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Geography Didactics – theory and methodology (Bulgarian case)

Abstract

Understanding, mastering and applying new ideas in geography didactics is the most proper way to achieve a high professionalism in geography education in Bulgaria. Such professionalism implies three prerequisites: a scientifically based (and not only intuitive) professional activity, high and sustainable results and a clear positive attitude towards it. The high professionalism is the required basis for successful solving the current problems of Bulgarian geography education which are of different nature: training and further qualification of working staff, preparation of needed school documentation for thematic subject "Geography and Economy" and the design of research programs and projects in school practice.

Undoubtedly, we have to explore the foundations of didactics (its theory and methodology) because it is the starting point for creative problem solving or the implementation of upcoming geography educational tasks. In this context, and against the background of the increasingly higher modern public demands and attitudes towards education, it is necessary to interpret the geography didactics as a science in a new, modern way. In presented paper are examined the essence, subject matter and main issues of geography didactics; scientific tasks and research methods and its place among other sciences. It is also important to outline the trends of development and scientific potential of geography didactics.

Dydaktyka geografii – teoria i metodologia (na przykładzie Bułgarii)

Streszczenie

Zrozumienie, opanowanie i zastosowanie nowych pomysłów w dydaktyce geografii to prawdziwy krok w kierunku osiągnięcia wysokiego poziomu profesjonalizmu w edukacji geograficznej w Bułgarii. Taki profesjonalizm według nas oznacza trzy rzeczy: opartą na nauce (nie tylko intuicyjną) działalność zawodową, wysokie i trwałe rezultaty, wyraźne pozytywne nastawienie do niej. Podejście takie jest niezbędne jako podstawa w rozwiązywaniu bieżących problemów bułgarskiej edukacji geograficznej o różnym charakterze: w przygotowaniu i kwalifikacji kadr; w opracowywaniu dokumentacji badań geograficznych i ekonomicznych; w opacowywaniu programów badawczych i projektów w praktyce szkolnej.

Niewątpliwie musimy opierać się na zasadach dydaktyki – jej teorii i metodologii, ponieważ jest to punkt wyjścia do twórczego rozwiązywania problemów lub realizacji przyszłych zadań

edukacji geograficznej. W tym kontekście, w obliczu coraz bardziej złożonych nowoczesnych zadań publicznych i postaw wobec edukacji, konieczna jest stosowna interpretacja dydaktyki geografii jako nauki. Przedkładamy naszą wizję na: jej istotę, przedmiot i zagadnienia; miejsce wśród nauk; zadania naukowe i metody badań. Przedstawiamy kierunki rozwoju i potencjał naukowy.

Keywords: geography, geography didactics, education, training, geography education

Słowa kluczowe: geografia, dydaktyka geografii, edukacja, edukacja, edukacja geograficzna

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Introduction

General didactics is one of the pedagogical sciences which examine education and training, their educating and developing character. So, this broader understanding of didactics as science is one of our basis assumptions in current paper.

In turn, Geography didactics is part of the so-called „sub-branches“ of General didactics and its main subject is geography education in secondary schools in three aspects:

- as a social project (strategy) of public activity for cultivation and development of the individual’s personality based on the common state educational policy;
- as a purposeful educational process of interaction between teacher and pupils to achieve certain goals;
- as a final result - geography well-educated young people in a sync with new global trends and dimensions (Gaitandzhieva, Tzankova, 2018).

So this multi-layer definition of geography didactics subject allows us to broaden and deepen the understanding of its nature, issues and current functions. Geography didactics is based on general didactics using its conceptual apparatus, principles and laws, but it has too its peculiarities arising from the uniqueness of geography as a science, from the specifics of geographic cognition and knowledge.

The established over the years subject of the methodology – geography education defined as a unity of teaching and learning – in our opinion seems to „narrow“ its horizons nowadays (Kanchev, 2000, Köck, 1991, Böhn, 1999, Rinschede, 2007). However, this does not exclude the need to examine the geography education in an educational context, i.e. as an educational activity and a way to achieve geography literacy.

Problematic

The subject of Geography didactics determines its problematics and generally it can be divided in several directions:

- development of geography as a school subject and methodological heritage.
- position, peculiarities and management of geography educational system in the secondary school.
- main features of geography education.
- different resources and school infrastructure.
- school practices in geography (Vasileva, 2018).

When geography didactics reveals the achievements and shortcomings of geography education and methodology, it ensures the terminus a quo in discussing their contemporary problems and provides the foundation to construct effective decisions about the future of geography education in its all aspects.

