ACTIVE METHODS OF STUDYING IN P. KAPTEREV’S DIDACTICS

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Abstract: The views on the active methods of studying of P. Kapterev – the outstanding teacher from the latter half of the XIX century through to the early parts of the XX century – have been discussed in this article. Given that the studying methods are an integral part of a holistic educational process, aimed at the students' harmonic self-improvement, the genetic and analytical methods have been analyzed. The role of these methods in the implementation of the principles of consciousness and activity, consistency, accessibility and durability of knowledge has been proved. The article reveals the importance of active methods in the students' self-education in the process of knowledge and skills acquisition. The author examines the basic techniques in the context of both the analytical (dialogical, catechetical conversation, observation, analysis, synthesis and the conducting of experiments) and the genetic (Socratic and heuristic conversation, problem solving and experimentation) methods. Based on the analysis of P. Kapterev's works the conditions for the implementation of the heuristic methods which have not lost their relevance for practical schooling in the XXI century have been determined.

Keywords: didactics, Kapterev, method of studying, teacher, history of education, education in Ukraine.

Introduction

Since gaining independence, Ukraine has been actively building a legal and civil society. It actualizes the need to bring up active young people who have clear conscious beliefs, can act, protect their own position, defend their ideas and beliefs, successfully realizing themselves in the life. So, from the end of the XX to the beginning of the XXI century the national educational science is characterized by the development of new theoretical concepts and technologies aimed at the improving the cognitive activity of students in the educational process. The relevance of cognitive activity is revealed in the works of J.-A. Komensky, J.-J. Rousseau, J. Pestalozzi, F. Diesterweg. K. Ushinsky also made a significant contribution to the rationale of the intensification. The specific ways of the principle of the activity implementation was proposed during the 1930s by P. Blonsky, L. Vygotsky, A. Zaluzhny, P. Zinchenko, A. Leontiev. The second half of the XX century aroused a new wave in the development of the ideas of the cognitive activity intensification in the national didactics. K. Abulkhanova-Slavskaya, M. Danilov, V. Lozova, M. Makhmudov, N. Polovnikova, T. Shamova, G. Shchukina and others in their studies revealed the essence of the concept of cognitive activity and identified different ways of its formation in the pedagogical process.

Often the desire to intensify the modern educational process and the implementation of new ideas can cause the achievements of the classical didactics, which contains the invaluable experience, to be overlooked. The studying of classical ideas enables us to find out the source of the modern ideas, test their effectiveness and to explore the possibility of creative use in the modern school. In this context, the study of the didactic ideas of the outstanding teacher of the late XIX – early XX century P. Kapterev on how to implement the principle of activity in the educational process is topical as he raised the problems of a holistic educational process, developing training, teaching methods aimed at the developing the cognitive activity of the students, their research activity; and these questions have not lost their relevance in the modern science and school practice.

The scientist's pedagogical heritage, well known in the late XIX century, was forgotten during the Soviet era. It took scientists more than thirty years to dispel the myth about P. Kapterev's bourgeois views and to assess his psychological and pedagogical heritage objectively and not through the ideology prism. So, I. Andreyev, S. Yegorov, A. Mishchenko researched the anthropological and humanistic orientation of the pedagogue's teaching achievements. V. Slavystin, I. Isayev, E. Shiyanov in their publications highly
appreciated P. Kapterev as a founder of the pedagogic doctrine and a prominent theorist in the case youth training and education. P. Lebedev studied the scientist's biography, his psychological and pedagogical heritage. L. Zavarzina made a deep analysis of the educational activities and the scientific heritage of the Voronezh period of P. Kapterev life. T. Krasovitskaya and Zh. Fillipova made a comparative analysis of P. Kapterev's pedagogical concepts and other teachers. However, the interpretation of the problems of intensification and active learning had not been the subject of an independent research. The general characteristics of P. Kapterev's method about the genetic forms was represented in S. Yegorov's historical and pedagogical essay “The Theory of Education in Pedagogics of Russia in the early XX century.” Ukrainian scientist V. Vykhursch thought P. Kapterev to be a representative of the critical didactics but stressed on his desire to enhance the cognitive activity of students, but not to analyze the specific ways of achieving it. Thus, the aim of the article is to organize P. Kapterev's didactic ideas about the active methods of studying; to identify the similarities and differences between P. Kapterev's point of view on the analytical and genetical methods and other national teachers of the late XIX – early XX century.

