Methodological and Pedagogical Potential of Reflection in Development of Contemporary Didactics

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ABSTRACT

Applicability of the issue under research is preconditioned by the need of practical pedagogics to expand methodological and methodical tools of contemporary didactics. The purpose of the article is to detect the methodological core of reflection as a form of thinking and to provide insight thereinto on the basis of systematic attributes of the didactic method. The leading approach to research into this issue is a conceptual genetic approach which enables comprehensive examination of reflection as a form of thinking that provides for generation of new ideas, knowledge and transformation of activity. The main deliverables of the work are that the main interpretations of reflection, its ontological attributes are provided, the core of the method as a way of research into the object and management of activity is described, the didactic method is defined, and the attributes thereof which enable substantiating the reflexive method as a didactic one and describing reflexive techniques are detected, thus allowing introduction of reflection into the categorical framework of the pedagogics. The contents of the article may be of use for theoretic research and are of practical value for pedagogues as they enable developing techniques on the basis of the reflexive method and introducing them into the pedagogical practice.

Introduction

One of the important controversies which has impact on social and economic development of the society is the need for specialists who could solve their

professional development issues on their own in order to achieve better performance by means of reflection mechanisms, and lack of techniques for forming developed reflexive skills of future specialists in the course of education (Dorozhkin, Zaitseva & Tatarskikh, 2016). It is partially related to the insufficient theoretical, methodological and applied development of reflection issues in the field of professional pedagogics. Herewith reflection and mechanisms thereof have always been an essential development tool, including professional development.

Applicability of the issue is based on the public need for establishment of the educational system within which the educational activity of students and their subsequent professional development would be based on reflection. For this purpose, reflection should be substantiated as a method of thinking and acting which provides for development of professional skills, implementation of personal functions, formation of values and meanings, everything which is the purpose of education.

The concept of reflection has been deeply studied in philosophy, psychology and methodology and has numerous definitions. In the Soviet encyclopaedic dictionary reflection is defined as the "principle of human thinking which directs a human at understanding and perceiving its own forms and preconditions; subject consideration of the knowledge, critical analysis of its contents and cognition methods; self-cognition activity which gets insight into the internal structure and specifics of the spiritual world of a human" (Soviet Encyclopaedic Dictionary, 1983). This philosophical definition which we consider to be quite comprehensive may be supplemented with methodological aspects: reflection is a generalised type of reality which manifests itself in various forms of mental activity and presupposes analysis, critical reconstruction of reality and standardisation of the reality-transformation activity. This aspect is important for the understanding of the educational potential of reflection as it helps achieve such educational purposes as independent search for new operating standards on the basis of activity analysis and critical reconstruction. These educational purposes are also pertinent to the cognitive educational paradigm where gaining knowledge is of importance, to the personal educational paradigm with its focus on development of personal traits and formation of meaningful values, and to the competent educational paradigm where practical experience cannot be formed without reflection as an element of the competence. It may be confirmed with the thoughts of G. Hegel (1812-1816) on education as he tried to comprehend reflection not only as a thinking category, but also as an emotional and value category for the first time in philosophy. Those attempts were later represented in works of philosophers and pedagogues who interpreted reflection as evaluation of the basis of one's own beliefs. A more detailed definition of reflection as a value category was given by J. Mezirow (1990), "Reflection is a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciation." In psychological research reflection is referred to the three principal psychological categories: conscience, personality, activity. Thus, A.A. Tyukov (1987) refers reflection to the sphere of conscience, and, to his mind, reflection is based on activity and an act as a manifest of activity and personality. A.A. Tyukov (1987) defines the place of reflection as follows: "By

affecting development and condition of human subjectivity, reflection is in three forming spaces: thinking, memory and perception. Its appearance is based on activity, and the categorical core is conscience. This way reflection has an indirect impact on the action as personal category."

Therefore, analysis of national and foreign research demonstrates that reflection is related to development of conclusions, generalisations, analogies, comparisons and evaluations, and also includes experiencing, remembering and solving problems, covers consideration of one's own beliefs in order to interpret, analyse, discuss and evaluate a phenomenon to take further actions. The thesis that cultural models are reproduced, and creative skills and personal traits are developed in the course of establishment of a new standard is confirmed (Chupina, 2010; Davydova et al., 2016).

Methodological framework

Research methods

The following theoretical methods were used in the research: logical, historical, genetic and inductive, and deductive ones. Comparative analysis was used to classify the didactic methods, and criterion analysis was used to describe the reflexive techniques. The article is based on philosophical and historical and pedagogical research, as well as concepts of the methodological school of G.P. Shchedrovitskiy (1997) and his followers.