By examining and characterizing geography education in the secondary school as a kind of „subject educational system“ (Gaitandzhieva, 2000), the geography didactics outlines and highlights its strengths and weaknesses, seeks the optimal (most appropriate) tools to influence the geography educational system with a view to increase its effectiveness.

The main features (attributes) of geography education are: goals, content, educational process (forms, methods, tools, educational technologies, forms of organization) and control. The characteristics change over time by their parameters (content, structure, organization, methodology, etc.) depending on the public needs and student's interests. Thus, on the one hand is the role of geography didactics which provides the theoretical and methodological basis, and on other hand is the responsibility of the decision makers (experts, specialists, teachers) who take the decisions considering the construction of geography education (Tzankova, 2005).

The current problems of geography didactics in Bulgaria are the functions, the quality and the possibilities to use various resources – the so-called „media“ (mediators) in geography training. They are conventionally divided into two large groups:

classical – normative (documents), information-methodological (textbooks), volumetric (globes, embossed maps), symbolic (maps, graphics);

new – modern infrastructure for using information technologies in geography training process (different IT devices, software programs, Internet).

Geography didactics assigns a unique importance to human resources in geography training – with great respect to both geography teachers and students. A special attention is given to common school practices but also to the best practices innovate from teachers who achieve „the highest professionalism“ in their work. Geography didactics is in permanent interaction with the practice. On the one hand, it relies on the needs and the state of the practice to draw out its ideas, formulations and summaries, and on the other hand – the state of the practice depends to a great extent on development of geography didactics.

Scientific tasks

The subject matter and the problematics of geography didactics determine to a great extent its scientific tasks:

- to develop its theoretical and methodological basis in the secondary school according to the current public needs;
- to provide the information and methodological resources for the geographical practice in Bulgarian schools;
- to support the students training and further qualification of teachers with modern theory and methodology of geography education and learning;
- to be the beginning and basis for research projects at different levels (Master and PhD educational programs, specializations, etc.) and innovative geographical didactic practice.

Among the fundamental tasks of geography didactics is exploring the theoretical issues such as its scientific status, the geography education system and its purposes, the composition of the study material, etc. From a methodological point of view, the main task of geography didactics is to generate scientifically grounded ideas and methodologies for designing the objectives and the educational content, ideas and formulations for approaches and methods used in educational process.

In order to provide the information and methodological resources for the practice, geography didactics offers ideas and optimal solutions regarding the educational and school documentation, the educational process and its control, etc. It is precisely this task which demonstrates to the highest degree the purpose and the social function of didactics, as it creates the opportunity to overcome the contradiction between the new requirements of society towards the geography education of young people and the actual state of the practice.

Life and practice undoubtedly have demonstrated the need for permanent improvement of teachers' training and further mastering (including geography ones), without which it is impossible to achieve the expected results. As the International Charter of Geography Education says, „Teachers are the most valuable resource in education ...“ and „geography teachers must be qualified not only in their discipline – geography, but also how to teach it.“ Thus it is one of the main tasks of geography didactics.

The need a study to begin with certain theoretical and methodological assumptions, on which basis one generates new productive ideas, hypotheses and research programs, brings to the fore the last task of Geography didactics. „Didactic studies and good (successful and effective) practices are the reliable ways to improve and validate the scientific status of geography didactics“ (Gaitandzhieva, Tzankova, 2018: 254).

Interaction with other sciences

Didactics of geography did not develop in isolation but in close relation and interaction with other sciences. And, of course, the closest relation is with geography science and the interaction is determined in two aspects: the progress of geography didactics as a science – (new and innovative ideas, theories and methodology) and

the way it is transformed for the purposes of training (theoretical basis). Geography science is a factor influencing all the features of geography education and, at the same time, a source of content for some of them. On the one hand, geography is presented in the content of objectives, in the curriculum, in the educational process (with the use of some means – geographic map, statistical materials, GIS), and on the other - with typical approaches (e.g. regional – spatial differentiation of a given territory). Much more tangible, however, should be the presence of the methodological aspects of science – and the questions it answers (What is it? Where is it? How does it look?) and the geography concepts (location and spatial distribution, place and location, etc.) (International Charter of Geography Education).

