

In 2011, the European Commission implemented the Renewed European Agenda for Adult Learning (EAAL). In this document, the European Commission acknowledges the need for regular enhancement of personal and professional qualifications and skills by all adult citizens of the Union throughout their lives.

According to Urszula Jeruszka:

"We live in uncertain times. The pace of technological, organizational, legal, market, and demographic changes affects shifts in the competence structures of professions and positions, which necessitate shaping the competencies of current and future employees in accordance with current and future socio-economic needs, and increase the demand for continuous renewal of qualifications [...]. The task of work pedagogy is not so much to prepare a person for undertaking professional work, but rather to prepare them for employability – for obtaining and maintaining employment, for being employed and satisfied with their work, and for being responsible for their professional success and the development of their own career, both within the organization where they are currently employed and beyond it" (2021, p. 14).

However, the available scientific knowledge may in itself prove insufficiently attractive to some (or perhaps even a larger number of adults) to induce them to make the intellectual effort associated with lifelong learning, which is a fundamental condition for employability. Knowledge alone will not significantly contribute to economic development if it is not understood and utilised in daily professional activity by adults. The concept of a knowledge-based economy offers an opportunity for the practical implementation of the idea of lifelong learning for Europeans and the scientific exploration of the characteristics of adult learning. This concept and its practical implementation are the subject of interest in many disciplines, yet there is little pedagogical analysis of it, despite the fact that this economy is based not only on scientific knowledge, but also on personal knowledge as a result of learning related to work. In a knowledge-based

economy, support is given to, among other things, the intellectual development of employees, knowledge sharing at the workplace, mutual learning, teamwork, project-based work, and training, which provides an opportunity for Europeans to engage in lifelong education. This thus outlines a new, interesting area of pedagogical research on adult education and the educational significance of work. However, before exploring this area, it is necessary to initially identify what is already known in this subject based on other sciences and assess its potential significance for pedagogy and education.

Methodological approach

The research question was: what are the educational conditions of adults' work in a knowledge-based economy? In order to generate a synthetic description (Paterson et al., 2001, pp. 27–51) of these conditions, I assumed an ontological and epistemological composition that knowledge, skills, and competencies are possessed and can be developed by individuals, also within organizations, and that new knowledge always originates from individuals and can be mutually transmitted (moving from the individual level to the group level, from the local level, through the national level to the inter-organizational level). The consequence of this is a narrowing down of the subject of analysis to the educational experiences of adults and the deliberate omission of the issue of organizational learning, understood as learning of the organization as a whole. Concepts of organizational learning (cf. Senge, 2002; Argyris, Schön, 1996) are interesting and important, but they constitute a separate research issue requiring separate treatment.

The research method was a qualitative analysis of existing data (LongSutehall, Sque, and Addington-Hall, 2010, p. 336; Corti and Thompson, 2007, p. 297) in the form of scientific works: articles, monographs, reports. The selection criterion was the subject of the scientific works, concerning the educational aspects of professional work in a knowledge-based economy. I primarily sought sources outside pedagogy, as they offer perspective for interdisciplinary research on the issue at hand. This kind of outside perspective can also help to better understand and assess where current pedagogical research on this issue is positioned and what its future directions of development may be.

From a knowledge-based economy to a workplace learning-based economy

The concept of a knowledge-based economy (other terms encountered in the literature include the information economy, knowledge-saturated economy, knowledge-driven economy, new economy) emerged and developed as a reaction after the agricultural and then industrial economies that prevailed over the last centuries. The genesis of the knowledge-based economy dates back to the 1960s, when the demand for services increased and the service sector began to shape in the economy (Karlsson, Johansson, Sough, 2006, p. 1). However, its real development took place only in the 1990s. The basis for the establishment of a knowledge-based economy was the theory of endogenous growth, stating that long-term and relatively stable economic and social growth can be achieved only by investing in people. This is done through cooperation with universities, acquisition of new knowledge, and its effective use by large corporations, small companies, higher and lower-level employees, and local communities (Chodorek, 2016, p. 115; Welfle, 2009, p. 3). The knowledge-based economy consists of three components (Kucznik, 2019, p. 136):

- Methodological – involving the search for new research methods in the field of knowledge management,
- Empirical – identifying and analysing the globally changing knowledge-based economy and knowledge diffusion, both at the level of societies and individuals,
- Pragmatic – related to ways of implementing the assumptions of a knowledge-based economy.

