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SELF-EDUCATION – OLD PROBLEM, NEW CHALLENGES[1)]

Abstract: While joining a social debate about self-education, the Author turns attention to the continuity of reflection initiated by the Ancient and undertaken contemporarily by representatives of different divisions of humanities. The Author underlines, that a starting point in a process of self-education is getting to know oneself, which requires engagement of internal attention, thinking, and dialogues with one's surroundings as well as with oneself. She proposes a thesis, that cultural changes from the turn of the twenty first century – connected with expansion of information technology – foster self-education as long as they are accompanied by self-reflection.

Keywords: self-education, self-knowledge, personal standards, internal attention, dialogue.

INTRODUCTION

The word 'self-education' can be encountered in both scientific and common language. According to Bogusław Śliwerski (2007), it was introduced by Marja Hornowska (1912) at the beginning of the last century. The same author notices, that an explosion of terms with the prefix 'self' occurred at the end of the 19th century in order to underline a fact, that a person or a thing occurs and acts in their own right, independently. Equivalent or similar in meaning terms can be found today in large numbers: self-perfection, shaping of will and character, self-mastering, self-determining, self-steering, self-regulation, self-control. This intuitively accessible phenomenon encourages to seek for an answer for questions concerning an essence of self-education, what is its aim, motives, ways of implementation, what should one start with, what do we gain when initiating this form of activity and finally – if it is possible in the 21st century. Basing on my own research experience I would like to present more closely an issue which is important from both research and practical perspectives, which is also described in an impressively rich literature. I would like to focus on the following issues in particular: firstly, I will refer to self-knowledge as a starting point, necessary, however not sufficient for the process of self-education, treating it as a subjective correlate. Secondly, I will focus on an individuals' activity confronted with internal standards in dialogues with one-self, understanding them as an inalienable condition of self-education. Thirdly, I will also consider lifestyle following from culture predominant in the 21st century, seen as a situational factor.

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The text has a status of an opinion within a discourse, for which I also encourage other Authors. I am aware of the complexity of the issue and obstacles following from it when it comes to a concise presentation of the issue. They follow, among others, from a fact, that self-education refers to a human being as a person, which goes beyond the scope of psychological functioning. More narrow perspective presented in the text – focusing solely on the psychological dimension – although reductionist, implies also referring to complex characteristics of cognitive, emotional-social, and personality-based functioning. What is more, issues concerning essence, specificity, and dynamics of changes which are included in a set of activities referred to as self-education – although referred to in several different ways – can be found in all, so-called classical psychological concepts.

STATUS OF SELF-EDUCATION

Texts concerning the issue of self-education come from various historical periods, from antiquity to the 21st century. It speaks about the importance of the issue and its universal character. Self-education – analogously to education – is nowadays associated with self-development and self-learning. Together they create a kind of triangle when thinking about ways of self-perfection of a human being who is capable of co-creating him or her-self (Kozielecki, 1999; Jarymowicz, Szuster, 2014; Oleś, 2011). In modern times, the topic is undertaken mostly by representatives of humanities: psychology, pedagogy, resocialisation (cf.. Delors, 1998; Kulpaczyński, 1979; Śliwerski, 2007, 2010). A separate current is created by studies based on theology (Trusewicz-Pasikowska, 2015) and philosophy – mainly personalism (Bagrowicz, 2008; Granat, 1985). In works of authors representing different disciplines one can find similar points, among which there is a hardship of self-education, its inalienability and complex conditioning. In the works of last decades, self-education is referred to as an art (Zalewski, 2007) and it challenges contemporary times (Golek, 2017). I refer to the last statement in the current article.

As I have already stated, it is hard to describe even only chosen issues in a short form, therefore I refer the interested readers to review articles (e.g. Balcer, 2017). The topic is worthy also a complementary approach from historical psychology perspective (Dymkowski, 2003). I am writing the current article as a scientist who is combining two aspects of psychology: individual differences in cognitive functioning and also an issue of teaching. I treat self-education as a form of self-activity, significant during one's life course. Education is captured by developmental researchers as one of the factors of development, apart from biological and environmental influences. Broadly understood self-activity contains – in case of an adult – mostly learning and work, but also, as underlined by Karen Horney (1976), working on oneself. The author treated it as a privilege and duty, noticing also some evident benefits such as independence form negative influences of various environments of life. This stand is shared by many researchers, which I will refer to in the course of further considerations.

