Edukacja Filozoficzna 77/2024
ISSN 0860-3839, eISSN 2956-8269
DOI: 10.14394/edufil.2024.0004
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Basic Concepts and Principles of Didactics according to Kazimierz Twardowski

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Abstract: Kazimierz Twardowski primarily articulated his views on teaching and upbringing in his handbook *Zasadnicze pojęcia dydaktyki i logiki do użytku w seminariach nauczycielskich i w nauce prywatnej* (1901). The purpose of this article is to present the basic concepts and principles of didactics as seen by Twardowski and to show that they do not differ significantly from those adopted by some of the more recent Polish didactic theorists representing the same didactic paradigm as Twardowski (i.e., normative). Twardowski's handbook can still inspire readers, as it contains a lot of practical advice for teachers and is written in clear and simple language that can serve as an example for contemporary publications in didactics.

Key words: Kazimierz Twardowski, didactics, teaching, education, educational teaching

1. Introduction

Kazimierz Twardowski, as evidenced by numerous statements from his students, was a master of teaching and upbringing.[1] Though not the primary focus of his research, he addressed pedagogical issues in several of his works. The most important of these is the handbook *Zasadnicze pojęcia dydaktyki i logiki do użytku w seminariach nauczycielskich i w nauce prywatnej* [Basic Concepts of Didactics and Logic for Use in Teachers' Seminars and Private Study].[2] Other important pedagogical views of Twardowski can be found in the lecture *O pojęciu wychowania* [On the Concept of Upbringing][3] and in *Mowy i rozprawy z okresu jego działalności*

[1] Cf., e.g., T. Czeżowski, *Kazimierz Twardowski jako nauczyciel*, in: K. Twardowski, *Wybór pism psychologicznych i pedagogicznych*, ed. R. Jadczak, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992, pp. 477–479.

[2] K. Twardowski, *Zasadnicze pojęcia dydaktyki i logiki*, Towarzystwo Pedagogiczne, Lwów 1901.

[3] K. Twardowski, *O pojęciu wychowania*, in: K. Twardowski, *Wybór pism psychologicznych i pedagogicznych*, ed. R. Jadczak, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992, pp. 411–422.

w Towarzystwie Nauczycieli Szkół Wyższych [Speeches and Dissertations from the Period of His Activity in the Society of Teachers of Higher Education].[4]

The aim of this article is to present how Twardowski understood the basic concepts and principles of didactics. I also want to show that his approach does not differ significantly from newer approaches in Polish didactics, although some of his terminology is now outdated. Twardowski's didactics is particularly valuable for its practical presentation of the content without excessive elaboration, as well as for the clarity and brevity of the language. In the following sections, I will present: the concepts and principles that Twardowski considered to be crucial for didactics, the juxtaposition of some of them with newer concepts and principles, and finally the conclusions that can be drawn from this deliberation. In the text, I omit the part of Twardowski's views on education which is not directly related to didactics.[5] The reconstruction of Twardowski's didactics will be based on the above-mentioned handbook.[6]

If we assume that didactics is paradigmatic, then Twardowski's didactics has features of objectivist paradigms, especially the normative paradigm. The newer approaches cited here, with which Twardowski's views will be compared, will share the same paradigmatic character. Hence, an assessment of Twardowski's views from the perspective of a non-objectivist paradigm, such as constructivism, would differ from the one formulated in the conclusions.[7]

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[4] K. Twardowski, *Mowy i rozprawy z okresu jego działalności w Towarzystwie Nauczycieli Szkół Wyższych*, Towarzystwo Nauczycieli Szkół Wyższych, Lwów 1912.

[5] Twardowski's views on education, encompassing both teaching and upbringing, can be found in W. Rechlewicz, *Non multa, sed multum. Idee pedagogiczne Twardowskiego*, in: *Rozum i wola. Kazimierz Twardowski i jego wpływ na kształt kultury polskiej XX wieku*, ed. J. Jadacki, Wydawnictwo Academicon, Lublin 2021, pp. 469–529. These views are also discussed in Dominik Traczykowski's unpublished doctoral dissertation, *Pedagogical Aspects of Kazimierz Twardowski's Thought* (2020).

