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Around the crisis in thinking about normative didactics

KEYWORDS

didactics, paradigm, education

ABSTRACT

The learning process is subject to change. The direction of changes is not unambiguous and results from different paradigms. Didactics must be subject to changes resulting from psychological processes. They take into account the universal regularities of thinking, memory, perception, emotions and motivation. Learning and teaching are complicated process that should not take into account only one paradigm.

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After a period of stable stagnation, in recent years there have been a lot of discussions around didactics concerning the directions of its further development. This is a result of, inter alia, research conducted by neurobiologists and in-depth reflection on cognitive processes from a psychological and cognitive perspective. Thinking (different types of thinking), memory, perception or attention, are well-known processes, but still not sufficiently recognized. The process of education is approaching its optimal conditions, however, it has not achieved them yet. The conducted research generates theories in the field of cognitive psychology and cognitive science (Bremer, 2005, Mainzer, 2007, Szwabe, 2008, Urbański, 2009, Wiener, 2009, Michalak 2016). They point to new sources and processes of learning. These are not, however, breakthrough theories and systems of knowledge, in relation to the available sources. This is due to the fact that mental processes are

not subject to dynamic evolution and transformations (such as modern technological thought). The dynamics of mental changes and cognitive structures has a relatively constant and less recognized character.

Paradigms have a significant influence on the discussion about didactics and the directions of its further development, among which (in relation to academic didactics) the following are mentioned: behavioural, humanistic, constructivist and critical-emancipatory (Sajdak, 2013). D. Klus-Stańska distinguishes the following paradigms of contemporary didactics: functionalist-behaviourist, humanist-adaptive, constructivist-psychological, constructivist-social, critical-emancipatory (Hurło, Klus-Stańska, Łujko, 2009). The discussion concerning the paradigmatic nature of didactics prompts us to reflect on the style of practicing the educational process and, consequently, try to find an answer to the question: on what regularities is it to be realised?

In the functionalist-behavioural paradigm perspective, didactics exposes the role of the teacher, who is close to performing the function of a master. His role is based on (re-)guiding the student through the educational process. The perspective of this paradigm is complicated as reversed socialization observed in modern schools results in the fact that school is no longer a considered a temple of knowledge, the teacher is not a master, and the school textbook is not the only source of knowledge. Nowadays, students experience multi-learning, and the process of learning does not take place (not necessarily in the mental layer) in a linear, but in a multithreaded way, and is based on acquiring information from dispersed sources (Bush, 1945). Discussions on the regularities of the educational process relate to various paradigms. These often include different and extreme strategies for understanding the effectiveness of the learning and teaching process.

The humanistic-adaptive paradigm is rooted in naturalistic thinking about upbringing. It reaches the concepts of J.J. Rousseau. It assumes the individual's striving for self-fulfilment through individual and unrestricted self-experience in relations with others. It is a paradigm particularly visible in pre-school education.

The perspective of the constructivist-psychological paradigm clearly relates to J. Piage and inspirations that refer to the American reformer of the educational process, J. Dewey. This concept refers to the classical psychological theory of learning, which assumes that it is a process which requires active participation of the individual, and self-education is based on dealing with problematic situations. The teacher's role is to present new, unusual situations to the students, the solution of which requires learning by discovering.

A variant of the above model is the constructivist-social paradigm. This paradigm emphasizes the fact that learning is a process related to its surroundings.

Supporters of broadly understood constructivism distance themselves from the process of education based on transmission narration. Didactic constructivism assumes a departure from the procedural-instrumental model of education, and opposes education understood as shaping (a person's) character and structures of knowledge.

The education process is multifaceted and complex. The perception of paradigms as a single choice possibility, although it seems to introduce order in the implementation of the educational process, is impossible and limiting. Learning and teaching cannot be limited to a selected (one) paradigm. Cognitive processes are governed by relatively universal laws of cognitive psychology and to a large extent they allow and limit the perception of the learner.

The discussion about the directions of didactics development has also been affected by the fact that in recent years the creators of thinking about didactics passed away: W. Okoń (2011), Cz. Kupisiewicz (2015). For decades, these researchers had been setting directions in thinking about general didactics. They pointed to its philosophical, psychological, sociological and pedagogical connections. They were quoted to justify claims related to educational processes. From this perspective, it can be assumed that the aforementioned researchers touched upon universal laws (of various scientific disciplines), in order to create e.g. lasting foundations for thinking about learning and teaching processes. Time and circumstances show that especially in science (and theories based upon it) – it is highly risky to talk about constructing permanent foundations, as from a different perspective they may be considered unsustainable or even unjustified.