Chronologically, self-education occurs later than education initiated by main socialising environments, such as family and school. Not everyone, also, undertakes this type of effort. A starting point of self-education is gradually increasing self-knowledge, which then encourages a revision of thinking and behaving in the light of accepted standards. It leads, in the first place, to building knowledge about oneself, which

is self-knowledge. It is a preliminary condition to change oneself, necessary however not sufficient. Self-knowledge fulfils important functions: it allows and facilitates orientation in oneself and in one's surrounding, planning, decision-making and acting, and also correction of thinking and behavioural paradigms (Dymkowski, 1993; Jarymowicz, 1999; Kozielecki, 1986). Efforts directed towards self-shaping require also causative power. Motivation is directed mostly by personal aims, standards and needs, among whom one of the most commonly named is a need for cognition and growth (Cacioppo, Petty, 1982; Petty, See, 2007).

Self-education – just as every human activity – takes place in a certain context. The broadest of them is culture, influencing prevailing patterns of thinking and behaving. I am putting forward a hypothesis, that cultural changes from the turn of the 21st century – connected with the expansion of information technology – favour self-education in as much as they encourage thinking, and therefore stimulate reflection. In such a way I am referring to a statement concerning relationships between the specificity of a given historical period and development, broadening and modifying earlier argumentation (Ledzińska, 2017).

Reflections on self-education are part of a broader trend of considerations about possibilities of perfecting a human being. As Józef Kozielecki (1999) writes, there are three main ways to make a change. Solutions known best and most commonly used refer to using cultural transfer; education with upbringing and psychotherapy is referred to by the author as 'mems' Self-development and self-education are in turn connected with a potential for self-creation (Kowolik, 2010). The third way is connected with correction of a person while interfering within an organism. Many contemporary experts tie together genetic therapy, biotechnology, and reconstructive medicine with a hope for improvement and refinement (Harrari, 2018). The hopes are accompanied by numerous doubts and apprehensions of psychological and ethical nature. This issue, although important, interesting, and up-to-date – goes beyond the scope of analysis performed here.

THE PRELIMINARY REQUIREMENT OF SELF-EDUCATION – LOOKING INSIDE ONESELF

Self-education seen as a process, requires self-awareness as well as the ability of directing attention from the outer world towards oneself. Attention in this process plays a role of an 'inner eye', enabling a memory search, assessment of thinking, and employing imagination. The idea is well-known within European cultural circle, and the calling 'Get to know yourself' belongs to one of the best known Greek sentences. It was at the pediment of the Delphi temple of Apollo, the most famous maxim of the Ancient ties was engraved: *gnoti seauton,* which is better known in its Latin version: *cognosce te ipsum.* A statement, that all wisdom starts in getting to know oneself, was not the only sentence written on the Delphi sanctuary. Krzysztof Bielawski (2018) writes about close to one hundred five maxims. Placed close to the entry, they were read by everyone, who wanted to know their fate foretold by the oracle, priestess Pythia who was speaking – as it was believed – in Apollo's name. Read, repeated, and then passed on to inmates and friends, they were the base of Greek education – paideia. They survived up to today's world in a form of known quotes or their paraphrases. We appreciate their content and admire concise form. Here are some chosen examples: 'know

the right time', 'stay away from corruption', 'be yourself', 'manage yourself', 'exercise mind', 'nothing in excess', 'respect yourself', 'risk wisely', 'manage expenses', 'enjoy what you purchase', 'use luck', 'live without sorrow', 'exercise modest silence', 'aim courageously towards the end' (Wodziński, 2015).

