

**STUDIES**

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**Lifelong Learning in Seniors in the Perspective of  
the Neuro- and Psychosocial Concept**

**Lifelong learning osób starszych w perspektywie  
koncepcji neuro- i psychospołecznej**

*(...) [the brain] perfectly tolerates every load related to the processes of learning  
and memorizing, and can even afford a billion times that effort.*

Isaac Asimov

**Introduction**

The brain is perhaps the most complex living organ that is aging, much like the whole human body. The changes in its structure occurring with age do not necessarily mean a decrease in cognitive abilities. Appropriate physiotherapy of brain structures and limiting brain neuronal degeneration processes allow an individual to function properly in the social area for as long as possible. The skills and knowledge acquired by an individual – in the course of their life – are the result of the brain's work as an organ on the one hand, and on the other an exercise in its efficiency. Humans must constantly reinforce the cognitive

structures of the brain that are vital to its proper functioning. Such activity is nowadays referred to by the English term *lifelong learning* – LLL, thus describing the process of lifelong activity aimed at acquiring knowledge, but also competences and skills (Znajmiecka-Sikora, Kędzierska, 2011, p. 6). Lifelong learning „seems to appear as a kind of personal disposition that everyone can, and even should, develop if they want to be an active participant in the events that make up their life” (Chabor, 2005, p. 58).

The Polish lifelong learning policy is to promote and support good quality learning at all stages of one’s development, from the earliest years to old age, in various contexts of formal and non-formal education (Annex 160/2013 to the Resolution of the Council of Ministers dated September 10, 2013, p. 48)<sup>1</sup> and informal education, as well as to identify, assess and confirm learning outcomes, regardless of the path taken (Annex No. 160/2013 to the Resolution of the Council of Ministers dated September 10, 2013, p. 3).

Lifelong learning, including in old age, allows undertaking new activities. Often in one’s mature age, an elderly person has more time on their hands, goes back to classes they had been putting off for years or looks for inspiration, develops long-forgotten abilities, pursues dreams, stimulates their spiritual development. This approach is a particularly desirable model of education due to the extremely fast changing social, technological and economic conditions, and the need for constant adaptation to them. As highlighted by M. J. Szymański, education enriches a person – regardless of their age. „The acquired knowledge increases an individual’s awareness, contributes to their mental development, improves their emotional intelligence, and participation in culture. This increases their life opportunities [...] It is becoming an increasingly important indicator of one’s quality of life, both in terms of activity and consumption” (Szymański, 2009, p. 7).

Looking at the Polish reality, it is hard to escape the impression that the ideas of lifelong learning are not very popular in our country, and are being practiced rather rarely. This is due to various reasons, e.g. mental or economic barriers or lack of tradition in this respect. Even in the middle of the last century, old age was not seen as suitable for undertaking educational activity.

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<sup>1</sup> Non-formal learning is a type of organized learning that prevails over formal learning in schools, colleges and adult learning facilities. Typical places of such learning are: companies, public institutions, social organizations, where large communities of citizens are involved in acquiring knowledge and skills throughout most of their lives.

The situation changed significantly only by the Universities of the Third Age, developing since the mid-1970s (Skibińska, 2008, p. 97).

Nowadays, seniors make up a large, constantly growing social group, which sees educational activity as an opportunity to improve their quality of life. In the last few years, a number of publications appeared on the Polish publishing market, describing the advantages of lifelong learning, heralding it as an antidote to dementia and a limit to the aging of the human brain. The content they contain highlight the civilizational and personal, individual dimension of this activity. They see it as a remedy for the social exclusion of seniors, so that they do not become „expendable”, „unnecessary people” in an era of contemporary dynamic changes (Bauman, 2004, p. 48).

Research carried out by the Central Statistical Office regarding the situation of the elderly in Poland and the consequences of demographic aging of the population leave no doubt. We should make every effort to increase the birth rate, while increasing the quality of life of those over 65, whose population in 2050 will already constitute over 30% of the Poland's total population (GUS, 2014). The activation, motivation and support of this social group in the pursuit of continuous self-improvement and continuous education has become a crucial element and also a challenge for the state's social policy.