**Method**

The general scientific methods helped to achieve this goal: the analysis of Kapterev's and native teachers' works the second half of the XIX – the beginning of the XX century, dedicated to the problem of studying and active methods, in particular: the comparison and the collation of the received information to identify the special features of Kapterev's views on active studying methods; the generalization of scientist's thoughts about the essence of active methods, their types, ways and the conditions of their employment in the practical education.

**Results**

The studying methods in P. Kapterev’s didactic concept are an integral part of the theory of the holistic educational process aimed at the students' self-development according to their potentialities and pedagogical ideal. Given the nature of the cognitive activity by the students the determination of classification approaches by the teacher was important. Consequently P. Kapterev assigned the following classifications: dogmatic (passive reception of knowledge by the students from the teacher), analytical (conscious learning of the material based on an analytical and synthetic approach) and genetic (self-education as a result of independent research). Without rejecting the possibility and usefulness of using the dogmatic method under certain conditions (i.e. the goal of the lesson, the nature of an academic subject, lack of textbooks, low level of children training in the classroom and the deficit of the teacher's skill), the teacher will insist on the extensive use of both the analytical and genetic methods. P. Kapterev argued that an educated person is not one who knows a lot but one that wants to know a lot, is accustomed to working independently and had mastered the methods of acquiring of knowledge using active methods “... we require not only knowledge which is useful and has a close relationship with life, but we should also have the means to transfer knowledge; this should assist in the development of the spiritual integrity of an individual, rather than providing a passive, dead mastering of the ready material” (Zhenskiy pedagogicheskiy institut, Protokoly konferentsii ZhPI za 1903–1909, 1903–1909, paper 363). It should be emphasized that the teacher did not use terms “active learning”, “intensification of teaching and learning of students” in his didactics. But the general approach to the defining of the group methods, the desire to involve students to the independent activities, which can not only satisfy their interests and increase their activity, but also impels to the creation of the original, new knowledge, entitles to admit the analytical and genetic methods of P. Kapterev as the active teaching methods.

While defining and characterizing of the analytical method the scientist relied on the didactics of his predecessor P. Yurkevych, who noted that the analytical method will help “... to distinguish true thoughts from false, clear from dark, compatible from mutually exclusive ... to move from the scope [of information] to the notion” (Yurkevich, 1869, p. 254).

A variation of this method in P. Kapterev's didactics was the visual method of studying; the essence of which was to use an inductive method of teaching to deliver information and then take into account the results of the students’ independent observations on the subject matter. This method enabled the children to perceive a particular subject using the sensory organs and examine it in detail, with the help analysis of the independent parts and properties. Contemporaries noted the importance of the visual method: P. Blonsky stressed its democracy and role in the educating of the student's independence; T. Lubenets emphasized that the visibility - the basis of the elementary training aimed at “... the student is not a passive listener of the ready
material but is an active, alive and interested participant ...” (Lubenets, 1911, p. 21). Thus, P. Kapterev, P. Blonsky and T. Lubenets unanimously recognised the visual method as a variant of the analytical method; one which allows the intensification of the sensual sphere of the students and impel them to self-analysis and generalizations.

Picking up the idea of P. Kapterev about the importance of the activation of all sensory organs during the perception of the educational information, V. Vakhterov popularized the objective method of studying. A detailed study to compare the works of these scholars allows the difference in their views to be determined.