The maxims named above refer to all areas of human functioning being recognised by today's psychology. The spirituality of Delphi's wisdom can be found in the first sentence, which goes 'follow god'. It can be understood as an acceptance of the human condition and of not fighting against a higher power. The area of cognitive functioning is referred to by numerous postulates considering control over one's attention or mind-training. A certain number of maxims are – using today's language – recommendations of self-control in the area of emotions and relationships with other people: 'talk straight', 'give what you can give', 'despise slander', 'control fear', 'do not boast about your strength', 'stay away from what does not belong to you', 'love who you create' 'hold your tongue'. An echo of Delphi maxims can be found in today's numerous psychological concepts which are underlining the role of self-control and self-regulation, seen as metacognitive skills (among others: Baumeister, Tierney, 2013; Dunlosky, Metcalfe, 2009; Niedźwieńska, 2008; Vohs, Baumeister, 2017).

The calling 'Know yourself' is an abbreviation signalling a complex process. It was given various meanings in antiquity and in modern times. Marius Reiser (1993) underlines, how broad this interpretative spectrum is. In ancient Greek times this postulate was seen as a need to become aware of limitations created by nature, which were simply self-limitations. In a similar explanation (Reiser, 1993) a need for realistic self-assessment together with a discovery of truly possessed knowledge and skills were underlined. Become aware of what you are capable of as a creature who will die one day, get to know your potential. It was a sort of a warning against arrogance and conceit. Self-knowledge was therefore connected with a critical reflection upon oneself, directing attention not only to the outer world, but also towards inner-self, with conversations not only with one's surroundings, but also with oneself.

In the Christian world, self-knowledge was given yet another meaning, connecting it with a spiritual development. Origen notices a double 'benefit' from looking inside oneself: moral and speculative. In modern times, a conviction, that getting to know one's soul leads to God, can be found in works of well-known authors (e.g. Merton, 2015; Newman, 2003). In texts originating from the area of Christian spirituality it is underlined – which also is characteristic of them – that self-knowledge can be occurring thanks to the grace of God and a constant cooperation with it, it is not solely within human capacity and efforts.

KNOWLEDGE ABOUT ONESELF AS THE EFFECT OF SELF-KNOWLEDGE

In psychology understood as empirical science, the category of self-knowledge is present in many concepts, including developmental and cognitive-social ones. The last ones refer to functioning of mind and personality (Bruner, 1978; Piaget, 2006; Wygotski, 1978). An influential trend in this are is created by research studies concerning 'self', relationships towards oneself and others. In contemporary psychology it is one from the so-called 'great topics' (Dymkowski, 1993; Kozielecki, 1996; Łukaszewski, 2008).

While writing about self-knowledge, I refer to the concept of human being as a subject of actions, proposed by cognitive psychologists (Kozielecki, 1996; Nęcka,

Orzechowski, Szymura, 2006). From such perspective, human being is an active and initiative individual, processing received information and influencing their life history. He or she builds knowledge about themselves and is able to reflect upon it, and the results of such activity he or she can use for a correction of self-image and behaviour following from that image (Kozielecki, 1999). It is a declarative and open knowledge. I emphasise one more time, that human capacity for self-awareness and reflection is a condition for creating self-knowledge.

Self-knowledge is a general term encompassing everything we know about ourselves and – as I have already mentioned – it requires a usage of the category of 'self'. Researchers of different orientations emphasise its complexity (Bąk, 2017). There are also many ways of describing and classifying 'self' (Suszek, 2007). I'm citing one of the oldest and best known classification, which is dichotomic: self-as-object and self-as subject (James, 1890). The reflections presented here refer to self-as-object, which is a psychological capacity to treat oneself as an object of own attention and a conscious, intentional thinking about oneself. A notion of identity close to 'self' refers to a conviction about our immutability, despite passing time and resulting changes in ourselves and in our social surrounding (Oleś, 2009).