[6] This handbook is the only comprehensive study of this subject in Twardowski's oeuvre published during his lifetime. The aforementioned *Mowy i rozprawy* addresses many specific educational issues of its time, rather than general didactic concepts. Many of Twardowski's speeches of this kind, collected from various sources, can be found in K. Twardowski, *Myśl, mowa i czyn*, Vol. 1, eds. A. Brożek, J. Jadacki, Copernicus Center Press, Kraków 2013, and K. Twardowski, *Myśl, mowa i czyn*, Vol. 2, eds. A. Brożek, J. Jadacki, Copernicus Center Press, Kraków 2014. It is also worth mentioning that Twardowski lectured on general didactics at Lvov University (cf. D. Traczykowski, *Cele nauczania w myśli Kazimierza Twardowskiego*, "Roczniki Pedagogiczne" 2016, Vol. 8 (44), No. 1, p. 11).

[7] Objectivist paradigms are founded on, among other things, the belief that scientific knowledge is fundamentally objective, is cumulative and allows for increasingly accurate knowledge of reality. Normative didactics focuses on teaching understood as the effective achievement of top-down

2. Concepts and Principles of Teaching

Teaching includes activities aimed at the systematic imparting of knowledge and the development of intellectual abilities, such as the abilities to perceive, reason, and memorize. Instructing, on the other hand, is giving information because of the opportunity, and not in a systematic way. Providing information is material education, and building intellectual abilities is formal education. The two sides of teaching cannot be separated from each other as acquiring knowledge develops intellectual abilities, and developing intellectual abilities requires imparting knowledge. However, some school subjects focus specifically on one side of education (e.g., history involves more material education, while mathematics is based more on formal education).[8] The formal aspect of education is more important than the material one, especially at the elementary level of education.[9] A student with developed intellectual abilities can easily fill information gaps, but intellectual abilities are difficult to develop if their development is neglected early in the course of education. However, formal education is often neglected because it is more difficult than material education, its progress is more difficult to assess, and some believe that it occurs automatically as a result of material education.[10]

Didactics is the study of the principles and methods of teaching. General didactics concerns teaching any subject, and specific didactics (methodology) deals with a specific subject. Pedagogy is the study of physical, intellectual and moral education; thus, didactics is part of pedagogy (the main means of intellectual education is teaching). The auxiliary sciences of didactics are psychology and logic. Psychology teaches about the laws of mental life that should be taken into

educational goals. In connection with this, it develops norms and principles of didactic activity, in which the leading role is always played by the teacher. The elements of the didactic process described by normative didactics create a coherent whole, which is, however, accused of being too abstract and detached from the reality of school (cf. D. Klus-Stańska, *Paradygmaty dydaktyki. Myśleć teorią o praktyce*, Wydawnictwo Naukowe PWN, Warszawa 2018, pp. 59–60, 63–79). Constructivism in its various forms assumes, on the other hand, that knowledge is not a reflection of the world, but a construction of the cognizing subject; this type of thinking has been present in didactics for over 100 years (D. Klus-Stańska, *Konstruktywizm edukacyjny – niejednoznaczność, kontrowersje, dylematy*, "Problemy Wczesnej Edukacji" 2020, No. 4 (51), pp. 8, 12, https://doi.org/10.26881/pwe.2020.51.01s).

8 K. Twardowski, *Zasadnicze pojęcia dydaktyki*, op. cit., pp. 5–7.

9 Twardowski points out that his handbook mainly concerns education in a folk school, and thus elementary education (ibid., p. 11).

10 Ibid., pp. 172–174.

account in didactics. Logic is related to didactics in the following way: knowledge consists in the ability to make true judgments, and the science of the truthfulness of judgments is precisely logic.[11]

The curriculum is the order in which school subjects follow each other, while the syllabus is the order of information conveyed within individual subjects and lessons. The correct curriculum should follow the laws of logic and psychology: new knowledge and skills should relate to those already acquired; they should connect with each other (continuity); what is easier should precede what is more difficult (gradability). Due to the conditions and goals of teaching, certain types of curricula can be distinguished. The analytical curriculum begins with the general concept and then delves into the details. The synthetic curriculum takes the opposite approach. The inductive curriculum proceeds from individual cases or facts to the general rule, while the deductive curriculum starts with a general principle and progresses to the individual cases covered by this principle. The genetic curriculum explains how a thing comes into being. The cyclical, or concentric, curriculum broadens the material acquired at an earlier stage of learning. Particular curricula can be combined with each other (e.g., analytical and synthetic curricula). The course of the lesson is correct when it is a closed whole, the curriculum is properly selected, and the teacher makes sure that the students understand the material. Sometimes the provision of new material should be preceded by a revision of the older material to which the new one refers.[12]