The knowledge-based economy has brought many changes to the lives of adults. New workplaces, new industries, new products, and services have emerged. In the context of this economy, coworking was created (cf. Rojek, 2021), as well as entrepreneurship incubators, science and technology parks, and start-ups. The main development factor of the knowledge-based economy is the demand for high-value-added goods, shaped by conscious and educated consumers and innovative companies. Competitive advantage is provided not by material goods, natural resources, and durable goods, but by knowledge, mainly in terms of shaping the added value of products. The knowledge-based economy is also characterized by a transition from the production of material goods to the development of services, which are largely based on highly skilled

workers (Woodall, Lee, Stewart, 2004, p. 165; Neef, Siesfield, Cefola, 1998, p. 4). The feature of this economy is constant change. Technological development allows for the offering of new services and the production of new products. This requires employees to continually develop their knowledge, skills, and competencies. Workers are no longer expected to persist in following a once-chosen career path, but rather to work in fluid teams and constantly take on new tasks (Powell, Snellman, 2004, pp. 199-220).

The knowledge-based economy is closely associated with popular concepts of social capital and human capital. Social capital is not merely the acquired knowledge, skills, and competencies of members of society, but rather their willingness, desire, and ability to continuously enhance their professional qualifications throughout their entire professional career (Panenka, 2004, p. 146). Social capital represents a valuable intangible resource for enterprises and organizations, enabling the transfer of knowledge and implementation activities, which potentially contributes to development and the establishment of competitive advantage. On the other hand, human capital consists of employees, customers, suppliers, and individuals collaborating with the company through short-term agreements. Their unique character traits and competencies hold significant value for the company as they can be developed or transferred to other employees. Human capital is embodied in employees in the form of qualifications, knowledge, and skills acquired through lifelong learning (Schultz, 1981, p. 21).

Among the four pillars (alongside the institutional-legal environment, innovation system, and information infrastructure) of a knowledge-based economy are education and training (Niklewicz-Pijaczyńska, Wachowska, 2012, p. 14). The knowledge of employees and their intellectual development are the main factors driving economic growth. The continuous learning of employees is a prerequisite for building a company's competitive advantage (Chodorek, 2016, p. 116).

The outlined characteristics of a knowledge-based economy indicate that its success for firms, enterprises, and organizations is primarily associated with the intellectual properties of their employees (rather than factors such as location, access to resources, or capital level). However, it is not solely about memorization, as a knowledge-based economy is not replicative in nature, meaning it places little value on replicating the activities of other entities. Instead, it emphasizes creativity, innovation, and communal engagement. Two researchers, Karen Watkins and Victoria Marsick (2003; 1996), concluded that in the contemporary economy, employees learn both individually and through the ability to engage in collective learning, which involves transforming information

into useful knowledge, primarily through shared interpretation of changes in the socio-cultural environment of the enterprise. In this way, they generate new knowledge, which becomes embedded in products and services that people worldwide benefit from, thanks to globalization. An interesting proposition for understanding employee learning in an organization was put forward by Bogusz Mikuła (2006). According to him, "learning can be considered as a process characterized by the involvement of information and knowledge, leading to a change in knowledge resources and can lead to changes in human behaviour as well as creating adaptive capabilities for organizations, ultimately achieving a state of high reactivity and subsequently proactivity" (Mikuła, 2006, p. 48).