For P. Kapterev the visual method is elementary teaching, with the study of the components, and properties of a whole phenomenon; for V. Vakhterov – it sets the conditions for the maximum activation of all the senses when studying a subject (common technique - experimentation, conducting experiments). So, P. Kapterev offered to widely used the visual method in the study of various subjects as the realization of the clarity principle; V. Vakhterov considered natural sciences were the main sphere of the objective method application: mineralogy, botanics, physics, chemistry, geology, geography partially: “Thus, the objective teaching may concern to all natural phenomena and all items required in daily life” (Vakhterov, 1987, p. 271).

The conviction that the visual (objective) method should form the knowledge which would be the basis for further accumulation of information, awareness of the scientific facts and laws united the scientists.

Despite the different names of the method which activates the students' sensitive area – “specific inductive” (K. Lebedintsev), “visual” (P. Blonsky, P. Kapterev), “objective” (V. Vakhterov), “elementary” (T. Lubenets), “deictic” (V. Naumenko) – the common desire of the teachers was to approach the content of what is learnt to the level of training required for the students to increase their understanding, awareness and perception of educational material; development of the children's natural curiosity to form an interest in learning and the desire to self-education and self-acquirement of knowledge and skills.

At the same time, the pedagogues did not deny the importance of the teacher in the learning process. He had to perform the important function of monitoring (selected the object, formulating the task, observes the students' progress, provide guidance and coordinate activities). P. Kapterev noted that monitoring and independent experiments should be subordinated not to random attention and association but should be consciously directed by the teacher through introductory conversations or by well formulated questions. The pedagogue noted that the combination of different methods of teaching will boost the students' interest in learning (Kapterev, 1982).

Thus, conversation, according to P. Kapterev, was an important teaching technique in the context of the analytical method, as it allowed the students' attention to be maintained by the use of questions; encouraging them to defend their own opinion by providing arguments and evidence. Through the independent formulation of questions to the teacher and classmates, students explained the unexplainable and went deep into the process of study: “Thus, the form of questions and answers was addressed directly to the students' mind, encouraged their attention, expelled the unconsciousness and deadness from school, besprinkled the teacher and the students and the whole school with living water. Its [form of questions and answers] implementation in schools - a significant pedagogical reform, a considerable step forward in the organizing of school's activity” (Kapterev, 1982, p. 573).

Unlike P. Yurkevych, the pedagogue's predecessor, who noted the feasibility of using either catechetical conversation (teacher asks and answers the questions), dialogue (teacher and students formulate questions to each other) or Socratic (teacher's questions stimulate students' answers resulting in children acquire new knowledge) P. Kapterev insisted on the top-priority usage of dialogic conversation that stimulated the mutual interest of students and teachers to the matter and helped to implement the intersubject activity, stimulated the desire of joint work (Yurkevich, 1869). The dialogical conversation reflected the humanistic relationship between teacher and students in the class most clearly. Catechesis, according to the pedagogue, could be used in the context of the analytical method only to determine the level of the students' mastering of the educational material: “A sufficient number of questions should be posed to every part and every property and through them the meaning and significance of the subject put to the catechesis should be found out” (Kapterev, 1982, p. 574). The Socratic conversation was reckoned in the techniques of the heuristic method, which will be discussed below.

Special attention should be paid to P. Kapterev's recommendations concerning the nature of the questions and the plan of oral testing, not to ask “... questions that first hit the tongue” (Kapterev, 1982, p. 583). According to the pedagogue, carefully considered questions will help teachers analyze the scientific concepts
and facts which are being studied fully and form with the students' minds a coherent picture of the object of study. In his advice P. Kapterev continued the thoughts of his predecessor P. Yurkevych, who pointed to the necessity of exposing the expanded students' answers to questions and the ability to allow free and coherent teaching of the course material. The scientist-philosopher warned that questions and answers may generate in students a "short mind" – a habit to answer the questions only with the external impulse. Considering that, P. Kapterev as P. Yurkevych recommended to formulate the questions in the form of doubt that provoked students to independent thinking and helped to avoid the demonstration of the teacher's arrogant attitude to them (Yurkevich, 1869). As P. Kapterev, T. Lubenets emphasized the importance of questions aimed at the development of thinking of students, their ability to express their own opinions freely and bring attention and diligence in the performance of academic assignments (Lubenets, 1911). The practice of Kh. Alchevska's works, who used the literary conversations widely, was an illustration of verity of P. Kapterev's conclusions. Their aim was to acquaint the students with the best works of Russian literature and to form an interest and love of the subject. Kh. Alchevska conducted the conversations in accordance with the detailed program, what guaranteed the achievement of the expected results and the avoidance of unimportant, incorrect, and wrong formed questions.