Self-knowledge is built on – analogously to knowledge about the world – cognitive representations and schemas. It also changes in a similar way. Its content, rules of organisation, way of using and – what I emphasise – reference of an individual to knowledge encoded in autobiographical memory – they all can be and indeed are modified (Maruszewski, 2005). An important remaining component is going beyond personal experiences and also emotional and intellectual analysis of those with one's mind and will. It is an important element of self-education. A majority of psychologists emphasise the meaning of early childhood experiences influencing the way we perceive ourselves and our surroundings. They also underline that attitude towards oneself is a function of own actions; assessment and successes in areas which are subjectively perceived as important. This assessment is then generalised to an overall judgement about oneself and one's own value. Positive attitude toward oneself and others plays an important regulatory role: it shapes individual's well-being and enables trust toward others, it also favours a search of optimal solutions in every-day life difficulties, which enables an acquisition of new competencies and keeping faith in own effectiveness (e.g. Greenberg, Arndt, 2011). Self-value is correlated with positive emotions which are fundamental for well-being and comfort. Perceiving oneself as a person who can be characterised by valuable and desirable traits builds a high self-esteem, and one of the most important consequences of this self-esteem is a feeling of safety.

This element of self-knowledge created by convictions about oneself has therefore a complex social conditioning and is characterised by hard-to-overestimate functional properties. Self-image which is gradually created is – as already mentioned – generalised to others, and in turn, a coherence between different components of 'self' in our psychological functioning leads to fewer conflicts (Jarymowicz, 2008). What follows from here is a higher chance of using resources in interpersonal relationships, also in helping others. Self-knowledge is therefore in essence a process of getting to know oneself, which occurs over a period of time. An insight into oneself enables a correction of that image and behaviours following from it. It is a key component of self-education.

DYNAMICS OF SELF-CHANGE

The significance of yearning for knowledge

When talking about issues of impulses of human behaviour, psychologists do not speak with a single voice. Differences in opinions aside, I want to remind about an obvious fact, that an important driving mechanism of human actions are our needs (Reber, Reber, 2005). A significant contribution to the scientific knowledge about needs was made by Abraham Maslow (1968/1986), one of the main representatives of humanistic psychology. Whoever a human being can be, they have to become one, Maslow was writing in the first text presenting own concept of the hierarchy of needs, where specified needs relate to a lack of something or to a desire of growth (Maslow, 1943).

An important dynamics of human's actions is a need for knowledge, classified as one of the growth needs. It decides about undertaking of effortful cognitive activities. Persons with developed cognitive need seek for information. They also like to analyse complex situations and to solve difficult problems, which is for them a source of joy (Reber, Reber, 2005). Arthur R. Cohen, Ezra Stotland and Donald M. Wolfe (1955) in turn, describe the need for knowledge as an intention to engage in making things meaningful and searching for a comprehensive structure of significant evets. It is therefore an aspiration to understand and to make a rational justification of rules which are in place in the world. Deponents of such need do not need an external motivation in order to more deeply process information, as the very process is rewarding for them. Jojn T. Cacioppo and Richard E. Petty (1982) underline in turn, that the need for knowledge has a motive character. It does not inform about cognitive skills, but about engagement on and enjoying completing actions. It can be seen in a quest for gaining an orientation not only in one's surroundings, but also in efforts to purchase self-understanding practices and a care for inner coherence. So many aim for realisation of aims which are important for them and also for keeping of their standards. It is a second important driving factor of self-education.

The role of personal standards

As I have already noticed, self-education is connected with a necessity of going beyond external conditions shaping psychics which refer mainly to the influence of educational environments. In this process, a key and irreplaceable role is played by reflectivity, which is humans' thinking about oneself and about the world (Dymkowski, 1993; Jarymowicz, 2008; Jarymowicz, Szuster, 2014). Empirical evidence supporting the claim, that thanks to reflection one can go beyond personal experiences come from different disciplines. Most often named are: psychotherapy, a concept of self-settled trust or posttraumatic growth (Heszen, 2013).

Supporters of various theoretical perspectives point to two possible ways of interpretation of individual experiences: automatic, which is unconscious, and reflective, which is happening with an aid of critical thinking. A person can think about others, things, and events, but also about they way they think about themselves in light of different experiences, especially those from early family life, which have an influence over basic personality structures. The way a person thinks is a base for the next differentiation, significant in the light of undertaken analysis. 'Experiencing self' is created

on the basis of affective experiences. 'Reflective self' in turn, follows from a reflection about what we have encountered in life (Bąk, 2017; Jarymowicz, 2008; Trzebińska, 1998).