According to the author, learning consists of three subprocesses:

1. Traditional employee learning involves developing individuals' competencies through their active participation in various forms of training and professional development, both in the workplace and outside of it. This subprocess is based on acquiring information, engaging in dialogue, and reflection, which allows for the integration of new knowledge with the existing knowledge.
2. Empirical learning entails acquiring new experiences through practical action, experimentation, including learning from mistakes. Experiences also include drawing conclusions from observing the actions of other colleagues and the consequences of those actions. This subprocess involves phases such as planning, action, observation, and reflection. Empirical learning "purifies" the acquired knowledge (obtained through traditional and cybernetic learning) from what is deemed irrelevant, incorrect, or failing to produce expected results.
3. Cybernetic learning involves discovering, questioning, and changing the ways of perceiving and understanding the standards, procedures, principles, and norms prevailing in the workplace. It is a "process of rejecting old habits and ways of thinking that condition people's behaviour" (Mikuła, 2016, p. 162). This requires the ability to learn ("learning how to learn"), as well as the ability to unlearn. The main function of this subprocess is to replace existing knowledge with new knowledge.

According to Mikuła, the aforementioned subprocesses can occur spontaneously and simultaneously. They are interconnected in such a way that knowledge acquired in one subprocess can be utilized in the other two. The most common learning methods can be identified as socialization, internalization, externalization, and combination.

The first method highlighted here is socialization, which involves acquiring new knowledge from others in social relationships within the workplace. Spending several hours a day with colleagues, shared experiences, and interactions allow for the adjustment to their ways of thinking.

The second method is internalization, which involves the development of tacit knowledge, attitudes, beliefs, norms, and values through the assimilation of publicly available knowledge.

The next method is externalization. It is more of a "teaching" method that triggers learning rather than learning itself. It occurs when previously tacit knowledge is made explicit within the work team through the use of metaphors, analogies, concepts, or mental shortcuts.

The final method is combination, which involves the development of tacit knowledge based on explicit, unified, selected, and categorized knowledge (see Nonaka, Takeuchi, 2000, pp. 86-93). The relationship between these methods and learning outcomes is presented in Table 1.

Table 1. Relationship between methods and workplace learning outcomes

Learning methods	**Learning outcomes**
Socialization	emotional intelligence
Internalization	operational knowledge
Externalization	fact-based knowledge (encyclopaedic knowledge)
Combination	normative knowledge

Source: Author's own compilation based on: Nonaka, Takeuchi, 2000; Jemieniak, Koźmiński, 2012, p. 25; Sztompka, 2009).

The degree of utilization of learning methods in the workplace largely depends on the organizational structure of companies. Those companies that rely on project teams provide employees with better learning opportunities through interpersonal interactions and intentionally equip the workplace with educational resources, compared to those with a hierarchical structure. Consequently, these companies gain a competitive advantage in the industry. An example of such a company is Hewlett-Packard (better known as HP), which allows employees to travel on regularly scheduled company planes for personal meetings with colleagues from different regions of the world. This facilitates mutual learning and the development of tacit knowledge. Another example is Xerox, where

publicly accessible whiteboards with markers are installed in offices, hallways, and even stairwells, enabling knowledge sharing (Cavaleri, Seivert, 2003, p. 294).

From scientific knowledge to personal knowledge (from knowledge management to organizing conditions conducive to employee learning)

The transition from scientific knowledge to personal knowledge is what clearly distinguishes a knowledge-based economy from previous forms of economic organization. Initially, the knowledge-based economy adopted a static understanding of knowledge that existed in the industrial economy. However, it quickly became apparent that the dynamics of economic processes, new job opportunities, scientific discoveries, and inventions, along with the emerging demand for new services and products, made it impossible to equip an employee with a knowledge package that could be used throughout their professional life. Consequently, the concept of the employee and their professional development underwent a transformation. Employees ceased to be seen as external sources of knowledge and began to be perceived as human capital that could be developed through their ability to learn. It also became evident that scientific knowledge was too general to meet the individual and unique challenges of service provision and goods production in a market economy. Therefore, individual learning in relation to work became crucial. Over time, the outcomes of such learning were recognized as a "unique factor of production for a company" (Szromnik, 2013, p. 219), enabling them to establish themselves, stand out, survive in the free market, and build enterprise value. It is highly probable that in 2011, Google acquired Motorola Mobility precisely because of the uncodified, tacit knowledge possessed by its employees.