The main idea of P. Kapteyev's position was that he emphasized the role of the method not only in the mastering of the educational material and the development of the students' thinking, but also in the bringing up process. In an effort to maximize the enhancement of the cognitive activity of the students in the classroom, the teacher was recommended to use various methods and training techniques that would provide a combination of mental and motor action: the narration and pencilling, the explanation and modelling, drawing, the reading and dramatization, cut-out, etc. P. Kapterev noted that the external detection of mental operations provide a better understanding and memorizing of the learned material. Sharing this idea T. Lubenets insisted on the combination of the manual work with the other subjects and suggested to the students to produce the visibility themselves or to embody their thoughts and impressions of the gained knowledge in the illustrations or modelling. The teacher proved the importance of such work pointing to its role in the development of the children's fantasy and imagination, their personal creativity and initiative (Lubenets, 1911). K. Lebedintsev shared and used widely in his practice the P. Kapterev's idea on how to use practical methods and techniques. Revealing the basic methods behind teaching children math, he proposed teachers use delineation, modelling (making either parallelepipeds, prisms, cubes, or other geometric figures), thus contributing to a better understanding and memorizing of the learned material. Sharing this idea S. Rusova fully shared the P. Kapterev's opinion about the necessity of the combination of mental and motor actions: “Let a child draw, model, cut-out, in a word, actively use different creativity along with the oral speaking. A child's drawing is a child's speech which is sincere and independent: now it is impossible to imagine any reading after which a child won't express its impressions through the drawing; it may be primitive, technically weak but it will demonstrate to the teacher the child's strongest impression” (Rusova, 1992, p. 211). The pedagogue and public figure was convinced this combination will help students to build strong, flexible knowledge and enhance their mental activity.

So, by highlighting the nature of the analytical method P. Kapterev was unanimous with national teachers such as K. Lebedintsev, T. Lubenets, S. Myropolsky, V. Naumenko and S. Rusova who indicated the importance of the activation of the sensory sphere of a child as a result of independent observation, development of independent analytical skills and synthesis; this ensured the conscious mastery of effective knowledge which was acquired by independent work led by the teacher.

Based on the correspondence principles to the nature and subsequence, the teacher was advised to further complicate the learning process step by step; gradually moving towards more complex methods. The analysis of the pedagogical works of P. Kapterev allows it to be concluded that the analytical method (“form” in P. Kapterev's terminology) prepared students to work in more complex genetic method. The method's advantage compared with the analytical one, was that the disciples were the witnesses and participants of a new knowledge.

As the teacher noted, the main actants of the genetic method are the students, who acquire knowledge as a result of self-searching: “It [the genetic form] gives the students nothing without self study and effort; this form of training means each knowledge should be the result of a battle” (Kapterev, 1982, p. 577). The genetic method directed by the teacher helped to transform a child's “naive consciousness” into the scientific thinking through the mastery of techniques of knowledge of the natural and social environment. P. Kapterev's
contemporary, P. Blonsky, in his article “The Problems and Methods of the Public School” (1915) shared his opinion about the implementation of the genetic method and considered it was the only organic way to both develop the child's consciousness and stimulate the student's reflection of the sensory images of the world. P. Blonsky considered the cognitive activity of the student was a repetition of the science development (Blonskiy, 1924). Ukrainian teacher A. Muzichenko, as P. Kapterev, noted the usefulness of the genetic method in the development of curiosity, search activity, cognitive independence and freedom of the children, “the principle of the material processing by students provides a high level of development of the child's volitional element that arranges its consciousness, and as a result exposes the slogan – think” (Muzychenko, 1912, p. 15).