The form of teaching is the way in which the teacher aims for the students to acquire knowledge. The acroamatic form (from the Greek *akroama* – "what is listened to"), also known as the lecturing form, involves conveying information through sentences, while the heuristic form (from the Greek *heurein* – "to find") guides students to find the information on their own. The deictic form of teaching, or visualization of knowledge, consists in enabling students to perceive specific objects. Strictly speaking, it is not a form of teaching but an auxiliary means of it, because the mere acquisition of an image is not yet the acquisition of knowledge about it. The deictic form of teaching plays a fundamental role, as perception is the basis of knowledge and intellectual activities.[13] It is also a means of animating and making learning easier.

[11] Ibid., pp. 10–12.
[12] Ibid., pp. 118–137.
[13] Ibid., pp. 138–139.

When using the acroamatic form of teaching, the teacher should be clear and concise, speaking from memory, as listening to read-out content weakens students' attention. However, one should not speak for too long, too loudly or too softly, too quickly or too slowly, monotonously or with pathos. Also, students should not be required to take notes of what the teacher says, as the school material is contained in textbooks. At lower levels of education, the acroamatic form of teaching usually takes the form of a description or a story. The descriptions should be vivid, that is, they should enable students to imagine what is being described. A description becomes a story when it relates to events; a story holds a special charm for young minds.[14]

A teacher using the heuristic form of teaching indicates the type of information the student is to find, provides or recalls the relevant data, and asks guiding questions (e.g., the student is asked to find out how many millimetres there are in a decimetre, and the teacher asks what a decimetre is, how many centimetres there are in a decimetre, etc.). The heuristic form can only be used when it does not entail excessive effort and it does not take up too much time. Its usefulness is not the same for all subjects – it can be widely used in geography or mathematics, but not in history. The heuristic form of teaching stands above the acroamatic one, as it favours the linking of new information with the old one, makes it possible to revise the acquired knowledge and check the degree of its mastery, it motivates students to pay attention, increases their interest in learning and forces them to perform intellectual activities. It also contributes to memorizing information, trains students in speaking and expressing thoughts, and helps the teacher to get to know the students and their abilities.[15]

Visualization of knowledge is direct when it consists in evoking the perceptive image of an object (e.g., the teacher talks about an electric spark and shows it).[16] Visualization can take the form of showing broadly understood specimens, activities, and experiments. Indirect visualization is carried out primarily through models, that is, artificial reproductions of objects (e.g., the eye model), images (e.g., photographs, drawings), schematic and tabular compilations (e.g., compara-

[14] Ibid., pp. 139–142.

[15] Ibid., pp. 142–147.

[16] Perception consists of: the sensations experienced, their synthesis (i.e., the image) and the judgment about the existence of an object corresponding to the image. Images can be divided into perceptive, reproductive and productive (cf. K. Twardowski, *Wyobrażenia i pojęcia*, H. Altenberg, Lwów 1898, pp. 18–25).

tive compilation of country sizes). Proper visualization requires that all students have the same ability to perceive, and to see a three-dimensional object from all angles. The teacher should limit the number of objects shown and prefer direct visualization. Indirect visualization should be supplemented with a description or a story.[17]

A teaching method is a way of performing a teaching activity related to both the curriculum and the form of teaching.[18] The curriculum and the form of teaching should depend on the mental level of the students; they should also be correctly selected – the most advantageous are the inductive curriculum, the heuristic form and visualization of knowledge.[19]

Didactic questions play a fundamental role in teaching.[20] A question not only indicates the subject to be answered, but also makes some judgments about that subject itself.[21] A question may require a conclusive answer between at least two assumptions, or may need to be supplemented by adding certain information to the one already contained in the question. Due to the purpose of the question, it is possible to distinguish between guiding, informative and consolidating (revising and practising) questions; one and the same question may serve different purposes. The question should be adapted to the mental development of the student, should be unambiguous (indicating clearly what kind of answer it requires), and should not contain any erroneous judgments. The question should be asked in a questioning tone, not an imperative or inquisitorial tone; initially, it should be aimed at all learners.[22]

The answer to the question should be linguistically correct (grammatically and stylistically), pronounced clearly, fluently, calmly, loudly, with the right ac-

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17 K. Twardowski, *Zasadnicze pojęcia dydaktyki*, op. cit., pp. 151–157.