Experimental research base

The experimental base of the research was the advanced psychological and pedagogical training groups at the advanced training faculty of the Russian State Vocational Pedagogical University. The groups included professors and lecturers of universities and colleges.

Investigation stages

The issue has been studied in three stages:

The first stage included the scientific and theoretical analysis of the concept of reflection as a method of thinking and activity. At the second stage the method related to the concept of the didactic method was defined by means of historical and genetic analysis. At the third stage the reflexive method was substantiated as a didactic one, and criterion analysis of reflexive techniques was performed. The aforementioned techniques were used during the advanced psychological and pedagogical training of college and university lecturers.

Results

Method Category

Understanding the method as a category has been traditionally associated with the ways to achieve a certain purpose, to solve a certain task, an aggregate of tools to perceive the reality. The philosophical method as a way of establishing and substantiating the philosophical knowledge system was especially emphasised (Soviet Encyclopaedic Dictionary, 1983). For instance, in G. Berkeley's (1710) philosophy it was stated that the rules applied in the action stemmed from the method, and the method stemmed from the principle.

R. Descartes (1637) believed that methods were the rules which directed application of mind in order to avoid confusions and excessive loss of mind power. G. Hegel (1812-1816) emphasised that the method was the form of contents, and the concept therein was a means of self-demonstration of contents, a condition of perception of the form of internal self-movement of the contents (Anisimov, 2002).

G.P. Shchedrovitskiy (1997) claims that the method is a special type of knowledge which enables production of new knowledge as well as performance of transformation of activity. G.P. Shchedrovitskiy (1997) perceives the method as something more than a task or a way. The method is necessary to solve the task. For this purpose, you need to know its conditions, have certain solutions tools, an ability to develop the task-solving procedure or process. The aggregate of these provisions makes up the method. The aggregate of two elements, the methodological knowledge which enables researching objects, and the methodological guidelines which enable the activity management, was defined as the method by G.P. Shchedrovitskiy (1997).

The standard-setting function of the method is represented in activity management. That is why methods, as O.S. Anisimov (2002) has reasonably noted, do not require strict reproduction of activity and are a basis for flexible standard-setting. Methods are located at the medium level of standard hierarchy abstractness, not at the lowest one associated with construction of actions itself. Methods are used to solve abstract tasks or the tasks organising the basic process (Anisimov, 2002; Ashmarina et al., 2016). As the method is never encountered in activity in the "pure" form, it may be considered to be an ideal phenomenon.

In practice method is often associated with forms, that is why it is important to understand the process of its appearance and formation in order to understand the essence of the method and its difference from certain activities. O.S. Anisimov (2002) associates method genesis with the need for mental activity. For the method to be separated, activity shall be subject to cognition (research, reflection) resulting in the development of the image thereof. In the course of time this image is repeated when reproduced repeatedly, but it is slightly different each time. Therefore, repeated reproduction of activity demonstrates a variety of its repetitions where regularities which are grounds to record the generalising image of this activity may be identified. When many various, however similar activities are researched, the generalised (abstract) image of the typical activity is identified; this is what the method is (Anisimov, 2002).

Therefore, for the method to be described, its formation stages shall be established: description of numerous certain activities of the same type; generalisation of descriptions with identification of systematic (essential, fundamental) attributes of the researched activity; typification of the generalised image.

Techniques in Pedagogics as a Way of Implementation of the Didactic Method

The typified generalised image (method) cannot be encountered in real life. The way of its implementation is the only thing to be seen. G.P. Shchedrovitskiy (1997) calls this way a methodical guideline. In pedagogics a methodical guideline is called a technique.

"A technique is a result of the process of logical thinking when this process is aimed at the specification of the method contents. There may be many techniques based on one method," writes O.S. Anisimov (1989). The method provides for applicability of the technique as it preserves fundamental characteristics of activities and represents its regularities. It shall be noted that the method shall be used as a basis in strategic activity with a variety of possible results, and the technique is expedient in the tactical activity where particularities and details are important.

It is important to understand differences between the method and the technique in pedagogics as it is one of the main complications when developing or describing pedagogical activity. Analysis of pedagogical literature demonstrates that four levels of application of educational methods are generally examined.

The first level is the general didactic one. It is a general view of the issue of educational methods. At this level educational methods act as a model generalised characteristic of the contents, structure and functions of pedagogical activity.

The second level is an individual didactic one where functions of educational methods are examined as elements common for any educational process (absorption of educational material, arrangement of independent work, knowledge assessment etc.).