In a number of works devoted to teaching methods P. Kapterev mentioned two “forms” of the genetic method: the Socratic, in which the teacher himself serving as a researcher, opened the history of the creation of new knowledge before the students. They listened, acquired, considered with the teacher.

The heuristic form required the students' independent research and the formation of new knowledge based on previous experience.

The teacher, noting that the Socratic form was effective at attracting the student's attention to the subject of study, to awake their interest, recognized that the heuristic form was the most effective in terms of promoting independent research work by the students. The teacher clearly defined the formula of the heuristic method: “To investigate the phenomenon, reveal the sources of its origin, to analyse its properties and relations, their synthesis and the creation of a short formula that combines all previous separate thoughts – all of this must be done, of course, by the students themselves after providing them with enough information and processing methods under the constant guidance of a teacher” (Kapterev, 1982, p. 576). Based on the principles of activity, awareness, accessibility, a high level of complexity, strength and knowledge P. Kapterev argued that the heuristic method provides the formation of strong, conscious, effective knowledge as the students went independently through all stages of the formation of rule or law. The scientist's predecessors N. Vessel and K. Ushinsky as well as his contemporaries V. Vakhterov, K. Ventzel, O. Komarov, K. Lebedintsev, P. Lesgaft, T. Lubenets, A. Musychenko, A. Ostrogorsky pointed at the importance of the independent researching process in gaining knowledge. Thus, K. Ventzel as P. Kapterev believed that the teaching methods should support and encourage a child's spirit of research and creativity and emphasized the need for heuristic methods. P. Lesgaft who was P. Kapterev's contemporary, considered that the problem of the teaching methods insisted on the avoiding of mechanical work in the classroom and noted the need to exercise the student's thoughts, impel his conscious activity what would enable to open his potentialities and to improve them by the setting of new goals. He compared a teacher with an obstetrician who can only assist his students in the formation of new knowledge. V. Vakhterov considered the heuristic method was the mean of bringing up an active individual with clearly conscious opinion and able to overcome the arrogance of the cognition and prejudices. K. Lebedintsev, T. Lubenets as P. Kapterev, insisted the heuristic method could overcome the inactivity in the learning, emphasizing the importance of encouraging students to search and formulate the independent findings (Lubenets, 1911).

Thus, the desire to provide an active and independent acquirement of the educational material by the students united P. Kapterev and the representatives of the national educational thought of the late XIX - early XX century.

Through the analysis of P. Kapterev's works techniques related to the heuristic method can be determined: the heuristic conversation, problems solving, conducting research, modelling, experimentation etc.. The common feature of these techniques was that the original problem complicated the student's learning because of a lack of information necessary to solve the problem. The teacher stressed that the knowledge acquired as a result of overcoming theses difficulties and the internal stress, was accepted as a personal discovery and stored in the memory for a long period of time (Kapterev, 1874, No. 11, 12).