18 Strictly speaking, Twardowski writes that the teaching method consists of all activities performed while teaching according to certain rules. However, this wording seems incorrect as the method cannot rely on the performance of activities, but on the way in which they are performed.

19 K. Twardowski, *Zasadnicze pojęcia dydaktyki*, op. cit., pp. 157–158, 182.

20 Twardowski's insights regarding questions and answers were probably one of the inspirations behind Kazimierz Ajdukiewicz's concept in this area (cf. A. Brożek, *Pytania i odpowiedzi. Tło filozoficzne, teoria i zastosowania praktyczne*, Wydawnictwo Naukowe Semper, Warszawa 2007, pp. 272–273).

21 Currently, the judgments contained in the question are recognized as assumptions of the question, presuppositions (cf. J. Jadacki, *Spór o granice poznania. Elementy semiotyki logicznej i metodologii*, 2nd ed., Wydawnictwo Naukowe Semper, Warszawa 2002, pp. 238–240) or ontic commitments (A. Brożek, *Pytania i odpowiedzi*, op. cit., p. 145).

22 K. Twardowski, *Zasadnicze pojęcia dydaktyki*, op. cit., pp. 158–165.

cent, unaided, based on understanding, true, and accurate (containing only what the question is about). It should also be accompanied by appropriate behaviour (no unnecessary movements, looking in the eyes of the teacher). What the teacher does next, depends on the student's response to the question. When the student does not answer a question, it should be determined why. In this situation, the student should repeat the question, and if he/she is able to do so and still does not know the answer, the teacher uses guiding questions. If the answer is satisfactory, the teacher should make sure that it is unaided and based on comprehension by asking additional questions about the argumentation, examples, and meaning of the words used. When the answer is unsatisfactory, its (linguistic or factual) deficiencies should be shown, and the student should be made to correct it. If such a correction is not possible, the answer should be corrected by another student, and only as a last resort by the teacher.[23]

An assignment is an order for the student to perform some work related to studying on their own. Thanks to assignments, the teacher learns about the students' abilities and the effectiveness of their own work. Assignments can be oral, written or manual; done at school or at home; preparatory, memory, revising or practising. An assignment is similar to a question, and its execution is similar to an answer; therefore, the rules for questions and answers apply. Assignments should be varied and possible to be done even by less advanced students. The essence of school education is the direct influence of the teacher on the students, hence homework should play only a supporting role: it should be kept to a minimum and concern material that has already been covered in class. Exercises develop intellectual abilities. Frequent repetition of activities leads to ease, proficiency, and confidence in performing the activity. Exercises should be done unaided and accurately; they must also present some difficulty to overcome. They should be graded: when a certain level of skill is achieved, their difficulty should be increased.[24]

Learning is effective when, after graduating from school, students: 1. know the more important material they have learned and are able to use it; 2. are able to independently perform intellectual activities in which they were trained; 3. have an alert mind and are interested in what they have understood thanks to school; 4. teaching has had an educational impact. The conditions for the effectiveness of

[23] Ibid., pp. 166–168.
[24] Ibid., pp. 168–171, 174–176.

learning are accessibility, practicality, thoroughness, interaction of students with the teacher and his/her personal impact on students. Learning is accessible when it is understandable, therefore it must be adapted to the level of mental development and knowledge of students and be conveyed in an appropriate way. The practicality of education lies in the ability to apply the acquired knowledge and skills, and its thoroughness ensures that essential content remains in the minds of the students. Students interact with the teacher by learning with maximum attention and performing activities with the utmost diligence. The attention can be involuntary or voluntary. The students' involuntary attention is aroused by what interests them on its own (e.g., children looking at drawings). The material that is not interesting for students may be related to the material of interest and thus also stimulate their attention. Teaching material that does not arouse involuntary attention requires the student to pay voluntary attention, depending on their will. This will can be stimulated for students by indicating the benefits of the practical application of the taught material, appealing to their willingness to distinguish themselves from other students, the prospect of a reward or the avoidance of punishment, parents' satisfaction, or satisfaction resulting from the fulfilment of an obligation.[25]

