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## Theoretical Basis for Creating Scientific Research on History of Maritime Education in Ukraine (XVIII-XXI century)

Antonina Ivanovna Lyashkevych <sup>a, \*</sup>

<sup>a</sup> Kherson State Maritime Academy, Ukraine

### Abstract

The quality of historical-pedagogical research as illustrated in this paper, essentially depends on the applied means and methods of scholar's scientific activity and their adopted methodology. Generally, this statement concerns the study of the history of maritime education in Ukraine [XVIII–XXI century]. The purpose of the study is to formulate a problem [i.e. creating Scientific Research on History of Maritime Education in Ukraine (XVIII–XXI century)], define a structure for the problem [aspects, components], describe appropriate methods and its applicability i.e. significance. It is worth mentioning that the combination of contextual and formal approaches gives an opportunity to study historical events and outline facts for further analysis, synthesis, and abstraction. It also aids in establishing causative-consecutive relations between them. The combination of logical and historical approaches provides the study of every historical-pedagogical phenomenon in its development as well as its status in a certain historical period. Hence, the theoretical basis of a scientific research is considered as defining a methodological ground of a scientific study. It is established that such an activity in maritime education in Ukraine should be cyclic and consist of systematic and empirically robust steps.

**Keywords:** Historical-Pedagogical Research, Maritime Education, Methodology, Scientific Approaches, Ukraine.

### Introduction

The process of historical-pedagogical research essentially depends on applied methodological basis of scholar's scientific activity, as well as defining approaches, principles, methods and means. To effectively study the history of maritime education in Ukraine [XVIII – XXI century], there is a need for both systematic approach and a well analyzed methodological basis. These predetermine the most certain means of acquiring scientific knowledge in a particular field and represent the background for a specific study (Ravkin, 1995).

Three means of acquiring knowledge are widely known. They are; (i) empiric [cut-and-try approach], (ii) rigorous [building mathematical models and solution of correspondent equations], and (iii) intuitive [suggesting a supposition – hypothesis – which is afterwards tested]. When selecting a particular means, a scholar relies on the methodology of scientific research. Provisions of such management logic allows one to define an objective of the research, its target and subject, the approaches and cues of study organization; singling out the methods and means which lead to the most favorable results (Coon, Mitterer, Talbot, & Christine, 2010). The analysis of scientific literature shows that, managing a scholarly research covers several stages.

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\* Corresponding author

E-mail addresses: [antonina26.95@mail.ru](mailto:antonina26.95@mail.ru) (A. I. Lyashkevych)

### **Stages of Historical-Pedagogical Research and Maritime Education in Ukraine**

The first stage is defining the topic of the research: on the basis of surveying a chosen scientific problem, a scholar defines the topic of an actual research [in this case, historical - pedagogical], develops a study plan and outlines the result.

In accordance with the objective of the research, its subject is defined – historical-pedagogical phenomena which took place in the system of maritime education in Ukraine during XVIII-XXI centuries. Considering methodological aspects, it is important to take into account the type of the system which is being studied. The chosen system belongs, on the one hand, to pedagogical and, on the other hand, to social-economical systems. Hence, the scholar deals with human activity [the work of experts, civil employers, and pedagogues which leads to development of the system of maritime education], functioning of educational institutions [the content of educational process, peculiarities and principles of teaching staff, statutory, regulatory, and methodological support] and the links which make this system exist.

The statement of purpose is another important area of research. In this scope, the purpose of the research is a specified scientific problem [an existing contradiction which is to be solved]. To most scholars' mind, selecting a problem and validating the topic of the research are complicated and demanding steps which require the following acts:

- 1) Formulating a problem;
- 2) Defining a structure of this problem [aspects, components];
- 3) Appointing its applicability i.e. significance.

It worth saying that the applicability of historical-pedagogical researches is mostly determined by the need to follow [or break] certain traditions [paradigms]. These traditions specify the essence of historical-pedagogical phenomena and circumstances may prove or deny already made hypothesis or established principles. This in turn will influence the further development path [evolution or revolution] of the subject of a research.

The subject of this research is rational to define as the establishment and development process of maritime educational system in the southern Ukraine. As it is stated, due to analysis of historical-pedagogical literature, the development of maritime educational system in Ukraine comes with a number of various problems which arise as a result of conceptions and paradigms changing each other as well as socio-economic conditions and proficiency of experts, etc. Specifically, the development of maritime education in the southern Ukraine is interesting as the majority of local cities [e.g. Kherson, Mykolaiv, Krym] of this region, possessing aquatic areas, gave the rise to maritime education in Ukraine.