As the transition from scientific knowledge to personal knowledge took place, from the mid-1980s, an "initiative" approach to building career potential and professional development began to emerge. This approach posited that "one's position in the job market and professional career largely depend on accumulated individual skills; it encourages individual initiatives in the job market and career development through continuous education, improved access to labour market information, and the flexibility of the labour market. It is also based on the idea of developing human and social capital" (Wiśniewska, 2015, p. 15).

The assumptions of this career-building approach strongly emphasize the necessity of lifelong learning and its significance for employees' positions

in a knowledge-based economy. Over the decades, mainly due to slightly different socio-cultural conditions, two models of organizing conditions for learning and learning itself among employees have emerged: the European model and the Japanese model. Despite their differences (see Table 2), these models share the recognition of learning as an educational form of adult professional engagement. Such an approach brings material and non-material benefits to both employees and employers, as well as to the entire economy, and is therefore institutionally supported. The European Commission has recognized lifelong learning in the workplace as crucial for the future of EU societies and it is prioritized in the "Horizon 2020" program. It is expected to lead to increased innovation in EU economies, accelerate development, reduce unemployment, and bridge the gap between science and the economy.

Table 2. Models of learning in relation to job performance

Models of learning in the workplace	
European model	**Japanese model**
Learning in the workplace primarily results from the "processing" of "available" knowledge.	Learning in the workplace primarily involves individual development of "tacit" knowledge.
Knowledge is generally accessible, organized, and codified.	Knowledge is highly individualized and difficult to codify.
The subject of learning is words, numbers, procedures, and rules (algorithms) of action.	The subject of learning is a subjective insight into a particular issue, intuition, schemas and mental models, intuitions, emotions, and ideals.
Learning has a public nature, and knowledge can be utilized by multiple users without losing its value.	Learning is an individual path of understanding the conditions of a specific workplace.
Books, scientific papers, scripts, models, and expert opinions are necessary for learning.	Motivation and favourable conditions are necessary for learning.
Learning is a response to teaching, training, and organized forms of professional development.	Learning involves communication among employees and mutual learning.
The most valuable knowledge arises from scientific research.	Knowledge resides in the minds of employees, including beliefs, convictions, predispositions, and talents.
Learning is supported by modern technologies.	Learning is supported by social interactions in the workplace.

Source: Author's own compilation based on: Kietliński, 2009; Nonaka, Takeuchi, 2000; Drucker, 1993; Toffler, 1990.

Both models are based on the personal knowledge of employees, understood as individual knowledge that is not known by other employees. Personal knowledge is highly significant because it leads to an understanding of the surrounding

reality for the employee and, at the same time, determines the competitiveness of both the employee and the organization. As a result, formal education, although valued and desirable in a knowledge-based economy, no longer determines an employee's position to the same extent as in an industrial economy, which primarily placed employees based on their (formal) education rather than their knowledge and learning abilities.

Educational potential of a knowledge-based economy

According to Anna Sfard, when considering the educational significance of work, it is rarely appropriate to focus on the once-acquired knowledge. Instead, it is more relevant to assume active experiencing, cognizing, and even savouring (activity of knowing) by adults of elements in their work environment (Sfard, 1998, p. 6). Therefore, work possesses an educational potential that lies more in stimulating learning rather than cementing existing knowledge.