The personal influence of the teacher is a very significant factor in the effectiveness of learning. This interaction consists of three elements. The first is the students' attachment and trust towards the teacher. Thanks to this attitude, students develop a love of learning, because affection for a person also includes what is related to that person. The teacher gains the students' attachment through kindness and consideration. The second element is the seriousness of the teacher, which is externally expressed in their movements and manner of speaking, and internally, it consists in the students' belief in the truthfulness of everything that the teacher says. Therefore, teachers should admit when they are wrong, and not hide this fact – its discovery by the students would result in a loss of trust. Third, the teacher should encourage students to learn by motivating them, increasing their self-confidence, and avoiding anything that discourages them from learning. Excessive requirements, among other factors, can be particularly discouraging.[26]

The above-described personal influence of the teacher is also one of the factors of the educational influence of school. Teachers should set an example for

[25] Ibid., pp. 179–191, 195–196.
[26] Ibid., pp. 205–208.

the students – be a model of diligence, conscientiousness, justice and kindness. They should be punctual, scrupulous and perform their duties with full commitment. When students become convinced that the teacher shows favouritism or is biased, school loses its positive educational influence.[27] Another educational factor of school is connected with material and formal education: educational teaching. Such teaching consists, first, in introducing students to ethical concepts and principles that should be related to the taught content. Second, educational teaching is realized through the interaction of students and the teacher, as described above. This interaction encourages students to pay proper attention to learning and diligently perform related activities, which in turn develops their sense of duty, accustoms them to systematic, independent and diligent work,[28] builds prudence, honesty, and the tendency to maintain order and to use time properly. These are the features and skills – supplemented by the ability to control oneself and fulfil social duties – that school takes into account when conducting educational activities. It cannot provide students with a complete education, but should shape the above-mentioned qualities as the basis for further character development.[29]

The constant educational factors of school – apart from the two mentioned – are discipline and the collective nature of learning. Discipline is based on the observance of school regulations and teacher's instructions by students; it gives the students' will a direction in accordance with the school's goals. The collective nature of learning introduces students to social responsibilities, as school in many ways resembles society. It is made up of individuals who differ from each other and have different goals, but are also a whole and are governed by common laws. This creates an opportunity for students to develop courtesy, honesty, mutual trust, respect for others' property, truthfulness, and civil courage. It enables the perpetuation of the belief that the value of a person lies only in their moral character and social usefulness, and it enables stigmatizing negative phenomena, such as exaltation of some over others, jealousy, or envy. There are also occasional

[27] Ibid., pp. 218–220.

[28] Twardowski emphasized that diligent work is also a national obligation (K. Twardowski, *Unarodowienie szkoły*, in: K. Twardowski, *Mowy i rozprawy z okresu jego działalności w Towarzystwie Nauczycieli Szkół Wyższych*, Towarzystwo Nauczycieli Szkół Wyższych, Lwów 1912, p. 148).

[29] K. Twardowski, *Zasadnicze pojęcia dydaktyki*, op. cit., pp. 210–212. The figure of a perfect student, based on Twardowski's views, is presented by Traczykowski (D. Traczykowski, *Cele nauczania*, op. cit., pp. 13–19).

educational factors, which are: instructions, advice, warnings, orders, prohibitions, rewards and punishments. The use of these measures should not involve humiliating some students in comparison to others. Discipline should not deprive children of freedom of mind, cheerfulness, and liveliness; and the goal can be reached by a teacher with "common pedagogical sense."[30]

3. Twardowski's Didactics and the Approaches of Selected Polish Educators

The terms "material education" and "formal education" are no longer used. They have been replaced by "knowledge" and "skills," but this is only a terminological difference and not a difference in kind. Twardowski's thesis about the superiority of formal education (skills) over material education (knowledge) is correct, as is his diagnosis of the causes of neglecting skills education. The phenomenon of the domination of transferring knowledge without proper education of skills is still present in education and is called didactic encyclopedism (materialism).[31] Newer didactics – similarly to Twardowski – analyses different types of curricula, including deductive, inductive, linear, concentric and spiral.[32] Various lesson types are also considered, for example: lecture-style, problem-based, exercise-based, expository.[33] Twardowski's terminology in this regard is no longer sufficient, but it can still play an inspiring role, especially for a wider use of logical concepts in the theory of teaching (e.g., the analytical and synthetic curricula). Twardowski's statements about the correct curriculum are now reflected in the systemic principle.[34]

[30] Ibid., pp. 215–218, 220–222.