This text is an attempt to reflect whether the way of thinking about didactics presented by the above mentioned researchers has an up-to-date (in part or in whole) message for contemporary and future thinking about the educational process. Is it possible to draw on the indications of didacticists of the past in order to give meaning to the understanding of contemporary and future processes of learning and teaching? Are there any universal laws of philosophy, psychology, sociology, which allow to create relatively constant and stable bridgeheads for didactics as science? To what extent does the brain and human psyche, which remain a secret for researchers in many fields, as well as the unobservable and individual learning process allow didactics to create unambiguous statements in the field of educational processes? Is it possible and reasonable nowadays to use the didactics of the past creators? Finally, can (should) paradigms in didactics take into account the existence of universal laws of sciences, such as psychology, in order to explain the possibilities and limitations associated with educational processes?

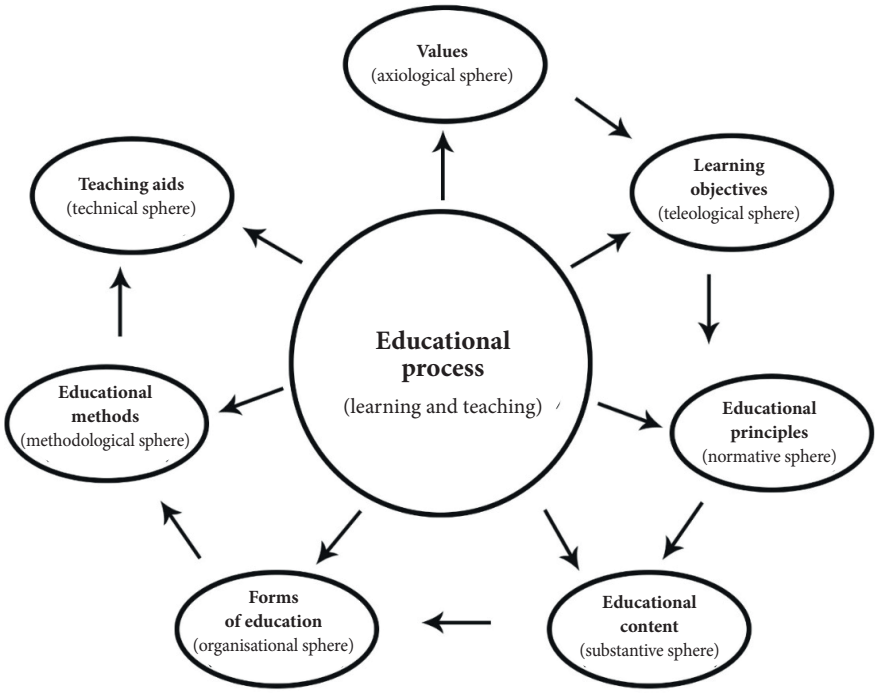

Fig. 1. Elements of the education process from the normative perspective
Source: unpublished materials from lectures by Andrzej Ćwiklinski.

The normative process of education refers to values. It is a basic element which indicates the embedding of the learning and teaching process in axiological aspects, the sources of which lie in philosophy. The reference to different value systems depends on the concept adopted for them. It may refer to the value of a single choice: "this or that", it can also be associated with the values of multiple (every) choice. Discretion and axiological diversity result in the fact that it is not possible to talk about good or bad pedagogical measures (undertaken by the teacher or parent), but about education, which is derived from different (other than mine) systems of values. The axiological approach to "multiple choice" contains a postmodern conviction that everyone can be a creator of their own existence, but will also bear the consequences of the choices made, which leads to neoliberal social concepts (Potulicka, Rutkowiak, 2012). We can deny the existence of values, both in the processes of upbringing and education, but then to what end do we want to educate and teach?

Distancing education from values allows us to ask another important question: *why* do we want to implement this process? The answer brings us closer to

the second element of the normative education process resulting from values, namely goals. A student who asks about the sense of a given lesson probably failed to get the gist. If one does not know to which port one is sailing, no wind is favourable (Seneca). You will not buy a ticket, not knowing where you want to go. Therefore, it is important to formulate the goal (effect), which results from the basics of the psychology of cognitive processes. The teleological approach proposed by B. Niemierka is a proposal rooted in psychological narration, which emphasizes the need to shape knowledge, skills, habits and attitudes (Niemierko, 1991). The sphere of information refers to memorizing and understanding, where memorizing is the most extensive and elementary category, which indicates that a student is able to recall concepts, terms and facts. At the same time, he or she achieves only the basic level of understanding. Not everything that is memorized is understood in perception processes. This category assumes that the student is able to present what he or she remembers in a different form. In spite of understanding goals in this way, teachers tend to appreciate the idea that students recreate memorized information, which does not activate cognitive processes. The achievement of goals resembles the process of walking up the stairs of a building, where the teacher often pulls the student down to the basic level (memorizing information), not always appreciating the way in which the student interprets (understands) facts, phenomena, things or processes, other than in a literary way or that presented during the lesson.