However, in a knowledge-based economy, we encounter various types and forms of employment. Work and learning formulas are becoming increasingly diverse, making it more difficult to formulate generalizations that apply to all of them. It seems almost certain that the learning of a self-employed fashion designer working in a co-working space will differ from the learning of an employee operating a production line in a large factory, or a gardener. At the current advanced level of knowledge within this domain, it is important to consider these differences and treat them as distinct and interesting topics for future empirical research.

One of the few responses to this need is the educational context of work distinction made by Annikki Järvinen and Esa Poikela (2006, pp. 170-186). These two researchers identified three models of learning in relation to work, depending on its nature: learning in the context of an individual's work, learning in the context of shared work, and learning in the context of the organization's work. The authors emphasize that in each of these models, learning is based on experiencing professional situations (experiential learning). However, the nature of experiencing, its characteristics, and outcomes vary depending on the nature of the work.

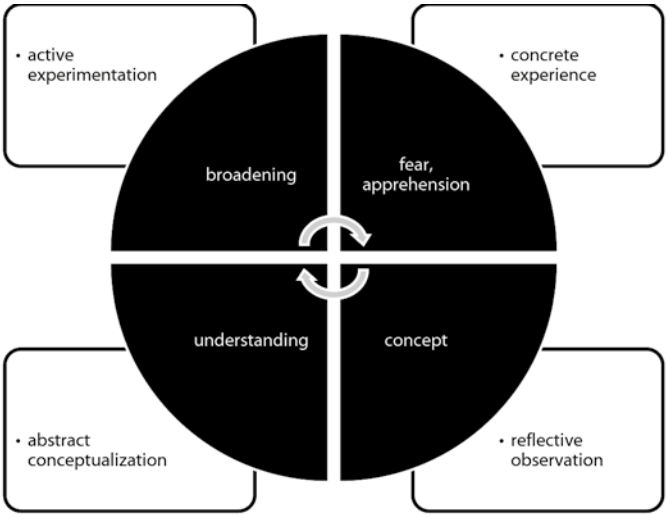

Figure 1. Model of individual workplace learning

Source: Author's own work based on: Järvinen, Poikela (2006, p. 177).

According to the principles of learning in the context of an individual's work (Figure 1), the knowledge and skills that an employee utilizes are primarily the results of their learning in the workplace. The workplace also significantly modifies the employee's existing knowledge. This knowledge and skills are used routinely and systematically. However, when a problem arises that cannot be solved using the employee's current competencies, they critically evaluate their previous actions, analyse the nature of the problem, and conceptualize potential solutions. This can be done independently or by utilizing various sources of knowledge. As work in a knowledge-based economy constantly presents new challenges, this process becomes cyclical.

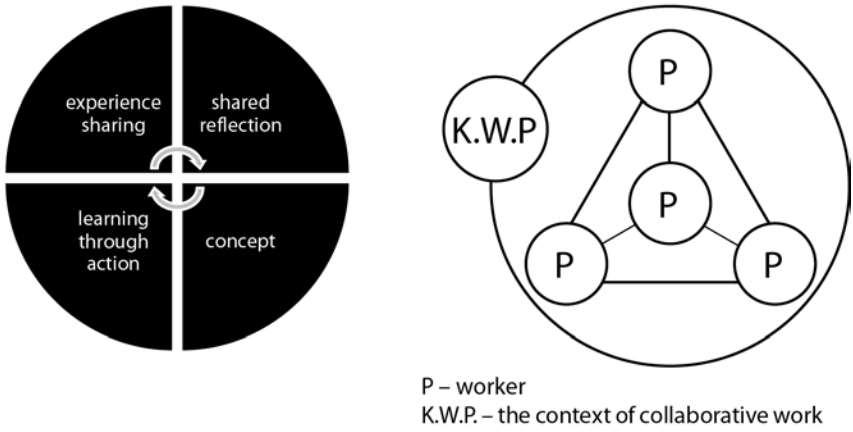

Figure 2. Model of collaborative workplace learning

Source: Author's own work based on: Järvinen, Poikela (2006, p. 178).