P. Kapterev recognized the heuristic conversation was the most effective technique of the heuristic method, as it impelled the students to engage in lively dialogue and active work. However, the pedagogue warned the teachers against the misunderstanding of the essence of this technique: “To drug a child, so to speak, by the ears, to pull out its soul be the questions and grind out the preferred answers – all these and similar things have nothing common with the heuristic studying and pedagogy” (Kapterev, 1874, No. 11, p. 18). The P. Kapterev's merit was an effort to reveal the true nature of the heuristic conversation, prevent the teachers from the possible errors. So, much attention was paid to the accuracy of the heuristic formulation of
the questions, indicating their specific features: the presence of the problem in the question content which enabled the students to think and solve it. P. Kapterev himself teaching at the St. Petersburg Seminary, Women's Pedagogical Institute made a practice of discussion of the problematic topics in the classroom and writing researches: "What should be the main goal of teaching the Law of God in Public Schools: the presentation of the theoretical information about Christianity or the practical influence at the pupils' will and actions?", "What should a schoolteacher do to support the interest of the peasant communities to school", "Is the pleasure the deliverance from sufferings only or it has another positive sense?", "The analysis of a sense of justice" (Petrogradskaya dukhovnaya seminariya, Zhurnal ocherednogo Pedagogicheskogo sobraniya pravleniya Dukhovnoy seminarii, 1878), "The Rousseau's confessions as a source of understanding of his educational theory" (Zhenskiy pedagogicheskiy institut, Otchety prepodavateley o zanyatiyakh, 1903–1912), etc.

Based on the work of his predecessor, Mr. Yurkevych, who noted that solving problems was an effective way to detect the learner's autonomy and allows the actual level of knowledge and abilities of children to be determined, P. Kapterev suggested to use them as the original condition for the heuristic tasks. By incrementally solving problems, the students formulated independent conclusions and generalizations and as a result determined the rules and laws.

Conducting research and experiments was also considered, by the scientists, as the heuristic techniques. The problem which the students were independently solving during the research had to be the original condition for the experimentation P. Kapterev thought. He also noted that the observation and experimentation let students test their ideas and hypotheses impelling a critical thinking and interest in learning. P. Lesgaft and V. Vakhterov stressed the importance of the method: “The searching may serve as material for deducing a well known law, sometimes as an illustration to the previously received conclusion or at least test a particular position or hypothesis” (Vakhterov, 1987, p. 315).

The strength of knowledge, the renewal of which did not require frequent repetition, a sense of pleasure from the learning process and an interest in the science which encouraged the students to engage in future self-education were the positive effects of using of the heuristic method according to P. Kapterev.

However, if the scientist's contemporaries (P. Blonsky, M. Demkov, P. Lesgaft, A. Muzichenko) gave a general description of the heuristic methods, indicating their effectiveness in the development of thinking and activity of pupils, P. Kapterev studied the question deeply, identified its advantages and disadvantages and specified the conditions for the method implementation:

- taking into account the content of the subjects. In the course of the study of subjects which contained a lot of facts P. Kapterev did not recommend the extensive use of the heuristic method as there were many potential difficulties with setting the conditions for the students' self-searching of new knowledge;
- estimating the students' level of knowledge was required for the problem understanding, solving and formatting of the independent generalizations;
- involvement of the whole class and just not individual students into the working process;
- the preliminary usage of the visual learning method to form a students' actual knowledge of new phenomena and to prepare them for independent formulation of conclusions: “There is nothing impossible or supercomplex in this process, what exceeds the students' abilities because every generalization and formula is natural and necessary result of the facts examination as well as their properties and relations” (Kapterev, 1987, p. 578);
- the skill of the teacher who is deeply aware not only the current state of science but also its history; constantly preparing to the classes and is able to manage the students' self-searching activities and direct it, responding flexibly to the needs of the audience.

Discussion

Thus, the analysis of P. Kapterev's works provided the opportunity to find out that the active methods of studying promote the achievement of the goal of the pedagogical process determined by the scientists - to assist in the students' self-development. The teacher proved the need to use the training methods that would ensure the development of autonomy, active cognitive activities, interests and personal attributes of the young people, encouraging them to the further self-education. Also notable is that the scientist insisted on using a variety of teaching methods at the classes, depending on the purpose and the children's level of training and
noted the need to prepare pupils for the implementation of a complex genetic method. The proposed techniques of the analytical and genetic methods, advices to the conversation, the conditions necessary to the introduction of heuristic methods may be useful for the today's teachers-practitioners interested in the activization of the pupils' cognitive activity as well as for the academics involved in the development of the active studying technologies.

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