Principles of Selection of Didactic Materials for Organization of Economic Education for High School

Abstract

Background. The article analyzes the social demand for economic education in the lyceum. The authors of the article, after conducting a pedagogical study, have developed principles for the selection of didactic materials in order to enhance the efficiency and applied importance of economics as a subject, and for this purpose they have offered didactic materials of economic content. The interconnection of views on the educational process and didactic provision of the economy as one of the most important ways of the educational process at the present stage of society development is established. Further development requires an analysis of the means of teaching economics in high school and the interconnection of views on the educational process and didactic provision of the economy as one of the most important avenues of the learning process at the present stage of Ukrainian society's development.

The objective of this research is giving a scientific ground of the method of selection of didactic materials that will be used in economics lessons in high school.

Methods. In carrying out this research, a set of common scientific methods was used: theoretical (analysis of scientific literature, terminological analysis, comparison, systematization and generalization of scientific results), empirical (observations, discussions, questioning, testing on the topic determination of structural elements of didactic materials of economic orientation according to the results of the survey of economics teachers, educational interests of students and their parents on educational process in economics, pedagogical experiment with qualitative and quantitative analysis of results), method of mathematical statistics. In the conducted research participated 7 590 respondents including: 1100 – teachers who teach economics and economic course, 3245 – 10th grade students, 3245 – parents of 10th grade students.

Results. After the implementation of pedagogical experiment, the number of students it is quite difficult to find the most appropriate format for economically oriented didactic materials because of the dynamic views of the applicants. Conflicting views and a certain reassessment of one's own competence in the economic sphere are also important. Yes, 75% of Lyceum students who study economics consider themselves knowledgeable (at a sufficient and high level) in economics, and 60% consider themselves financially literate, but at the same time 50% of the same respondents cannot explain the meaning of this term, and 80% have little (sometimes never) interest in the economic situation in the country and in the world. Although, the survey shows that most of the Lyceum students surveyed firmly believe that studying financial literacy (87.6%) is necessary in educational institutions, since it is important for a modern society to keep track of their personal money and plan their budget. This illustrates the motivation for studying economics in high school, although the most effective ones are reproductive-oriented teaching materials.

Conclusion. The conducted pedagogical research allowed to develop principles of selection of didactic materials in order to enhance the efficiency and applied importance of economics as a subject of study. According to the results of experiment it can be claimed the problem of economic preparation of high school students is urgent and leads to the study and consideration of didactic principles.

Introduction

The radical changes taking place in our country are connected with the transition to a society, the economic basis of which is market relations. The transformation of a certain socio-economic system to a fundamentally different one requires a dramatic transformation in the mentality of people. Production activities and the privacy of private life in a market economy requires an adequate degree of development of human economic thinking, based on economic knowledge and skills. It is a guarantee of a prosperous life in real conditions of market relations, one of the factors of development of competitiveness that determines the future achievements in any professional sphere [1, 17, 18]. One of the main functions in
solving the problem of economic development of the person is entrusted to institutions of general secondary education. The social order placed before them in today's economic realities of Ukraine, the essence of which is to provide new generations of knowledge and skills of socio-economic relations and successful adaptation in the conditions of a market economy, is reflected in the content of the Concept of the New Ukrainian School [2].

2. Literature Review

Of course, within the school students cannot reach such a level of their formation, at which they will be ready to solve the complex socio-economic problems of the present, which requires experience and special subject knowledge. The task is that students, gradually mastering a minimum of theoretical provisions, learn to understand economic problems, to analyze them independently, to operate economic concepts and knowledge and to be able to apply them [3].

Problem Statement

A pedagogical study conducted by scientists at the Department of Geography and Economics of the Institute of Pedagogy of the National Academy of Pedagogical Sciences of Ukraine found that the formation of economic literacy is in high demand among students and their parents, but, unfortunately, today the economy goes beyond the basic model plan and is mastered only at the profile level and optional, and the lack of external independent evaluation of this subject makes it marginal among other subjects at school [4, p. 53]. We tried to explore this paradox in our pedagogical experiment.

Some teachers use mostly outdated didactic materials and textbooks when studying contemporary economic realities. Many teachers do not yet know how to research problems with modern tools, work with large amounts of data, analyze and draw conclusions, collaborate on the Internet in educational, educational, social and scientific projects, and more. Sometimes students have a better understanding of modern terminology, which sometimes leads to comical situations.