Learning in the context of shared work has a more complex nature (Figure 2). Collaboration serves as the reference point here. When difficulties or challenges arise, employees commonly share their knowledge with each other (if they do not share, it is not considered shared work but rather individual work performed in the presence of others). They engage in collective reflection to understand the true nature of their problem. Employees create new shared knowledge, models, and concepts to approach the problem from different perspectives and gain better understanding. The knowledge, concepts, and models are then tested in practice (by doing) and evaluated for their usefulness. Those that are deemed somewhat useful are reinforced. This type of learning is also never-ending, as concepts and models can be continuously tested and refined to enhance their effectiveness and applicability.

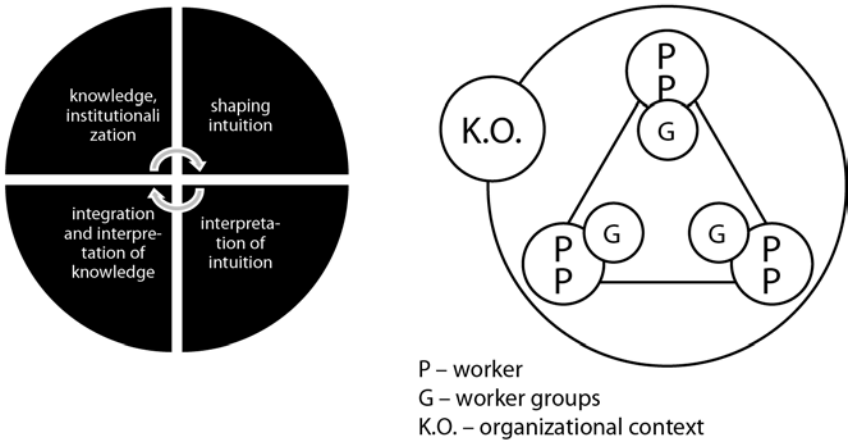

Figure 3. Model of organizational learning

Source: Author's own work based on Järvinen, Poikela (2006, p. 177).

Regarding learning in the context of an organization, Järvinen and Poikela argue that:

"When considering learning at the organizational level, it is not sufficient to analyse only the experiences that were relevant in individual and shared work. In the organizational context, we are dealing with something more, namely the distribution of know-how and new knowledge within the community of employees. Shared knowledge and know-how manifest in collective intuition and are interpreted from the perspective of the entire organization. Knowledge is acquired through exploratory actions and innovation development, and it is integrated with existing organizational knowledge and databases. [...] In other words, new activities are 'institutionalized' as part of organizational actions" (2006, pp. 179-180).

The main responsibility for the conditions and process of learning falls not on the employees but on the organization itself. The organization is responsible for introducing new practices, creating challenges, and providing feedback. This delineates a learning loop that is repeated but with different practices and challenges.

The presented models have certain weaknesses. It is worth noting one significant point. These models are not entirely original but, as the authors themselves admit, they are based on the Kolb cycle. However, the Kolb cycle has been subjected to increasing criticism. Paul Kirschner, John Sweller, and Richard E. Clark argue that in the Kolb cycle, learners are overloaded in the process

of transitioning between conceptualization and application, which greatly diminishes the effectiveness of this learning model. This cognitive load makes it difficult for some adults to assimilate new knowledge. Additionally, Kolb diminishes the importance of theoretical learning and self-directed learning, which likely occur in professional life and, at the very least, are not excluded by research findings.

Conclusions

A knowledge-based economy is an interesting trend that currently shapes economic, social, and cultural realities. It influences human behaviour and creates the surrounding reality, including the realm of adult education, particularly informal and non-formal education. Within this context, there is an intriguing understanding of adult knowledge from an andragogical perspective. This knowledge is perceived as an independent entity, constantly evolving, partially replacing production, and determining the fate of workers and organizations. The knowledge that adults navigate is primarily derived from their professional experiences. In a knowledge-based economy, lifelong learners and talented leaders play a decisive role in shaping future directions.