The third level of representation of the educational method is a level of the academic discipline. In this case educational methods are represented in combination of educational practices and sustainable techniques applied within a certain discipline.

Specific educational practices are various actions aimed at individual purposes with regard to this educational method, for instance, to develop attention, memory etc.

The multi-level approach to examination of educational methods explains the issue of variety of didactic methods. Thus, general didactic methods are associated with the traditional ones, such as narrative, discussion, in pedagogical literature. However, according to the abovementioned method genesis logic, so called traditional educational methods shall be treated as techniques as they are used as a way to implement general didactic methods.

The educational method is a historical category. The most ancient methods include the reproductive one which originated as a result of the traditional approach to analysis of social communication of adults and children and meant demonstration of the activity model. When people learnt to write, books as a source of knowledge, wisdom and standards turned into a common educational tool: texts were learnt, and education got mechanistic. That was how the dogmatic educational method was formed in the medieval period. During the Renaissance era the purpose of education was to develop human personality. The educational process started with sensitive perception, observation, experiments aimed at development of human skills, and students mastered the

methods of gaining knowledge on their own; research methods were formed that way. At the beginning of XIX century J.H. Pestalozzi (1826) had an idea to activate education through descriptive methods, and J.F. Herbart (1835) supported methods of giving ready-made knowledge to students, whereas F. Diesterweg (1835) developed verbal and descriptive methods (Russian Pedagogical Encyclopaedia, 1993). At the turn of XIX century all existing pedagogical methods were criticised. The educational lead was taken by heuristic methods, natural learning methods based on the immediate students' contact with the reality of J. Dewey (1916), methods of activation of students' cognitive activity of K.D. Ushinskiy (1867, 1869) (Russian Pedagogical Encyclopaedia, 1993).

Therefore, development of theory of educational methods has evolved from reproduction to changes in the nature of cognitive activity and activation thereof. P.F. Kapterev (1885) generalised the methods which existed in the didactic sphere in those times, and classified them in terms of students' cognitive activity. He distinguished the dogmatic method in which knowledge was given in the ready-made form; the analytical method in which the teacher divided knowledge into elements, introduced each of them and then turned them into ready-made knowledge; the genetic method related to demonstration of the knowledge appearance process, its development and presentation of the final knowledge.

In contemporary domestic classifications there are such methods as the informational and receptive (explanatory and descriptive) one, and the instructive and reproductive one, the problem presentation one, the heuristic one, the research one, the method of comparison of the educational act with the students' needs and motives (Lerner, 1976; Skatkin, 1986). Classification by Yu.K. Babanskiy (1988) includes three method groups: arrangement and performance of educational and cognitive activity, encouragement and motivation.

Reflexive Didactic Method

The major problem affecting development of the didactic methods and their conformance to the cognition methods is insufficient methodological and pedagogical development of reflection as a type of cognition which has impact on research activity and the management thereof. The reflexive method is not mentioned in the classifications of didactic methods existing in the literature. However, there are well-established concepts of the reflexive technique, interactive education, dialogue techniques in the literature and practical pedagogical activity, each of them being a way of implementation of the reflexive method.

In order to substantiate the didactic method, its material attributes shall be determined. The Russian Pedagogical Encyclopaedia defines the educational method as a "system of consecutive inter-connected actions of the teacher and students which provide for absorption of knowledge" (Russian Pedagogical Encyclopaedia, 1993). It is noted that the educational method is characterised with three attributes: purpose of education, way of absorption, and nature of interaction among education subjects. These three attributes act as a basis in terms of which each reflexive method may be described as a didactic one.

The reflexive didactic method is directed at independent search for new activity standards by the student on the basis of the analysis of previous activity and critical reconstruction thereof. The way of knowledge absorption is characterised as the student's dynamic activity aimed at solving issues and searching for existing cultural models. Interaction between the pedagogue and the student is of subject to subject nature.