[31] B. Niemierko, *Kształcenie szkolne. Podręcznik skutecznej dydaktyki*, Wydawnictwa Akademickie i Profesjonalne, Warszawa 2007, p. 31.

[32] Cf. K. Kruszewski, *Nauczanie i uczenie się faktów, pojęć, zasad*, in: *Sztuka nauczania. Czynności nauczyciela*, 7th ed., ed. K. Kruszewski, Wydawnictwo Naukowe PWN, Warszawa 2012, pp. 158–160; K. Kruszewski, *Metody nauczania*, in: *Sztuka nauczania*, op. cit., pp. 196–198.

[33] F. Bereźnicki, *Podstawy dydaktyki*, 3rd ed., Oficyna Wydawnicza Impuls, Kraków 2011, pp. 321–328.

[34] The systemic principle consists primarily of: proper ordering and division of teaching material, mastering the previous material by the student, which is necessary to understand the new material, connection between the subjects taught, appropriate ordering of the activities of the teacher and students into a purposeful sequence of actions (cf. W. Okoń, *Wprowadzenie do dydaktyki ogólnej*, 5th ed., Wydawnictwo Akademickie Żak, Warszawa 2003, pp. 171–175).

The forms of teaching (acroamatic, heuristic, deictic) are now referred to as teaching methods. Newer didactics distinguishes between methods based on the word (talk, story, discussion, lecture, work with a book), on observation and measurement (e.g., the demonstration method), and on applied activity (e.g., the method of laboratory classes).[35] Another typology distinguishes expository methods (learning by assimilation), problem-focused methods (by discovering), valorizing methods (by experiencing) and applied methods (by doing).[36] The problem-focused methods are especially important, as they significantly go beyond the heuristic form of teaching that Twardowski writes about. These include the classic problem-focused method, as well as the methods of: cases, situational, simulation games, didactic games, micro-learning, and the exchange of ideas. The heuristic form in Twardowski's understanding roughly corresponds to the talk method.[37] Therefore, also in terms of teaching methods (forms), Twardowski's approach needs to be supplemented. This does not change the fact that his insights on the heuristic form (talks) have not lost their relevance. The same applies to the didactic theory of questions and answers, which at present – it seems – is sometimes treated too vaguely.[38]

The postulate of visualization of knowledge as broadly as possible is entirely consistent with newer didactic theories which speak of the principle of visualization.[39] This alignment also extends to Twardowski's recommendation that exercises and assignments should be performed by students on their own. Currently,

[35] Cz. Kupisiewicz, *Dydaktyka. Podręcznik akademicki*, 13th ed., Oficyna Wydawnicza Impuls, Kraków 2012, p. 132.

[36] W. Okoń, *Wprowadzenie do dydaktyki*, op. cit., p. 245.

[37] Ibid., pp. 255, 262–268. Wincenty Okoń distinguishes between an introductory talk, a talk presenting new knowledge, and a consolidative talk. An introductory talk prepares students for work, e.g., by reminding them of the knowledge they have or explaining new terms. A talk presenting new knowledge activates understanding of new material and connects it with the material already mastered. A consolidative talk operates on the material already mastered and connects it with some broader wholes, e.g., issues or systems (cf. ibid., pp. 254–256).

[38] E.g., Franciszek Bereźnicki states that questions should be clear, specific, understandable, unambiguous in their formulation, and addressed to all students; however, unlike Twardowski, he treats this topic superficially, without broader explanations and examples (cf. F. Bereźnicki, *Podstawy*, op. cit., p. 255). Czesław Kupisiewicz treats this issue similarly (cf. Cz. Kupisiewicz, *Dydaktyka*, op. cit., p. 138).