However, this inherent "sentence" to learning, characteristic of a knowledge-based economy, also carries certain risks. Rapid and turbulent changes can quickly render existing knowledge, methods, and sources of learning obsolete. This can lead to the exclusion of those adults who are unwilling or unable to learn, exacerbating economic inequalities.

Lastly, a methodological reflection is warranted. A review and analysis of literature in the fields of economics, finance, management, and quality reveal that scholars in these disciplines are interested in the educational dimension of work and the educational aspects of professional life, similar to work pedagogues, andragogues, and social pedagogues. However, they seldom use the term 'learning', even though it would often be the most suitable term to describe the subject of their empirical research and theoretical analyses. Instead, they employ concepts such as 'education', 'lifelong education', 'developing', 'self-improvement', and 'knowledge development', formulating statements and principles based on these concepts. This stands in contrast to the field of pedagogy, where 'learning' is considered a central conceptual category (Hejnicka-Bezwińska, 2008, p. 141) and has experienced a renaissance (Bauman, 2005, pp. 9-10), expressed in adult education by the paradigm shift from teaching to learning (Malewski, 2010, p. 47).

As a result, representatives of different disciplines within the same field of science (the field of social sciences) operate with different conceptual systems. This limits the possibility of accurate interdisciplinary communication and interpretation of research intentions. Perhaps collaborative research could harmonize terminology and significantly deepen our knowledge of adult learning in relation to work.

References

Argyris, Ch., Schön D.A. (*1996*). *Organizational learning II: Theory, method and practice*. Reading: Addison-Wesley.

Bauman, T. (2005). *Wstęp*. In: T. Bauman (ed.), *Uczenie się jako przedsięwzięcie na całe życie*. Kraków: Impuls.

Cavaleri, S., Seivert, S. (2005). *Knowledge Leadership: The Art and Science of the Knowledge-based Organization*. Oxford: Butterworth-Heinemann.

Corti, L., Thompson, P. (2007). *Secondary Analysis of Archived Data, Qualitative Research Practice*. In: C. Seale, G. Gobo, J. F. Gubrium, D. Silverman (eds.), *Qualitative Research Practice*. London – Thousand Oaks – New Delhi: Sage Publications.

Chodorek, M. (2012). *Uwarunkowania zarządzania talentami w przedsiębiorstwie w kontekście teorii pozytywnego zarządzania*. Toruń: UMK.

Drucker, P.F. (1993). *Post-Capitalist Society*. Oxford: Butterworth Heinemann.

Giddens, A. (2006). *Socjologia*, tłum. A. Szulżycka. Warszawa: Wyd. Nauk. PWN.

Hejnicka-Bezwińska, T. (2008). *Pedagogika ogólna*. Warszawa: WAiP.

Järvinen, A., Poikela, E. (2006). *The Learning Processes in the Work Organization: From Theory to Design*. In: E. Antonacopoulou and others (eds.), *Learning, Working and Living. Mapping the terrain of Working Life Learning*. Palgrave Macmillan.

Jemieniak, D., Koźmiński K.A. (2012). *Zarządzanie wiedzą*. Warszawa: Wolters Kluwer.

Jeruszka, U. *Praca – zatrudnienie – zatrudnialność: założenia dyskursu*. Szkoła – Zawód – Praca, 21 (2021).

Karlsson, Ch., Johansson, B., Sough, R.R. (2006). *Entrepreneurship and Dynamics in the Knowledge Economy*. New York: Routledge.

Kietliński, K. (2009). *Moralność gospodarki opartej na wiedzy*. Warszawa: UKSW.

Kirschner, P.A., Sweller, J., Clark, R.E. *Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching*. Educational Psychologist, 41 (2006).

Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kucznik, K. (2019). *Gospodarka oparta na wiedzy jako trend stymulujący zarządzanie Talentami*. In: E. Gruszewska, M. Roszkowska (eds.), *Współczesne problemy ekonomiczne w badaniach młodych naukowców*, tom III: Analizy makro – i mezoekonomiczne. Toruń: UMK.

Long-Sutehall, T., Sque, M., Addington-Hall, J. *Secondary analysis of qualitative data: a valuable method for exploring sensitive issues with an elusive population?* Journal of Research in Nursing, 16 (4). (2010).

Malewski, M. (2010). *Od nauczania do uczenia się. O paradygmatycznej zmianie w andragogice*. Wrocław: DSW TWP.
Mikuła, B. (2006). *Organizacje oparte na wiedzy*. Kraków: AE.
Neef, D., Siesfield, G.A., Cefola, J. (1998). *The Economic Impact of Knowledge*. Boston: Butterworth-Heinemann.
Niklewicz-Pijaczyńska, N., Wachowska, M. (2012). *Wiedza – Kapitał ludzki – Innowacje*. Wrocław: Prawnicza i Ekonomiczna Biblioteka Cyfrowa.
Nonaka, I., Takeuchi, H. (2000). *Kreowanie wiedzy w organizacji. Jak spółki japońskie dynamizują procesy innowacyjne*, tłum. E. Nalewajko. Warszawa: Poltext.
Panenka, A. (2004). *Stan i perspektywy rozwoju gospodarki opartej na wiedzy w Polsce*. In: M. Klamut, E. Pancer-Cybulska (eds.), *Polska w rozszerzonej Unii Europejskiej – uwarunkowania i perspektywy rozwoju*. Wrocław: AE.
Paterson, B.L., Thorne, S., Canam, C., Jillings, C. (2001). *Meta-Study of Qualitative Health Research: A Practical Guide to Meta-analysis and Meta-synthesis*. London: Sage Publications.
Powell, W., Snellman K. *The Knowledge Economy*. Annual Review of Sociology, 30 (2004).
Rojek, M. *Coworki, (akademickie) inkubatory przedsiębiorczości i startupy – nowe środowiska pracy i uczenia się dorosłych*. Rocznik Andragogiczny, 28 (2021).
Schultz, T.W. (1981). *Investing in People: The Economics of Population Quality*. Berkley: University of California.
Senge, P. (2002). *The Fifth Discipline. The Art and Practice of The Learning Organization*. New York: Doubleday/Currency.
Sfard, A. *On two metaphors of learning and the dangers of choosing just one*. Educational Researcher, 27 (1998).
Szromik, A. (2013). *Wstęp*. In: G. Śmigielska (ed.), Źródła konkurencyjności przedsiębiorstw handlowych w gospodarce opartej na wiedzy. Warszawa: Difin.
Sztompka, P. (2009). *Socjologia – Analiza społeczeństwa*. Kraków: Znak.
Toffler, A. (1990). *Powershift: Knowledge, Wealth and Violence at the Edge of the 21st Century*. New York: Bantam Books.
Watkins, K.E., Marsick, V.J. *A framework for the learning organization*. In: K.E. Watkins and V.J. Marsick (eds.), *In Action: Creating the Learning Organization*. Virginia: American Society for Training and Development, 1 (1996).
Watkins, K.E., Marsick, V.J. *Summing up: demonstrating the value of an organization's learning culture*. Advances in Developing Human Resources, 5 (2). (2003).
Welfe, W. (ed.). (2009). *Makroekonomiczny model gospodarki opartej na wiedzy*. Łódź: UŁ.
Wiśniewska, S. (2015). *Zatrudnialność – pojęcie, wymiary, determinanty*. Edukacja Ekonomistów i Menedżerów, 1 (35). (2015).
Woodall, J., Lee, M., Stewart, J. (2004). *The knowledge revolution and the knowledge economy. The challenge for HRD*. London: Routledge.