Taxonomic skill categories refer to higher forms of perception, among which the following are distinguished: application in typical (school) situations and atypical (new, problematic) situations.

Understanding goals in this way puts them on the side of (cognitive processes) based on psychology and from this perspective they are worth considering in the educational process. There is a concern that the learning and teaching process enclosed in the four categories mentioned above limits the student to what he or she should: name, list, define, distinguish, explain, compare, define, predict or evaluate. It may turn out that the learner's knowledge is much broader, whereas the use of available taxonomy limits his or her cognitive processes to the (indicated) operative verbs. However, the question arises: What is the basis of the knowledge verification system at different levels of education? To what extent is the educational process supposed to open the learner to individual areas of knowledge and relate it to his/her own experiences, when during a qualification examination, the student is expected to apply a theoretical model of response, the synonym of which remains the statement "Słowacki was a great poet". How will the most thoughtful, but critical answers be evaluated (and ap-

preciated), if the student contradicts the thesis? The idea of an individualised education system based on an independent construction of knowledge by the student does not work in a situation in which e.g. J. Sosnowski, as an author, in 2009, could (in the opinion of the examiners) fail the secondary school-leaving exam concerning the interpretation of his own work (Klinger, 2010). From this perspective, criticism of learning according to a certain scheme, although quite legitimate, fails in confrontation with the reality of formalized and systemic control and assessment of students.

A controversial element of the education process are didactic principles. They are understood as norms of conduct which allow us to get closer to finding an answer to the question: *why educate in a particular way*? The principles mentioned in the literature on the subject refer to the cognitive possibilities and limitations of the learner (Okoń, 2003, Kupisiewicz, 2012). They are also an indication to the teacher that the educational process results from the laws of cognitive psychology and as such is subject to its regularities. The source of controversy over the principles is that they used to be embedded in ideological contexts, which referred to education in terms of dogmas or socio-political ideas.

Today's understanding and application of the principles implies a reference to: viewpoints, regularity, accessibility, durability of knowledge, conscious and active participation of students in the learning process, operability and linking theory and practice. A lecture on the above mentioned principles is not the subject of this article. This has been done in numerous publications mentioned above: W. Okoń or Cz. Kupisiewicz. However, we cannot deny the correctness of thinking, which refers the principles to the universal laws of psychology, emphasizing only our perceptual abilities and cognitive limitations.

Another element of the educational process, which is also legitimate, are the strategies for the selection and arrangement of content. I deliberately do not write about content selection theories, because theories are subject to other requirements, as sets of internally consistent, but not necessarily true, judgements (due to the lack of methods of their verification). Normative didactics points to content selection systems that meet the requirements of the present and future.

Structuralism, exemplarism and the problem-complex theory accentuate the need to shape what knowledge should be. It is pointed out that knowledge needs to be structured, which allows for new elements to be added to the existing areas in order to expand and develop the structure. We can agree that what the teacher says takes on a different, individual structure in the case of each student, because each

student imposes his or her own, individual experience on what he or she learns (e.g. related to colloquial knowledge, which is usually available outside school). In educational processes we listen to the same thing, but we hear and understand it differently.

When implementing the education process it is necessary to answer the following questions: where will this process take place, in what conditions will it take place and how many participants of the learning and teaching process will there be? This brings us closer to the next element, i.e. the organizational forms of education. Answers to these questions should be sought in such areas of psychology as the dynamics of group processes, (Kozak, 2010), which contain indications to the laws of psychology governing every group (regardless of age and character). An important part of these principles are the roles performed in each group. Organisational forms are identified with the space in which the educational process takes place, but this seems too superficial in the light of the fact that the laws of psychology are present in every group structure. The awareness of the successive (four) phases of the group process within the classroom is still very intuitive and not established in the consciousness and work of the teachers. Synergies or social facilitation are becoming a more and more important element of (co-)working and (co-)action of students for a better performance and personal development. The idea that you achieve more in a group rather than individually and that everyone knows something you don't know is beginning to dominate. The awareness that you can learn something from everyone and everyone can be an inspiration – situates forms (in terms of numbers) on an important position in the contemporary and future education process.

If individual elements of the education process serve to shape the personality of the student, then learning and teaching methods should be considered as particularly character-shaping. They bring us closer to finding an answer to the question about the way the educational process is carried out. There is no single way of truth, there are many paths by which we can reach it. There is also no single river of truth. We can get to it through different streams. Thus, in the case of educational methods, there is no single method whose application ensures educational success. This is related to the student's methods of perception, which may be different, though also similar. In any didactic system, the teacher, using a specific method, evokes and awakens the student's activity. When applying methods of assimilation of knowledge, we often direct the learner's perception towards assimilation. When using problematic methods, we encourage discovery. When practical methods are used to implement a lesson or a part of the les-

son, the student activates the sphere of action. The use of valorisation methods inspires the learner to learn by experiencing.