The mutual reference mentioned before between the areas of rationality and emotions ('mind and heart') are captured in different ways. I am citing one from a number of propositions by Maria Jarymowicz (2001). The Author specifies two ways of evaluating – affective and reflective. Her basic thesis – referring to the concept of personality by Janusz Reykowski (Gołąb, Reykowski, 1985) – is that evaluating of the world can become and an automatic affective reaction or an articulated assessment. Affective reactions are developmentally inferior and are created at the lower stages of neural system. They do not require an awareness and are assigned to survival and adaptive needs. They play a substantial role in haemostatics maintenance and survival. They are connected, however, with a lack of a conscious control over own behaviour.

Gradually, this automatic regulation is enriched by emotions termed civil and therefore connected with consciousness (Imbir, 2018). Assessments engage thinking and a base for this assessment are verbalised standards, clear criteria, thanks to which one can formulate thought-through judgements about oneself and others (Gołąb, Reykowski, 1985). This increase in the ability for reflection means, in practice of social life, taking into account a number of factors and taking different perspectives – and therefore going beyond one's own point of view. As Maria Jarymowicz (2008) writes, a development of reflective thinking favours a creation of phenomena going beyond the affective assessment. Gradually, we are becoming able to respect others, forgive misdeeds to undertake a critical self-assessment. The last one is a starting point for undertaking changes in thinking and acting, which is self-education itself.

Both value systems are not independent. On the contrary – they affect each other, which is confirmed by results of numerous studies. Automatic reactions, being very quick, affect thinking and assessment (Zajonc, 1985). Conviction and assessment shaped on the basis of reflective contact with oneself and with others can limit influences of automatic processes over human's functioning (Jarymowicz, 2008; Jarymowicz, Szuster, 2014). A tendency for reflection weakens a tendency to give abrupt judgements and initiates a search for justification for own judgements. Development of reflective thinking plays therefore, in the educational process, a key role, as it evokes a change in the whole personality, also in its unconscious structures, created on the basis of early childhood experiences. The ability to reflect is therefore one of the main developmental paths of a human being, deciding about our subjectivity. A human being can consciously direct one's life, and, being self-aware – make important decisions in a well thought-of way.

A process of evaluating is connected with having standards, which are differently classified. Janusz Reykowski divided them into ones concerning oneself and the external world. It is assumed, that an indicator of development of the standards of 'self' is how well the standards of 'desired self' are developed. They are connected with a vision of who I would like to be. Edward Tory Higgins (1982) claims, that there are two types of 'desired self'. The earlier 'should self' is an internalisation of the surrounding's expectancies. In turn, the later 'ideal self' has its source in visions of oneself created during one's own thinking. A relation of 'ideal self' to 'should self' is called a stage of 'self' standards' development. Interestingly, its role in limiting influences of affective standards of evaluation over actual assessments made by an individual was empirically confirmed.

The capacity for creating visions of 'ideal self' is treated as irreplaceable in the process of self-education. In a light of studies' results, creating a vision of 'ideal self' makes it more probable to implement (Łukaszewski, 2008). Anna Chrzanowska (2010) cites as an empirical evidence confirming this thesis a result of her own study informing, that a vision – accepted as a result of reflection – of oneself as an open person, makes an individual (on the unconscious level) indeed more open.

The meaning of dialogue

In this part of my essay I will refer to the before-mentioned meaning of the ability to reflect in process of self-education, turning attention to a helpful role of dialogue. Dialogue (Greek: *dialogos*) means a conversation of two or more people and is a basic way of communication between people. What is more, second signalling system decided about humankind development and is influencing life-course of all of us (Przetacznik-Gierowska, Tyszkowa, 1996; Wygotski, 1978).

While being a conversation of at least two persons, it goes beyond, in its essence, a common everyday life communication whose main purpose is to exchange messages. It is characteristic of dialogue to exchange some thoughts, and it decides about its specificity. Partakers of dialogue remain partners in a reflective conversation. Mutual contact requires then not only a mastery of speech. It also engages attention, imagination, memory, decision making processes, and thinking.