### **Neuroeducational perspective of lifelong learning**

The brain is perhaps the most complex living organ. It is referred to as the body's computer. It is this organ that is largely responsible for our development, the course of our life and its end. During the lifetime of an individual, the brain evolves through different stages:

- development stage – this is a time when rapid changes take place and basic cognitive abilities are created; this stage begins before one's birth and lasts until about 30 years of age;
- maturity stage – it is characterized by greater stabilization of brain structures, less variability; it is the stage referred to as the „age of productivity”, allowing an individual to contribute to the development of the surrounding world and shape it through various activities;
- the aging stage – atrophy occurs at this stage, i.e. brain tissue decline; it is a natural process of brain aging. With age, the overall speed at which we are able to perform various mental operations decreases; our

sensory functions - the ability to receive stimuli informing about the surrounding world - are reduced (Goldberg, 2014, pp. 46–58).

During each of these stages, the brain performs very important functions in the development of an individual by gaining knowledge and the ability to use it, both in the perspective of one's individual and collective life. It controls every area of one's activity. This means that the brain is active all the time and can learn throughout one's life. It is the efficiency of its work that determines one's ability to properly assimilate with the environment. The most important activities determining the proper course of an individual's social life, which depend on the proper functioning of the brain, include:

- perception – responsible for recognizing and interpreting sensory stimuli that reach a person, such as the feeling of cold, smell, taste;
- attention – allowing one to focus on a specific thought, action, object; gives the opportunity to select stimuli of one's interest, despite the occurrence of distractors;
- memory – responsible for short or long-term storage of information and for remembering and storing the most important ones;
- motor and visual-spatial coordination – the brain sends stimuli to every part of the body, enabling it to make movements, also allowing visualization and memorizing spatial elements, as well as performing complex motion sequences;
- executive functions – the brain is responsible for planning, implementing and achieving goals and making decisions (Fernandez, Goldberg, Michelon, 2015, pp. 28–30).

It is therefore important to provide impulses that will stimulate the brain to work and, consequently, inhibit its aging processes. What is noteworthy is the education of people and raising public awareness towards preserving the idea of lifelong learning and conducting activities increasing the mental activity of an individual. This will allow them to enjoy life and actively participate in social community for a long time.

### **Lifelong learning as a reversal of brain aging processes**

Experimental research in neuroscience conducted on an increasingly large scale indicates the nearly unlimited adaptability of the central nervous system. In the perspective of modern arrangements, the brain's flexibility applies both

to aging people as well as those of advanced age. Aging is a process that leads to the degeneration of the gray matter in the brain. However, it has been observed that even in the brains of older people with cognitive deceleration (memory problems, slower thinking, language difficulties), reverse processes may occur, increasing myelination and reconstructing neuronal connections. Wherein it should be taken into account that cognitive difficulties among seniors can be reinforced by negative learning. This is made manifest in defensive learning strategies in the perspective of physical weakness resulting from the aging process, such as communication deterioration (worse hearing and/or vision – in terms of non-verbal communication) or resignation from interpersonal contacts, which accelerates the degeneration process (Merzenich, 2005).

There are currently several experimental curricula based on the latest neurological findings, which aim to strengthen the brain capacity of the elderly. Most of them are dedicated to those with Alzheimer's disease. But not only that.

The implementation of one such program, whose recipients were the elderly without neurological disorders, allowed for a significant improvement in cognitive functions, especially in terms of memory (effect magnitude 0.41,  $p < 0.0005$ ) (Mahncke et al., 2006, pp. 157, 81–109). Analyzes by other researchers have also confirmed that as a result of learning, the brain of an elderly person becomes flexible and thus is able to change the cortical representation through learning new cognitive strategies (Greenwood, 2007, pp. 657–673). Lifelong learning based on neurological evidence is an action focused on supporting cases of neuropathy, and thus strengthens brain adaptability in the elderly. Supporting cases of neuropathy also increases the comfort and functioning of the elderly in terms of cognitive abilities and mental health.

### **Intergenerational lifelong learning**

The educational activity of the elderly in Poland is definitely lower than in other European countries. According to A. Richert-Kaźmierska and M. Forkiewicz, the decreasing quality of life of the elderly, their worse position on the labor market and their low social position contribute to the low level of knowledge and competence among this group (Reichert-Kaźmierska, Forkiewicz, 2018, p. 138). It may also result from non-adjustment of the education system and educational methods to this social group's needs and capabilities.