Yet, the Geography didactics is a pedagogical science. One of the long-lasting and unsolved problems that has been in question is how to transform geography science into a learning subject. The didactics of geography and general didactics have a narrow two-way connection. On the one hand, the latter provides the general scientific basis of the training - the conceptual apparatus, the general principles, the laws and methods of research, the modern tendencies. On this basis, geography didactics develops its theory and methodology with specific features arising from the peculiarities of geographical science and geographical knowledge. For example, the general concepts and ideas have been developed to formulate the training objectives, but they have a different manifestation and lead to new assumptions and generalization in formulating the geography education goals. Thus the other direction of interaction is outlined: the general didactics uses facts and results from researches of its sub-branches, respectively the didactics of geography, and formulate statements with a higher degree of generalization.

Geography didactics interacts with other sub-branches of general didactics, e.g. that of history, that of biology, that of Bulgarian language, etc. And this is conditioned by: the general normative resources and documents used to design the training system (laws and acts), the unity of some goals (e.g. related to sustainable development), tools (maps, documents) and study objects (soils, vegetation, animal variety, water, air). The strong lagging of these issues in research projects is at odds with modern integration processes in all spheres of public life.

Didactics of geography has strong interconnections with psychology – general and pedagogical, because in essence training has deep psychological prerequisites and essence. These links are immediate and mediated. Many solutions for the geographical educational content and the educational process take into account the age and mental development of students - their thinking, memory, imagination, etc. Mediated by didactics, we take into consideration the psychological basis and theories of such fundamental issues as the concept formulation, the gradual formation of mental actions, the students development in the process of education. Many years of research and practice have shown that „links with psychology are a must to validate science-based and effective geography didactics“ (Gaitandzhieva, Tzankova, 2018: 255).

Recently, in effort to improve geography education are strengthened the links with sciences as social management, informatics and information technologies. This allowed to reveal a new knowledge of geographical educational system in secondary school as a complex, dynamic social and information one and to seek adequate tools and mechanisms for its effective management and control.

Methods of research

The methods of research of any science are a very important part of its scientific status, and moreover the improvement of “old” methods and the use of new ones are decisive factors for the successful development of the science itself. In this regard new aspects are added to geography didactics with the usage of information and communication technologies.

Generally, in our country, it is approved a dividing of methods in two groups - theoretical and empirical (Panchesnikova, 1983). The theoretical methods are aimed at establishing and formulating principles, laws, theories, judgments (inductive and deductive) and generalizations (Bijkov, Kraevski, 2007). Some of the main methods (approaches) are outlined:

- The system-structural approach suggests the exploration of the subject as a complex system constituted of interconnected components (elements with its function (mission) and dynamics). The main goal is to study in depth the object nature and to manage its condition and behavior. For example, as a system can be considered geography education in secondary school, a certain type of class lessons (e.g. lessons for summary), etc.
- The typological approach requires that the studied objects and phenomena should be grouped (typologized, classified) by defining the essential attribute of each group - thus achieving a clearer distinction of things and a certain order, e.g. typologies of learning methods, lessons, resources, etc.
- Mathematical methods provide opportunities to reveal complex relationships and patterns in the training process (e.g. between used educational technology and learning outcomes) and the possibility to quantify them. Their choice depends on the nature of the particular subject (study content, achieved knowledge and skills, etc.). These methods calculate different dimensions – frequencies, average marks, correlation dependencies, deviations and also statistical or other empirical analyzes are made.
- The historical approach allows to examine the changes of objects, processes and events over time – often, by comparing this information can be explained the current state of the art and is the beginning for formulation of productive hypotheses.

Empirical methods are used to establish facts about real-world phenomena, processes, events from reality and practice. These facts are described, explained and formulated and afterwards are used to verify hypotheses and to derive rules, principles, statements and to reveal laws.

Some of the most often used empirical methods in Geography didactics are: study of literary sources, study of educational documentation and to explore good practice.

To explore the literary sources on the study topic is necessitated by the need to elaborate main and prime theoretical assumptions – terms and basic principles, laws, educational technologies, etc., which are taken into account while the research is conducted and without neglecting correct representation and critical remarks, if any. Their analysis should be concise and meaningful, with relevant conclusions related to the study.