Let's characterise such an attribute of the didactic method as the interaction of subjects of education. The nature of interaction of subjects of education within the reflexive method stems from the research, dialogue nature of reflection. The main principle of interaction of subjects of education in the course of implementation of the reflexive method is discussion arranged on the basis of the complex communication chart (Figure 1).
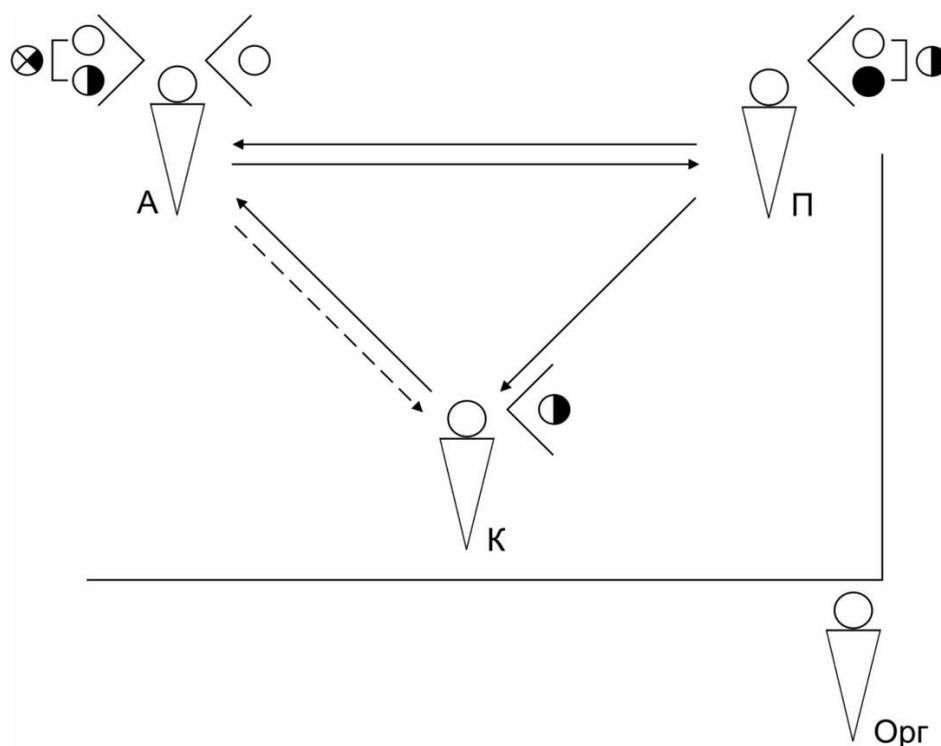

Figure 1. Complex Communication Chart

In accordance with this way of interaction, each participant of the interaction may express his or her opinion at the first stage and, therefore, be its author. When the author's opinion is expressed, each participant of the discussion is an understanding party; it is the second communication stage. At the understanding stage he or she develops a new image, new knowledge based on the author's opinion, and the purpose of understanding is to reconstruct the author's point of view. Following the understanding stage supported with the clarification or "understanding" questions, the participant of the discussion reaches the third interaction level, the critical one. On the basis of the understanding results of understanding, the "critic" develops a deeper opinion and expresses it to the author and all participants of the interaction. In this case

the "author" turns into the "understanding" party. By analysing the contents of his or her previous statement, he or she reaches the level of critical examination of the product of his or her mental activity and develops a new activity standard. This way of interaction within the reflexive educational method is called the discussion one. Complex communication as a way of interaction is obviously based on the reflection pattern. It enables the development of all aspects: the contents of knowledge, activity and mental activity of the subject of education as well as its personality. Herewith the pedagogue acts as an organiser of the communication who establishes conditions for expression of the author's opinion, ordering of the cognition process and formation of the constructive critical position.

Discussions

Just like any other method, the reflexive method is represented in the technique. The reflexive technique shall comply with the three attributes of the reflexive didactic method and contain the procedural elements of reflection: analysis, criticism and construction of the new activity standard. The reflexive technique provides for mental activity of the subject of education and its active participation in creation and interpretation thereof. As reflection is aimed at the transformation of the existing professional practice or situation, the reflexive technique includes a research component. The reflexive technique has no rigid procedural framework.

A sufficient number of techniques with reflexive attributes have already been developed and are used in the pedagogical practice. They may include dialogue techniques which provide for expression of the author's opinion, understanding and criticism thereof. The methodological ground for this type of the reflexive technique shall be the concept of M.M. Bakhtin (1986) which naturally includes all types of reflection: the personal one associated with the individually focused will; the intellectual one which is a basis of the technology for developing your own opinion; and the activity one which includes selecting the position and taking a responsible action. Interconnection and interdependence of personal, intellectual and activity reflections and their impact on an act are emphasised by M.M. Bakhtin (1986) as follows: "I have to be liable for everything I have experienced and understood in art with my own life so that everything I have experienced and understood will not remain useless" (Bakhtin, 1986). The concept of M.M. Bakhtin (1986) seems to be convincing and substantiated as it describes reflection processes precisely and is a basis for current research into the culture dialogue issues.