[39] Cf. W. Okoń, *Wprowadzenie do dydaktyki*, op. cit., pp. 175–178; F. Bereźnicki, *Podstawy*, op. cit., pp. 228–230; Cz. Kupisiewicz, *Dydaktyka*, op. cit., pp. 110–111. The postulate of visualization of knowledge has been present in didactics since at least the times of John Amos Comenius, so Twardowski's remarks on this subject were nothing new. However, the rules of visualization proposed

the principle of independence is related to an even wider range of didactic interactions, especially to the independence of thinking, acting, planning, carrying out and checking one's own work.[40] Newer Polish didactics also emphasizes the principles of accessibility, gradation of difficulty, combining theory with practice (Twardowski's practicality of learning), adapting the requirements to students' abilities, and the principle of the lastingness of knowledge (Twardowski's thoroughness of education).[41]

Twardowski's remarks regarding the teacher's personal influence, which serves both didactic and educational purposes, are important. A fundamental role in this respect is played by educational teaching and especially by its didactic aspect – Twardowski argues convincingly that teaching in accordance with the rules of didactics also leads to the achievement of educational goals of school. There seems to be too little coverage of this fundamental issue in the literature; some scholars do not even notice the influence of the correct teaching process on the achievement of educational goals.[42] On the other hand, Twardowski assumes that school cannot provide a complete education, which is – it seems – consistent with the current views.[43]

4. Conclusions

Kazimierz Twardowski's teaching theory cannot be considered complete today. It needs to be supplemented by the issues indicated in the previous section. It could also be accused of excessive "Herbartianism," that is, assigning a decisive role to the teacher in the teaching process. But this accusation would be justified only from the point of view of one of the non-objectivist paradigms. However, the question of the validity of individual didactic paradigms will be omitted here. It is only worth noting that the normative paradigm is still strongly represented in Polish didactics, it has strong points (such as, e.g., elegance and clarity of struc-

by Twardowski and the classification of its types are valuable and accurate (a similar classification of types of visualizing knowledge can be found in Cz. Kupisiewicz, *Dydaktyka*, op. cit. p. 134).

40 W. Okoń, *Wprowadzenie do dydaktyki*, op. cit., pp. 178–181.

41 Cf. F. Bereźnicki, *Podstawy*, op. cit., pp. 230–231; Cz. Kupisiewicz, *Dydaktyka*, op. cit., pp. 113–115, 122–124.

42 E.g., Bereźnicki states that the common belief that educational tasks are automatically fulfilled as a result of teaching is not true (F. Bereźnicki, *Podstawy*, op. cit., p. 200).

43 Cf., e.g., K. Konarzewski, *O wychowaniu w szkole*, in: *Sztuka nauczania*, op. cit., p. 284.

ture, systemic approach, emphasis on the multifaceted nature of teaching and learning), and among its representatives one can find outstanding Polish theoreticians of didactics, such as the cited here Wincenty Okoń, Czesław Kupisiewicz or Franciszek Bereźnicki.[44]

The advantages of Twardowski's didactics definitely outweigh its imperfections. Its most important and current principles are as follows: the superiority of formal education over material education (i.e., teaching skills over the transfer of knowledge), the advantage of the heuristic method over the acroamatic one (the heuristic method should be extended by the more contemporary problem-focused methods), teacher's personal influence and educational teaching. One can therefore still derive benefits from reading *Zasadnicze pojęcia dydaktyki i logiki*, especially since this handbook contains many practical tips for implementing general didactic principles (e.g., on asking questions and assessing responses). Finally, the language of the handbook should be mentioned: it is concise, clear and simple, which is not always the case when it comes to pedagogical works. This book can therefore be used by both adepts of the teaching profession (as a practical guide) and pedagogical theorists (as a model of disquisition).

To sum up: Twardowski's didactics is not only of historical significance. Most of its principles remain relevant today, incorporating elements that are insufficiently addressed in current theories. An additional value is the clarity and brevity of the disquisition.

Bibliography

Bereźnicki F., *Podstawy dydaktyki*, 3rd ed., Oficyna Wydawnicza Impuls, Kraków 2011.

Brożek A., *Pytania i odpowiedzi. Tło filozoficzne, teoria i zastosowania praktyczne*, Wydawnictwo Naukowe Semper, Warszawa 2007.

Czeżowski T., *Kazimierz Twardowski jako nauczyciel*, in: K. Twardowski, *Wybór pism psychologicznych i pedagogicznych*, ed. R. Jadczak, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992, pp. 477–479.

[44] Cf. D. Klus-Stańska, *Dydaktyka wobec chaosu pojęć i zdarzeń*, Wydawnictwo Akademickie Żak, Warszawa 2010, p. 12; D. Klus-Stańska, *Paradygmaty dydaktyki*, op. cit., pp. 63, 76–77.