This can also be seen in a historical perspective. Today's 60-70-year-olds are people who had been functioning in two different socio-economic, political, and educational realities. They have lived before 1989, i.e. before the transformation period and after this significant historical breakthrough. These two worlds emphasized different values, models, competences, required different skills and knowledge. What was once useful and highly desirable does not match the current reality. Currently, the so-called „divine order” is mixed up so much that the age-old model of an „old” teacher teaching a „young” pupil has been disturbed, and today we observe the so-called prefigurative culture, where a young person teaches an old one (Sikora, 2015). The elderly want to acquire knowledge and skills desired today, and it is young people who are the best source of information for them. Seniors prefer issues in the following areas:

- technical knowledge and skills (using a computer, an ATM, personal accounts over the phone, music equipment, TV, video recorders);
- knowledge about one's own body, its functioning, biological and functional changes related to progressive aging and health in the broad sense (lectures and meetings with specialist doctors);
- knowledge and skills related to organizing leisure and entertainment (developing new interests, social relationships);
- topics related to „life” (coping with financial, inheritance and legal issues) (Sikora, 2015, p. 44).

M. Kilian adds the following issues to this set:

- the past – telling about their own lives, achievements, difficulties, which allows them to recall past events, rethink them, merge them, give them meaning over time, discover the meaning of life;
- understanding the modern world – the question of adapting to life in a world that has changed so much since one's childhood and youth;
- illness and disability – issues arising from fear of losing one's life independence;
- death – loss of family members and friends – concerns the subject of broadly understood loss inherent in old age;
- family – stories about spouses, children and grandchildren – focusing on the family may result from the loss of other social and professional roles;
- loneliness – the need to be in a relationship with others, meet new friends;

- finances – matters related to the cost of living, treatment;
- religious beliefs, the meaning of life;
- managing leisure and interests (Kilian, 2015, pp. 173–174).

Among the factors affecting the learning process in the elderly, the following are mentioned (after M. Knowles): a sense of self-efficacy, acceptance of one's own limitations, the ability to adapt to new conditions, positive thinking, openness to new experiences and awareness that learning is still important. M. Sikora also adds to this list the following:

- a sense of competence, work based on resources and strengths, i.e. strengthening the senior's belief that they are a valuable individual, and maintaining their area of influence and making choices;
- strengthening the belief that one can speak well of oneself and that this is not bragging, boasting or immodesty;
- work based on values, principles, and a moral system of an elderly person (Kilian, 2015, p. 45).

To make work with seniors more effective, one should take into account their physical, mental, spiritual, social or functional condition, as this will allow accurately determining their real capabilities and needs, also in the area of education. Meanwhile, the education of the elderly should take into account the huge internal diversity of this age group, requiring adaptation of methodical recommendations and guidelines depending on the forms of work both in relation to the collective and the individual. It is very important to plan the classes in advance, with full awareness of the main goal and specific objectives, taking into account the participants' expectations, including those related to the topic of classes.

Discussing and absorbing content should go from urgent to remote things, from the known to the unknown, from easy things to difficult ones, from real life to abstract concepts, from simple to complex ideas. Presentations should be in large font, lectures should have an orderly, logical structure, contain an introduction and ending, highlight important content. The language used should be clear, without unnecessary terminology, digressions, and the examples should be taken from experiences that the listeners are familiar with. One may want to consider giving short, thought-provoking homework.

The choice of working methods is also important. The elderly prefer more structured learning methods (e.g. lecture), but after reaching a certain level of knowledge and skills, they prefer individual learning, e.g. by reading specific

publications on their own. They willingly participate in practical classes, discussion groups, projects, manual work, demonstrations, training, case studies, staging and classes conducted using autobiography and reminiscence. And finally, elderly education is not about certificates, diplomas or grades. What matters here is the senior's subjective feeling that they have achieved something, learned something or received feedback from the teacher and other participants. Education should take place using a variety of teaching aids and measures used by seniors on a daily basis, such as magnifying glasses, glasses, hearing aids, etc. (Kilian, 2015, pp. 172–175).

The elderly mainly benefit from informal and non-formal education. Regardless of the methods and forms of knowledge transfer, it should be remembered that the learning of seniors has very important functions in the process of active aging. Its main purpose is to optimize one's health opportunities and implement participation- and safety-related tasks in order to improve the quality of life as people get older. The aim is to maintain one's physical fitness and the capability to perform work by older people as long as possible, as well as their active participation in social, economic, cultural and civil life (WHO, 2002 p. 12, Reichert-Kaźmierska, Forkiewicz, 2018, p. 128).