The next stage of a scientific research comprises formulating the purpose of the study and specific objectives of this research based on the previous analysis of all aspects connected with the selected problem. The purpose of the given scientific research – is a study of maritime education development in the southern Ukraine, eliciting its supreme characteristics and peculiarities, and theoretical argumentation of its perspective development.

In accordance with the purpose of this research the following objectives seem logic to set:

- To analyze the development of maritime education in Ukraine [define the stages of its establishment and basic characteristics].
- To identify the influence of socio-economic and political factors on the formation, establishment, and development of maritime educational system in the southern Ukraine.
- To substantiate theoretical and methodological aspects of the contemporary system of secondary and higher maritime education.
- To explain the essence and content of basic categories and notions connected with the training of specialists in the system of maritime education.
- To define the methodological basis of the strategic planning of their training.
- To give theoretical proofs for basic ways of using positive experience in the further development of maritime education in Ukraine.

Any historical-pedagogical research claims to define its conception or develop a hypothesis. The hypothesis itself explains which aspects of a chosen scientific problem a scholar tries to solve and by what means. The analysis of numerous extended abstracts in the history of pedagogics affords ground for the following statements: (i) a correct hypothesis should include reasons, factors, and motives which will lead the subject of a research to changes; (ii) it should also point at

causative-consecutive connections between the components of a selected subject and show possible perspectives and ways of further improvement of this subject. Besides, a hypothesis should be logically structured, simple and accessible for checking (Bobryshov, 2007; Creswell, 2009).

Subsequently, the conception of research in maritime education in southern Ukraine may be formulated in the following ways; the system of maritime education in Ukraine – considering continuity of educational and training processes, humanitarian and synergetic tendencies of European education – should be based on competency building approach, reasonable combination of traditions and innovations. The explanation of the structure and content of maritime educational system is performed on the basis of its contemporary paradigm which represents the interlocutory unity of its five basic components [personal, ontological, axiological, cognitive, and praxeological]. This takes place in the context of reformation in the sphere of national educational system with account of progressive educational tendencies, and the reformation of socio-economic sphere. A scientific notation about a complex dynamic system of maritime education in Ukraine as a natural unity of all its structural components requires its systematic study in historical, structural and functional aspects, defining the methodological basis of its perspective development, appropriate grounding of the basics of its management and outlining the further improvement.

The general hypothesis of a definite research should be based on the supposition that the effectiveness of the functioning of maritime educational system [secondary, higher and post-graduate] will extremely raise under circumstances of systematic impartial analysis of its establishment and extension, reinterpretation of its functions and role in the national development, argumentation of nowadays perspectives regarding past positive experience (Suhomlins'ka, 1999). This statement does not cover all the circumstances of the development of maritime educational system, thus, it points at its basic instrument [the systematic analysis which allows defining the level of influence of mentioned principles and identifying their priority].

Besides the systematic analysis, the study of the selected problem is reasonable to maintain - taking into account famous methodological conceptions by Thomas Khun, Imre Lakatos, and Karl Popper. Due to the conception of scientific revolutions and paradigms [norms and samples of scientific thinking which in a particular society became traditions], represented in the book “The Structure of Scientific Revolutions” by Thomas Kuhn (Kuhn, 1962; Kuhn, & Hacking, 2012). The historical stages of maritime education development are connected with periods of “fixed paradigms” [scientific stereotypes and template thinking] and “scientific revolutions” [the interchange of paradigms].

The scientist wrote that paradigms are not limited to giving scientists a plan of action, they rather point at a certain direction which is significant for its realization. Studying the paradigm, the scholar studies the theory, methods, and standards which are usually closely interconnected. That is way the change in the paradigm leads to crucial changes in criteria defining the problem selection and offered solutions (Kuhn, 1962; Kuhn, & Hacking, 2012). Accepting the authors' mind, it is necessary to review the content of separate pedagogical ideas and contribution of pedagogues and scientists to the development of maritime education in the southern Ukraine which is still nonobjective. The theory of research programs by Lakatos (1976), basic ideas of which are represented in the book “Falsification and Methodology of Scientific Research Program”, is a trial to connect philosophy and scientific history. Such a synthesis of historical methodological and philosophic knowledge gives the opportunity to establish a “research program” which consists of the following elements: (i) “hard core” – fundamental scientific principles which guarantee the entity of a research; and (ii) “auxiliary hypothesis” which help to create a rational reconstruction of a studied historical period and its sound criticism.