Dialogue becomes possible after listening to another person. Referring to heard statements is accompanied by understanding of a logic of those, minding the other person's perspective. It requires concentration, decentration, consideration, and modesty. Attention is present everywhere. It is treated as the main mechanism of processing, engaged at different levels of data processing. Its role was noticed and exposed in the 20s and 30s of the 20th century by Lew Wygotski himself (1978). A key role in development was given by him to speech precisely. He treated it as (1) a tool, (2) a carrier of meaning, (3) a unit of psychological analysis. He emphasised that a development of language is possible thanks to development of a child in a social environment, second signalling system in turn, fulfils various functions at different levels of development. While mastering speech, a child discovers their surroundings not only directly, but also through other people. Interpersonal relationship based on dialogue is therefore in a natural way an educational situation.

A dialogue with oneself and with others is based on the ability to reflect, which is treated together with actions following from it – as one of the most important achievements of the phase of adulthood (Turner, Helms, 1999). I would like to emphasise, that a change in this period of life does not happen automatically. It is captured in categories of potential. Dialogue remains in these efforts an important tool to work with. It turns out to be irreplaceable in searching for and in finding a meaning of own existence (Frankl, 1984; Straś-Romanowska, 1992).

A reflective dialogue with oneself can take various forms: diaries, autobiographical stories, notes, and so on. In recent years, one can notice an increase in humanists' interests in autobiographical narratives (e.g. Cierpka, 2013; Dryll, Cierpka, 2011; Straś-Romanowska, Bartosz, Żurko, 2010). An inspiration for most of the studies are the main assumptions of hermeneutic philosophy of Paul Ricoeur (1991). A story – understood as a text – fulfils according to the Author a mediating function, mediating between a human being, the world, and other people. The world, an individual, and

other people are a unity connected by dialectic relationships. We write in order to understand and to be understood. It means, that each form of understanding has a narrative character. Everywhere, where there is understanding, there is someone, who can talk about it. There is also present an object, which the story is about. A person's identity – as claimed by Ricoeur – is a narrative identity.

It is impossible to omit a stand by Jerome Bruner (1990), a well-known representative of constructionism. Narrative is for him a type of thinking. The researcher claims, that we do not have any other way to describe the time we lived. Narrative is a specific way of creating the world. Stories about passed time are also a way of self-creation. There are many ways of expression, and they are delivered by the culture. Let's quote the words of a classic '… in the final settlement, cognitive and linguistic processes shaped culturally which direct a self-narration about life, reach a power of structuring perceptual experience, organising memory, segmentation and deliberate building of very 'events' from life. Finally we are becoming autobiographical narratives, through which we tell a story of our lives. And taking into account the cultural conditioning I referred to, we are also becoming variants of the spiritual forms of our culture' (Bruner, 1990, p.6).

Reports from own life are an example of complex dialogue, which is happening between a talking and a listening person and a specific social surrounding. Writing them has a self-knowing value, as it encourages organising, understanding, and acceptance of experiences. Through this form of inner activity we get to know better conditions for development, which we can analyse and use in a process of directing own life. In dialogue with oneself we gradually gain a new perspective, becoming a subject and co-author of life course.

CONTEXTUAL CONDITIONS OF SELF-EDUCATION – THE MEANING OF PREVAILING CULTURE

Culture of the turn of the twenty first century

In the final part of my statement I would like to undertake an issue of relationships between domineering culture and self-education. A known German philosopher was to say a sentence that 'there is nothing more unspecified that the word culture and nothing more deceptive as using it with reference to whole nations and whole epochs' (Herder, 1962, p.4). In common understanding, culture is deemed an entirety of both spiritual and materialistic heritage of societies. Referring to a concept of the two layers of cultural phenomena by Stefan Ossowski (2000), psychologists as an essence of culture deem prevailing patterns of thinking and behaving. In the course of my further considerations I will refer to this way of understanding culture, which according to Neil Postman (2004) is always connected with a leading technology. The driving mechanism of the changes of the 20th and the 21st century is information technology. Present in every area of life, expansive, constantly improving, they lead to great changes in culture. The researcher termed it a culture of technopoly and a technopoliation of life.