It is important to perceive all methods as significantly activating, but each to a different degree.

The presented division of methods and ways of learning may seem too formal and rigid. However, the methods are characterized by a certain flexibility and it is sometimes difficult to determine whether a given action is the result of the practical method, for example, or whether it contains elements of the valorisation – expressive method.[1] The teacher's role is to provoke the student's activity, inspiration, support his/her development, and the methods used constitute different ways of achieving that. They are an important element of shaping the student's character. We cannot assume that the student will never read a book (method of knowledge assimilation) that may permanently change him/her as a human being and cause permanent changes in his/her attitude. It cannot be assumed that impressional or expressive methods will not affect the recipient. It may be assumed that after watching a film or a trip to a museum, he/she will no longer be the same person in the sphere of personality components. It cannot be assumed that learning by means of practical methods will not influence the attitude towards the activity performed.

If we look in the "tools box" that shape personality, methods constitute an important, and if used properly and skilfully by the teacher, effective instrument of shaping one's personality.

We live in a reality saturated with technology. Its influence on human psyche is confirmed by numerous domestic and foreign studies.[2] Comparisons to education are made, which is described as technically dominated. Today's educational process cannot ignore the natural environment in which the student functions. Such as the media, and in the context of school – didactic means. Their presence and use optimizes the process of learning and teaching. It influences its effectiveness. The importance of didactic means results from the sensory aspects of our func-

[1] Educational methods are conventional and vague, which is why in some cases it may be difficult to identify and classify them unequivocally. The practical method induces learning by acting. At the same time, elements of such activity are present when conducting classes using the expressive-valorization method, when the students paint, sculpt, thus expressing and shaping their systems of values.

[2] Research in this area is carried out by, among others :N. Carr, S. Greenfield, A. Keen, J. Morbitzer, D. Nicholas, J. Pyżalski, N. Shadbolt, S. Turkle.

tioning (Levine, Shefner 1981). The stimuli we perceive to the greatest extent come from our sense of sight. The reality around us is a source of numerous stimuli – optical and acoustic waves trigger changes in receptors and give rise to the process of perception and hearing.

The key stage in the complex process of visual perception is sensory reception (senception). It enables the perception and interpretation of stimuli from the environment by the sensory organs. The reflection of stimuli in receptors is considered a passive process. Only the next stage, perception, is defined as active because it requires brain work. The interpretation of sensory data is carried out with the aid of acquired knowledge, previous experiences, attitudes, which is the basis of any regulation and contextual indications (Nęcka, Orzechowski, Szymura, 2006). Mental perception is carried out with the significant support of external stimuli, including the Internet, computer and multimedia. Contemporary and future educational process cannot be realized without the use of didactic means. School is not so much to teach life, but rather to be life and draw on its resources, also in the school environment.

Elements of the normative education process are not algorithms of school classes, lessons, workshops or courses. They indicate the presence of universal laws – especially psychology. Taking them into account makes it possible to implement the educational process according to unavoidable and probable mechanisms. Normativity does not limit or control learning and teaching processes. It indicates and suggests to the teacher what are the cognitive, developmental, motivational and perceptual opportunities during a process in which similar, though different students participate.

The essence of the learning and teaching process is to provoke cognitive activity of the learner. It can be stimulated with the use of different strategies. Progress in the development of research on human psyche and the related learning opportunities should also be taken into account. However, proven rights in cognitive structures should not be denied or marginalised in the face of a clear lack of new knowledge in this area. Actions taken by proponents of different paradigms seem to destroy the existing concept of didactics. While representatives of different paradigms indicate what may be the new/other basis for a change in didactic thinking, they do not reveal how to do it.

Didactics based on values, goals, principles, content, forms, methods and means does not limit anything, but encourages reflection on the possibilities and limitations of our cognitive structures. The student can be an independent and active subject of change in the structures of his/her values and goals, and

the teacher should support the student in his/her efforts and coordinate his/her work.

Didactics has come a long way of extreme and diverse concepts. Its scientific lineage dates back to the 17th century and its intensive development took place in the 19th and early 20th century. K. Twardowski, who as a philosopher was a pioneer of didactic theory, expressed views that were important for the contemporary generation. Similarly, K. Sośnicki, who pointed to the importance of formulating teaching objectives, emphasizing the role of values and culture in the processes of education and upbringing.

The figure of B. Nawroczyński, who noticed the, nowadays obvious, integration and coherence of teaching and learning processes, the connection of which is crucial for the educational processes, is also significant.

On the other hand, J. W. Dawid attempted to define the tasks of the teacher, whose role he perceived as understanding and supporting the needs of the child.

The cultivation of didactics should take into account its poly-paradigmatic character. Embedding a complex (in the sense of human psyche) educational process in a chosen paradigm may significantly reduce both the learner's and the teacher's possibilities.

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