Jadacki J., *Spór o granice poznania. Elementy semiotyki logicznej i metodologii*, 2nd ed., Wydawnictwo Naukowe Semper, Warszawa 2002.

Klus-Stańska D., *Dydaktyka wobec chaosu pojęć i zdarzeń*, Wydawnictwo Akademickie Żak, Warszawa 2010.

Klus-Stańska D., *Konstruktywizm edukacyjny – niejednoznaczność, kontrowersje, dylematy*, "Problemy Wczesnej Edukacji" 2020, No. 4 (51), pp. 7–20, https://doi.org/10.26881/pwe.2020.51.01.

Klus-Stańska D., *Paradygmaty dydaktyki. Myśleć teorią o praktyce*, Wydawnictwo Naukowe PWN, Warszawa 2018.

Konarzewski K., *O wychowaniu w szkole*, in: *Sztuka nauczania. Czynności nauczyciela*, 7th ed., ed. K. Kruszewski, Wydawnictwo Naukowe PWN, Warszawa 2012, pp. 271–330.

Kruszewski K., *Metody nauczania*, in: *Sztuka nauczania. Czynności nauczyciela*, 7th ed., ed. K. Kruszewski, Wydawnictwo Naukowe PWN, Warszawa 2012, pp. 186–220.

Kruszewski K., *Nauczanie i uczenie się faktów, pojęć, zasad*, in: *Sztuka nauczania. Czynności nauczyciela*, 7th ed., ed. K. Kruszewski, Wydawnictwo Naukowe PWN, Warszawa 2012, pp. 145–161.

Kupisiewicz Cz., *Dydaktyka. Podręcznik akademicki*, 13th ed., Oficyna Wydawnicza Impuls, Kraków 2012.

Niemierko B., *Kształcenie szkolne. Podręcznik skutecznej dydaktyki*, Wydawnictwa Akademickie i Profesjonalne, Warszawa 2007.

Okoń W., *Wprowadzenie do dydaktyki ogólnej*, 5th ed., Wydawnictwo Akademickie Żak, Warszawa 2003.

Rechlewicz W., *Non multa, sed multum. Idee pedagogiczne Twardowskiego*, in: *Rozum i wola. Kazimierz Twardowski i jego wpływ na kształt kultury polskiej XX wieku*, ed. J. Jadacki, Wydawnictwo Academicon, Lublin 2021, pp. 469–529.

Rozum i wola. Kazimierz Twardowski i jego wpływ na kształt kultury polskiej XX wieku, ed. J. Jadacki, Wydawnictwo Academicon, Lublin 2021.

Sztuka nauczania. Czynności nauczyciela, 7th ed., ed. K. Kruszewski, Wydawnictwo Naukowe PWN, Warszawa 2012.

Traczykowski D., *Cele nauczania w myśli Kazimierza Twardowskiego*, "Roczniki Pedagogiczne" 2016, Vol. 8 (44), No. 1, pp. 9–22.

Twardowski K., *Mowy i rozprawy z okresu jego działalności w Towarzystwie Nauczycieli Szkół Wyższych*, Towarzystwo Nauczycieli Szkół Wyższych, Lwów 1912.

Twardowski K., *Myśl, mowa i czyn*, Vol. 1, eds. A. Brożek, J. Jadacki, Copernicus Center Press, Kraków 2013.

Twardowski K., *Myśl, mowa i czyn*, Vol. 2, eds. A. Brożek, J. Jadacki, Copernicus Center Press, Kraków 2014.

Twardowski K., *O pojęciu wychowania*, in: K. Twardowski, *Wybór pism psychologicznych i pedagogicznych*, ed. R. Jadczak, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992, pp. 411–422.

Twardowski K., *Unarodowienie szkoły*, in: K. Twardowski, *Mowy i rozprawy z okresu jego działalności w Towarzystwie Nauczycieli Szkół Wyższych*, Towarzystwo Nauczycieli Szkół Wyższych, Lwów 1912, pp. 142–152.

Twardowski K., *Wybór pism psychologicznych i pedagogicznych*, ed. R. Jadczak, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1992.

Twardowski K., *Wyobrażenia i pojęcia,* H. Altenberg, Lwów 1898.

Twardowski K., *Zasadnicze pojęcia dydaktyki i logiki*, Towarzystwo Pedagogiczne, Lwów 1901.