### **Psychosocial concepts of lifelong learning**

Lifelong learning is developed at various levels of paradigms and concepts, particularly when it comes to working with the elderly. Current research aims at determining the role of learning in social aging, both for the individual and the society. As part of the classic approach to aging, namely the disengagement theory coined by Cumming and Henry, it was assumed that old age is a state naturally attained in the temporal perspective, embedded in social relations, but independent of the processes that occur there. Old age as an individual's psychosocial attribute is associated with the inevitable withdrawal of older people from social roles of significant influence. Resignation from social involvement is reinforced by social processes strengthening young adults preparing for social roles previously occupied by the elderly. Abandoning social and professional activity by the elderly results from the natural need to contemplate life and to experience loneliness. Satisfying these needs allows the elderly to harmoniously accept their physical and social condition, where successful aging is understood as teaching them to play a new social role. It also means preparing for the rest

of one's life as observers of the young generation. Disengagement from society is not the same as self-exclusion, but rather a preparation for fulfilling passive roles, which allows society to achieve continuity of leadership and thus maintain harmonious development. In this perspective, lifelong learning is the process of preparing older people to act as teachers or guardians of the young generation, which culminates in the transfer of social power. In accordance with this approach, lifelong learning means the process of social compensation of the elderly by creating a framework for meeting their natural needs, i.e. reflection on life and integration of the past with the present and the future of society (Bond, Corner, 2004; Fisher, Wolf, 2001).

In turn, the engagement or activity theory proposed by Havighurst allows for a different interpretation of the learning goals of seniors. The theory of activity is grounded in opposing assumptions, where it is the increase in activity in the senior years that allows the successful aging of the individual and society. In this perspective, old age is a period of human development, in which one has to fulfill such tasks as: development of one's own interests that were not previously pursued, development of previously blocked social relations, formation of new socially engaged roles. The success of older people's development is achieved as a result of meeting new physical, psychological and social requirements that come with retirement. The social engagement of the elderly seems to be more beneficial because, compared to suspending their activity, one of its goals is well-being. In this regard, the sense of fulfillment of older people is a process that self-updates through implementing their own development tasks. According to this theory, *lifelong learning* is both a means of the developmental success of the elderly, and an end in itself. Learning is a choice between different development paths, where a manifestation of one's needs in this regard forms the basis for the development of institutional forms of support such as the University of the Third Age (Findsen, Formosa, 2011).

### **The role of universities of the third age in the educational activity of the elderly**

The educational activities undertaken by the elderly are affected by many factors, including the level of their education, family environment, place of residence, health condition or gender. Being active in this respect has a compensatory function, helping to compensate for deficiencies in other areas of

life. Moreover, this type of activity creates conditions for improving one's quality of life, coping with loneliness and reluctance to live. Universities of the Third Age (U3A) are a great place to develop these competences and eliminate the sense of exclusion.

Poland's first University of the Third Age was founded in Warsaw in 1975, only two years after the founding of the world's first U3A in France. At the turn of the 1980s and 1990s, only several dozen such educational institutions for the elderly operated in Poland. The rapid increase in the number of U3As took place at the turn of the 20th and 21st centuries and was the result of changes in the state's political system and the formation of the idea of civil society (Pólturzycki, 2013, p. 272).

The literature on the subject distinguishes four types of functioning of Universities of the Third Age. The first of them are universities that are an integral part of public universities. They are established by the rector, and the university itself supports the process of organizing teaching activities. The second type of Universities of the Third Age operating in Poland are those institutions that are run by autonomous legal entities, such as foundations and associations. This type of facilities independently organize classes and logistics facilities. They usually work with universities, which cover their activities under the scientific patronage of local government units and other NGOs. The third type are universities established by associations that conduct popular science activities. The last type of Universities of the Third Age are institutions that were created within the entities subordinate to the local government, i.e. they are run within the structures of e.g. cultural centers, lifelong learning centers, libraries or social welfare centers (Halicki, 2018, p. 148).