Technopoly (or a totalitarian technocracy) is – according to Postman – the third type of culture, which occurred after the epoch of tools and technocracy. It means assigning all forms of life to technique and technology. Technopoly is also considered by

Postman as a characteristic attitude of a human being towards technology; its indicator is giving a priority status to technology, and therefore treating it as a higher value. Postman claims with sorrow, that many people almost 'preach' technology, treating its development as the highest achievement of humankind. They also consider produced on a massive scale information as an unquestionable blessing. There are even stronger views, e.g. those concerning cultural imperialism of internet (Szpunar, 2017).

The prevailing influence of technology on every-day life was mentioned also by David Bolter (1990). The researcher claimed, that current technology creates a new perspective adopted by people. Additionally, many of its users look at others and evaluate them through the lens of modern technical tools, and also assess others mainly in the context of how effective they are. An idea of actions' effectiveness influenced all areas of life, including science, and becoming one of the most important rules of functioning of contemporary societies (e.g. Ritzer, 1999). Effectiveness (efficiency) refers to the quantitative aspect of functioning, not considering the before-mentioned qualitative changes. The last ones refer not only to the hierarchy of one's values, but also to specificity of relationships between humans and the environment. I will present them shortly in the next turn.

Chosen psychological consequences of cultural changes

When addressing a question of specificity of changes in a way of thinking and behaving, which are also influencing self-education and are connected with the culture of technopoly, I am presenting a concise, general reflection and also more detailed personal reflections. The first one is expressed in a single sentence, that variety and speed of changes occurring in our life environment is so great, that the contemporary world is hard to understand. As Alvin Toffler (1998) writes, in the past, changes were not discernible within a life course of a single generation. There are also no theories allowing to undertake a theoretical reflection and empirical studies. A remaining solution is to base on so-called paradigm of civilizational changes. Referring to them for the past two decades, I focus on a phenomenon of a universal character, which is also a basic phenomenon in life. What I mean is an information exchange between a person and surroundings, called by Antoni Kepiński (2003) information metabolism. I notice at least three trends leading to its deformation, which are not indifferent in relation to the process of self-education (Ledzińska, 2001, 2009, 2016).

The first one is an increase in a number of signals – received by a human being – with reference to the speed of brain's functioning. In a time period before humans mastered language, a scope of information accessible to them was restricted by memory capacity. It is a capacity hard to determine, but I will estimate it as around 10 million of bites. In the time when the capacity for information sharing – thanks to technology – increased by over a dozen times, human brain did not change and is a mechanism of signal transmission a million times slower compared to a modern computer.

The second one is connected with a hugely increasing growth in data. Modern technology facilitates information searching, its storage, processing and sending over a distance. Above all, however, it favours contents creation and also their publishing. As a result of these changes, we are dealing with – unprecedented in the past – disproportion between information captured in a quantitative dimension and capacity for its processing. Main cognitive barriers are connected with functional properties of atten-

tion and memory. From the evolutionary perspective, we can say that cognitive abilities of human brain (mind) do not increase with such speed with which the amount of information increases (Ledzińska, Postek, 2017). The increase is illustrated by the following indicators. A few years ago the Internet generated in two days so much information that it was comparable with a whole information resource created from the beginning of our civilisation up to the year 2003. It is estimated, that currently every 12 months the amount of information increases by around 40%. The phenomenon is termed 'information flood' (Spitzer, 2013).

The third one is connected with a specific attitude, and actually – a cognitive preference. There are several elements which compose it. In the first place there is an increase in the length of information gathering phase in relation to the processing stage. What I mean here is a proportion of time and energy invested in searching for content and its later processing (understanding, consolidation, relating to the previously acquired knowledge). Its equivalent – on the level of energy metabolism – can be an intense, lengthened in time consumption, depriving an organism of an opportunity to digest and assimilate nutrition. It is happening, among others, as a result of a specific attitude towards content, which is the second component of the characterised attitude. Many treat information as a higher value, search for it intensively, often accept it without any critique, and sometimes equal it with knowledge (Roszak, 1994). Such behaviour makes a process of selection, processing or integration of received information with pre-existing knowledge very difficult or even impossible. Similar in terms of results is collecting copies of material without their attentive reading, termed by Umberto Eco (2007) as a sign of so-called xero-culture.