### **Reconstruction of the History of Maritime Education in the Southern Ukraine**

In this paper, the reconstruction of the history of maritime education in the southern Ukraine is actual and essential as its rendering was deflected in Soviet times. The conception of critical realism and falsificationism by Karl Popper is explained in the books “The Logic of Scientific Discovery” and “The Logic of Research: On the Epistemology of Modern Natural Science.” The critical realism (“challenge everything”) is a prior means to estimate true knowledge. Rationalism (reasonability), dialectic logic (the search for contradictions), appeal to scientific thinking (scientism), deductivism (priority of deductive and abjection of inductive thinking), and

falsificationism (any thought may be disproved) should be applied as basic instruments of a scientific research (Popper, 1968).

Relying on the mentioned methodological conceptions and the purpose of this research, it is possible to emphasize the initial positions of a scientific research – approaches which determine its directions and perspectives. For a historical-pedagogical research, it is reasonable to choose general scientific approaches classified in accordance with correlative dialectic categories which reflect polar sides of the maritime educational system in the southern Ukraine. This should include: historical and logical, content and form, quality and quantity, etc. Consequently, it is reasonable for determining the essence of processes and phenomena, comparing similar phenomena, identifying general and emphasizing specific.

The combination of contextual and formal approaches gives an opportunity to study historical events and outline facts for further analysis, synthesis, and abstracting; establishing causative-consecutive relations between them. The combination of logical and historical approaches provides the study of every historical-pedagogical phenomenon in its development as well as its status in a certain historical period. The combination of quantitative and qualitative approaches makes possible not only the formulation of particular characteristics, qualities, and properties but also the systemization of elicited facts considering these parameters (Creswell, 2009). The appliance of phenomenological and essential approaches allows describing historical-pedagogical phenomena in specified terms, determining their inner content and the causes of changes.

It is accepted that scientific approaches may be aspectual, systematic, and conceptual. Due to the aspectual approach, a scholar may choose certain aspects of the problem in line with a definite criterion. The appliance of the systematic approach requires considering different aspects of the problem and their correlation and unity. In addition, the adaption of conceptual approach predetermines development of the scientific conceptions, i.e. the complex of key statements which specify architectonics of research. Drawing on mentioned scientific approaches, it is reasonable to follow such principles such as: (i) determinism, (ii) conformity principle, and (iii) principle of complementation. Usage of the first principle allows separating complex of causes, which precede certain event (consequence) and result it. Upon that it's necessary to remember about eventuality and exceptions from general consistency.

Furthermore, with the increase of the quantity of affecting factors which can be observed in historical retrospection, it is not always possible to determine causative-consecutive connections, though it is possible to define temporary correlations and functional relations. In the following step of scientific research, it is necessary to choose the means of study, which in literature are common as: (i) formal-logical, (ii) general scientific and (iii) specific. The other classification methods also fall into method-action and method-operation. A method as a means to achieve the goal and method as a complex of techniques or operations of practical and theoretical reality comprehension.

Zagvjazinskij and Atahanov (2005) classify the methods of research into groups such as: (i) working [study of literature, documents and operating results; observation; polling; scientific assessment]; and (ii) complex [examination; monitoring; study and generalization of previous experience; experiment]. After the analysis of scientific extended abstracts of Soviet times and the period of Ukrainian independence it became vivid that the majority of these methods can be applied for historical-pedagogical research. Making it suitable for pedagogical science, the authors specified the notion of methodology: “*the study about pedagogical knowledge and process of its obtainment which includes 1) the doctrine of structure and functions of pedagogical science; 2) initial, key, fundamental, philosophical, general scientific and pedagogical positions (theories, conceptions, hypotheses) which have methodological value; 3) the doctrine of methods of pedagogical knowledge*” (p. 28).

### **Novelty of the Study**

The scientific originality of research results is viewed in reaching the following tasks:

1. To analyze the development of maritime education in Ukraine, define the stages of its establishment and basic characteristics.
2. To identify the influence of socio-economic and political factors on the formation, establishment, and development of maritime educational system in the southern Ukraine.

3. To substantiate theoretical methodological aspects of the contemporary system of secondary and higher maritime education.

4. To explain the essence and content of basic categories and notions connected with the training of specialists in the system of maritime education and define the methodological basis of the strategic planning of their training.

5. To give theoretical proofs for basic ways of using positive experience in the further development of maritime education in Ukraine.

### **Conclusions**

Hence, the theoretical basis of a scientific research is considered as defining a methodological ground of a scientific study. It is established that such an activity should be cyclic and consist of clearly determined and logically built acts. The further development of this issue will lie in studying particular stages of historical development of maritime education in Ukrainian educational institutions as well as exploring the most significant and newest methodological approaches in this field.

### **Conflicts of Interest**

The author declares the work has no conflicts of interest.

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