The study of educational documentation (state educational requirements, Curriculum, geography textbooks) is required in order to know well the qualities of these resources as key factors in geography educational environment. In such way, both their use in the research and the changes that could offer, can be justified. The research is based on a previously developed methodology that includes: determining the object (the state educational requirements, textbooks) and the purpose of the study; the parameters (the essential characteristics), the indicators (their peculiarities) and the criteria (the extent and manner of their manifestation) for analysis and evaluation; the form (most often tabular) and the place of presentation (in the text, at the end as appendices), etc. Conclusions and recommendations should be stated in an accurate and clearway. For example, when we research and compare two curriculum programs, it may look like this:

Table 1. Example for research and compare two curriculum programs

Parameters	Indicators	Criteria
Goals	Content Volume	Unity / Difference
Basic tasks	Number Content Volume	Unity / Difference
Learning content	Topics Expected results by topics Basic concepts	Unity / Difference
Annual credit hours	Total number of hours	Unity / Difference
Allocation in time	Typology of lessons	Unity / Difference

Source: Gaitandzhieva, Tzankova, 2018:257

A study of good practice is driven by the need to know the innovative practices on the subject in order to „not knock on an open door“ and to increase the quality of education and training.

In many cases, it is also necessary to study school documentation – different paper and electronic materials for pupils and teachers - messages, multimedia, projects, etc. Here, the aim is to assess their quality by certain parameters, indicators and criteria thus revealing the strengths or deficiencies in the practice that will be considered in the study.

Depending on their orientation the research methods in Geography didactics are traditionally distinguished in the following way:

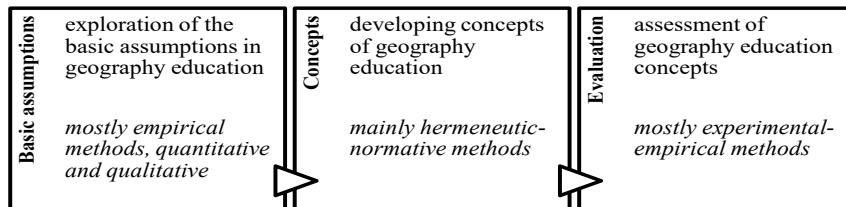


Fig. 1. Research framework of geography didactic

Source: Hemmer, 2012:14, In: Tzankova, 2015

Studies of the basic assumptions of geographical teaching and learning include, for example: surveys of pupils' interests on specific topics, regions or ways of working in the training process; student's attitudes towards different countries and peoples; exploring the cartographic knowledge and skills of students and their perception of space; pupils competence for assessment and communication, and their ability to think globally. This group of methods includes also the use of Delphi method to survey the public significance of geography education, the historical development of ideas and trends in the discipline, the analysis of school textbooks, as well as the study of a geography teaching process shot on a video. The research work is, by rule, empirical and it also reveals what it is (the current state of the object/process determined by the relevant indicators) and what it should be.

The concepts development as an integral part of the geography didactics research is considered to be particularly important, but only if it is theoretically grounded and elaborated by scientific criteria. The exploration of the concept basics and their development are considered to be closely related to one another and ideally build on a continuous cycle. For example, as geography education concepts are counted: the approaches and models of global learning, didactics of the field trip, the concepts of bilingual learning, competence-centred geography training, the handling of geography education with digital media, and modeling the geographical scientific structure in a competence model.

While the concepts development is based primarily on the hermeneutical-normative approach, their assessment generally refers to experimental-empirical studies of control in real time (the actual training situation), and respectively in close to the educational „laboratory“ conditions. Within the framework of such studies can be evaluated the importance and role of the usage of text or film and which is more productive in the training process; the use of different types of maps when studying same topic and how they stimulate pupils' interests and progress; what is the difference in long-lasting learning of students when compare results achieved by field trips to classroom work. Unfortunately, such type of research in geography didactics in Bulgaria is still rare.

The pointed three-step classification – basic assumptions-concepts-evaluation – sketches „linearity“ and presents an ideal typical research framework. Against the backdrop of the contemporary dynamics of the educational process and geography training in particular, however, it is necessary to supplement this classification. Our view is that the research framework of geography didactic should be supplemented by „implementation“. Implementation as the final stage or phase makes it possible the constructed, tested and evaluated concept to be implemented, and respectively used in practice (Tzankova, 2015).

Conclusion

The above-mentioned allows us to conclude that the didactics of geography is an independent pedagogical science that covers a wide range of specific geo-didactical problems. On the one hand, it provides the school and society with a practical applied theory, and on the other hand – is the empirical foundation of geography education.

The broad spectrum of geo-didactical problems is an expression of new educational trends and public needs. For this reason, our view is that the future development of geography didactics in Bulgaria will seek possible solutions in three problematic areas, namely:

- the sphere of objectives and learning content of geography education (the scientifically grounded design of the most efficient geographical curriculum);
- the sphere of geography educational process (concerning the creation and putting into practice the most effective and modern educational process in geography);
- the sphere of public needs, prerequisites and opportunities for implementing geography education (concerning the building of the most attractive „face“ of geography education to the public).

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