A question about the results of before-named changes – approached from the perspective of self-education – seems justified. Two of these questions seem especially important.

Firstly, acting on the basis of information (concentration on it and a constant search for it) coming directly from surrounding reality, is easier, but it remains characteristic of the sensorimotor stage of development and intuitive development of intelligence. Acquisition of knowledge, which is created on the basis of information, but it is not equivalent to it, requires an effort of reflective thinking and is typical of concrete and formal operational stage (Piaget, 1966, 1981). David Wiener (2009) wrote a decade ago, that focusing on information in the times of its constant growth together with an unrestricted access to it, regresses us as human beings.

Secondly, giving into information pressure is connected with a specific attention allocation, which is a constant directing it towards external world. David Shenk (1997) wrote years ago about a permanent 'bombarding' of people's minds, and also about an unprecedented fight for receivers' attention, which are led with a help of numerous marketing tools. This fierce fight results from a fact, that information has not only cognitive value, but also economical one. At the same time, self-education implies a necessity for attentional control, directing it towards the inside and confronting behaviour with personal standards. Self-education requires therefore a resignation from activism and uncontrolled chase of novelties, undertaking instead a self-reflection in the light of accepted values. Way of life dictated by technopoly culture discourages self-education, and it is endangering building of subjectivity. It discourages it, it does not however make it impossible.

Reality of self-education

Does self-education, in the light of presented consideration, remain merely an idea, or does it stand a chance of implementation? Supporters of technology determinism write about an almighty, one-directional, decisive influence of technology over human life (McLuhan, McLuhan, 1992). A psychologist cannot accept this viewpoint, which I turned attention to while mentioning the educational environments' influence. Influences of technopoly culture are without a doubt very strong, they are however not deterministic. Self-education has always had an elite character and we can see that especially clearly nowadays. Within the community of Polish psychologists, numerous researchers emphasise a meaning of personal contribution to individual change in thinking, experiencing, and acting (e.g. Dymkowski, 1993; Jarymowicz, Szuster, 2014). Its sense remains – cited in the text – a transition from automatic to reflective evaluating.

This transition can be slowed down by emotions connected with a fact that the 21st century is full of surprises (Abeles, 2008). I will now turn attention to a couple of paradoxes. The first one refers to – signalled before – informative trend of worldwide changes. A richness of content and its accessibility are accompanied by a difficulty in choice of the important and needed ones (Woods, Patterson, Roth, Christoffersen, 1999). A fascination by the richness of data is accompanied by an anxiety connected with compulsory selection. This, in turn, demands a disposal of criterions, among whom the most important one is knowledge and a system of values. A constant growth of knowledge from different disciplines of science does not correspond with an ease of building individual knowledge. Generally speaking, a tension between technological progress – which is an element of materialistic culture – and a spiritual culture became a surprising phenomenon. Its reduction is seen as one of dynamics of both self-development as well as self-education. It requires an absolute critical reflection over prevailing culture and the lifestyle it promotes. Many contemporary people are familiar with reflective efforts. They seek for ways of self-determination and perfection; they think, dispute, undertake special studies, therapies, they read texts related to great spiritual European traditions, and so on.

At the end of my reflections I will point two similarities between learning, which is one of the two dimensions of my research interests, and education, which is inseparably connected with it and which is also presented in the current article. The essence of change is – in case of the former one – a transition form learning directed from the outside to self-regulated learning (Azewedo, Aleven, 2013; Ledzińska, Czerniawska, 2011; Littleton, Wood, Kleine Staarman, 2010; Vohs, Baumeister, 2017). The situation indeed looks similar in case of education; however, the transition from being educated to self-education seems longer and more difficult. It remains undertaken by those, who want to change themselves and undertake in this area intensified efforts.

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