Development of the reflection issue as a mechanism for communication, understanding and dialogue can be found in a number of philosophical research of the Soviet period. For instance, M.K. Mamardashvili (1990) describes the technology of gaining knowledge and transforming it from the symbol into the sign on the basis of the reflection mechanism. He claims that knowledge is a sign structure which provides for, on the one hand, "suspension of conscience" and, on the other hand, self-reflection as a subject existing among signs. According to the author, signs were detected via extraction thereof in reflection at the analytical phase rather than invented. The symbol playing the role of the sign-like element is related to the understanding procedure as it defines initial

conscience elements, and understanding, in its turn, is related to different situations of human conscience where reflection is of key importance. M.K. Mamardashvili (1990) notes that reflection is "the increase in the self-thinking rank", the implementation of subject thinking. "If I forget myself," he writes, "reflection may come to naught, which means that the "I" reflection as a form ceases to exist and turns into a new, special conscience act" (Mamardashvili, 1990). In the course of this operation the symbol turns into a sign, and conscience symbols turn into culture signs. At the same time the goal is set to study yourself and recognize your place in this world. The important thing is for a person to be able not only to cultivate (in this context, to transform symbols into marks), but also to preserve certain symbolic meanings which enable being a personality and creating within its mentality. For instance, M.K. Mamardashvili (1990) drives us at understanding issues of creative cognition, understanding, dialogue of languages and the role of reflection in these processes.

A kind of the reflexive technique are the reflexive workshops which are especially efficient when teaching adults. Such practices are based on intensive education methods and provide for establishment of acmeological conditions: one domain specific field, its comparison with the actualised professional experience of participants, elimination of inter-personal barriers when arranging joint mental activity, arrangement of the reflexive environment, personal involvement of participants of the reflexive workshop into the thinking and activity process. In addition to obtaining specific professional knowledge, application of this kind of the reflexive technique provides for the development of problem statement and solution skills, group interaction and conflict settlement skills as well as the enrichment of professional and personal experience. The most common forms of reflexive workshops include reflexive discussion, group reflection, reflection polylogue, reflexive training, reflexive inversion etc. The ability to reflect and knowledge of its mechanisms developed in the course of reflexive workshops enable developing your own values and principles, determining the personal development strategy, and encourage consistent self-development and creative attitude to professional activity. Reflexive workshops are independent finished forms which may be treated as existential tools which help overcome hardships, solve the crisis, develop new activity standards, develop the subsequent development direction and achieve better performance in subsequent activity (Zeer & Streltsov, 2016).

The functional and reflexive analysis technique is also one of the types of reflexive techniques used to determine a complex type of personal reflection, the existential one. Complexity of existential reflection is based on the fact that human creative thinking develops in the conditions of subjective conscious cognition of the problem situation, and reflection in the course of solution of problem situations provides for development of the personality and new models of the "I" concept. The important thing is the reflection results from solution of problem situations based on the personal conflict (Anikina, Koval & Semenov, 2002).

Therefore, the abovementioned reflexive techniques used in pedagogical activity prove existence of the method which they represent.

Conclusion

The contemporary didactics broadly describes research and heuristic methods. In our opinion, their difference from the reflexive method is that each of them is based on individual reflection elements. For instance, the research method includes analysis whereas the heuristic one standardises mental activity which goes beyond the framework of the prior cultural standard. The reflexive didactic method includes both analysis and critical reconstruction of activity and standardisation thereof. Herewith, the reflexive method has the special communicative element which provides for understanding. An example of implementation of the reflexive method in the pedagogical practice may be the techniques which were actively developed in 1980s within the dialogue and culturological educational paradigms.

Substantiation of the reflexive method poses a questions as to its place within the existing classifications of didactic methods. With account of the famous method classification of Yu.K. Babanskiy (1988), the reflexive method may be referred to the second method group which is called the methods of arrangement of educational actions and operations (a subgroup of gnostic methods aimed at organising and performing acts of thinking). The reflexive method may be referred to this group on the basis to perform problem search and heuristic activities by means of reflexive procedures. If common method classification (by functions, by sources of cognition, by impact on personality etc.) is used as a basis, the reflexive method may pertain to the classification (where the basis is the level of activity of cognition) next to the research, partial heuristic and problem presentation methods.

Therefore, the reflexive method which has the main attributes of the didactic method and is represented by reflexive techniques in the practical pedagogical activity may be treated as a didactic one. It contains necessary and sufficient parameters to be included into the contemporary classification of didactic methods.

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No potential conflict of interest was reported by the authors.

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