As shown by the research titled *Universities of the Third Age in the academic year 2014/2015*, carried out by the Central Statistical Office, there were 464 Universities of the Third Age in Poland in 2014/2015, with a total of 96,370 students. Universities of the third age are mainly run by non-governmental organizations (most often they are associations). The least universities operate under the auspices of public universities (GUS, 2016, p. 13). In turn, the analysis of substantive reports of Universities of the Third Age shows that the main objectives of their activity involve:

- creating opportunities for the elderly to educate and broaden the students' intellectual skills;
- development of one's interests and passion;

- creating opportunities for active leisure;
- promoting a healthy and active lifestyle;
- creating conditions for the development of social contacts (GUS, 2016, p. 13).

The goals are achieved through organizing: lectures and thematic seminars in the field of medicine, mainly gerontology, social policy, law, psychology, history, culture and art; classes in sections – the universities of the third age usually offer art, languages (English, German, French, Spanish), computer, gymnastic and tourist sections; and organization of events – integration meetings, joint outings to cultural institutions such as cinema, theater, philharmonic. Furthermore, short trips (one or two days long) are organized, as are rehabilitation stays and holidays.

Education and activation for the elderly is designed in a way that takes into account the diverse nature of changes occurring in old age. By enabling seniors to educate themselves and expand their knowledge, this age group is given better opportunities to live through this period of life. While studying, older people become more open to the world around them and to the younger generation; they socialize and become more active. With unrestricted access to education, the elderly can find a better place in society and maintain their fitness, independence and self-reliance. Acquiring knowledge is also an important form of intellectual and mental rehabilitation (Pikuła, 2014, 130–138).

## Conclusion

Inclusion of the issues of lifelong learning for the elderly in activities carried out by the state is one of the most important challenges posed by today's reality. In modern post-industrial societies, including the Polish society, there are still phenomena, mechanisms and processes that favor the emergence and accumulation of barriers in the educational activity of the elderly. The few successes in the area of organizing education for the elderly, including the activities of Universities of the Third Age and the effective senioral policy of some Polish municipalities, still fail to fill the gap in this regard. Action is needed to reorient the old educational offer for seniors and create a new one, taking into account the latest discoveries in science, including neuroscience.

The multidimensional analysis of the concept of lifelong learning allows for undertaking innovative educational activities, tailored to the individual

needs of older people, contributing to improving the quality of life in individuals and the group as a whole. Its implementation should be a priority of state policy in the area of education and social development.

**Abstract:** Lifelong learning is extremely important from the standpoint of processes taking place in modern society. Currently the idea of learning one's whole life, while facing the consequences of the aging of the society, is given a new meaning where the main aim is to optimise the social activity and improve the quality of the elderly's life. The process of knowledge acquisition is connected with the abilities of the human brain, while this organ goes through the atrophy phase due to aging (aging of the brain). One of the methods of counteracting this unfavourable process is *lifelong learning*. The idea of educating the elderly is currently at the centre of interest of many people and institutions, Universities of the Third Age among them. The search for innovation in this regard is one of the major challenges in senior policy.

**Keywords:** lifelong learning, the elderly, senior policy, University of the Third Age, brain aging

**Streszczenie:** Niezwykle istotne z perspektywy procesów zachodzących we współczesnym społeczeństwie jest całożyciowe uczenie się. Obecnie idea uczenia się przez całe życie, w obliczu konsekwencji starzenia się społeczeństwa, nabiera nowego znaczenia, gdzie nadrzędnym celem stają się optymalizacja aktywności społecznej oraz polepszenie jakości życia osób starszych. Proces przyswajania wiedzy związany jest z możliwościami mózgu człowieka, gdzie w wyniku starzenia się, organ ten również przechodzi fazę atrofii (starzenia się mózgu). Jednym ze sposobów przeciwdziałania tego niekorzystnego procesu jest właśnie *lifelong learning*, czyli całożyciowe uczenie się. Idea edukacji osób starszych aktualnie znajduje się w centrum zainteresowania wielu osób i instytucji, a jedną z nich są Uniwersytety Trzeciego Wieku. Poszukiwanie innowacji w tym zakresie stawowi jedno z najważniejszych wyzwań polityki senioralnej.

**Słowa kluczowe:** całożyciowe uczenie się, osoby starsze, polityka senioralna, Uniwersytet Trzeciego Wieku, starzenie się mózgu

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