Developed economies have demonstrated that investment in human capital is a major driver of both economic recovery and overall progress. Therefore, the problem of selecting and structuring the content of didactic materials in economic preparation of high school students is relevant both in terms of theoretical research and practical recommendations for teachers.

The purpose of this research is to determine approaches to the selection of didactic materials through structuring the content of educational economic material using specific criteria and principles in the methodology of teaching economics at the lyceum.

Research Questions

During the study, we need to answer the following questions:
- What is the basis for the selection of didactic materials for organizing economics studies at the lyceum?
- What methods and tools are most important in the economic preparation of high school students?
- Why is the demand for profile orientation for the study of economics mainly realized only through the relevant textbook?
- Why are you not looking for additional didactic materials, because modern cognitive and educational economic information could fully realize the potential of the economy studied in the lyceum.
3. Method

During the implementation of this research the complex of general scientific methods has been used: theoretical ones (scientific literature analysis, terminological analysis, comparison, systematization and generalization of scientific results), empirical ones (observation, discussions, questionnaire, testing for the determination of future biology educators’ method competence level, pedagogical experiment with qualitative and quantitative analysis of results), mathematical statistics method.

The development and creation of criteria for the selection of didactic materials for the organization of economic education in the lyceum was conducted in the context of a pedagogical experiment that lasted three years (2017–2019).

In the conducted research participated 7 590 respondents including:
1100 – teachers who teach economics and economic course, 3245 – 10th grade students, 3245 – parents of 10th grade students [5].

The study was conducted in several stages, which consisted of: collection and processing of primary information from various sources; development of legal frameworks; preparation of instructional and methodological recommendations for the study; toolkit development (questionnaires for three groups of respondents); preparing Google survey forms; calculating the representativeness, reliability and validity of the sample population, etc.; appointing regional coordinators and familiarize them with the study package; adjusting compliance with the sample population; advisory activities; analysis and synthesis of the results of the study; familiarization of the educational community with the results of the research through the publication of articles in scientific professional and pedagogical publications.

4. Results

The content of education, as Professor Oleksandra Savchenko points out, should be updated in such a way that the graduates of the school can adapt quickly to independent life, purposefully use its potential for self-realization both in professional, personal and in the interests of society, the state [6, p. 4].

It is known that in the course of the world evolution in didactics there is a constant review and improvement of teaching experience in view of its effectiveness.

Today, instead of outdated traditional forms, preference should be given to pedagogical innovation, in this, academician Vasily Kremin sees responsibility of the national education system to the Ukrainian society. "Traditional-inertial education, overburdened by the past, needs to be changed to an innovative and predictive one that understands and anticipates the future" [7, p. 4].

In particular, in the digitalization of the education system, priority should be given not to the accumulation of knowledge, but to the review and synthesis of scientific information and their study based on the introduction of innovative educational technologies for the most efficient use of educational time and more efficient assimilation of economic educational material by students.

The learning process will be effective if it is based on didactic principles and provided with principles appropriate to the purpose of the learning.

Having analysed a large number of scientific sources, we are convinced that the lyceum lacks systematic pedagogical intelligence on didactic principles of teaching economics. At the same time, the current developments of scientists and practitioners are
aimed at solving problems of different levels of education, including the profile. We are impressed by the content of the monograph of researcher I.V. Udovichenko, in which she raises the question of the study of sciences at the profile level of study, which duplicates in-depth [8, p. 108].

Therefore, by appealing to the theoretical knowledge of the introduction of education at the profile level, we have highlighted the principles of selecting the content of didactic materials for the organization of economic education in the lyceum.

The rapid increase in the volume of educational economic information, while reducing the time to study it, requires finding effective methods and means of learning that will be productive. The contradiction between the amount and timing of learning economic information can be solved by introducing new didactic approaches to the educational process, where a special role will be given to the structure of the educational material. The prerogative is given to inquiries that demonstrate the properties of the learning process through methods and tools, technologies and teaching methods. There is a need to select and structure the content of educational economic material for the Lyceum students. The structuring and selection of didactic material in the educational process is a prerequisite for teachers' readiness for learning activities. This idea is aimed at creating a system of goals that defines a place for professional activity in the general education system. The purpose of our research in pedagogical exploration was to review the didactic conditions for the effective formation of elements of economic knowledge in the students of the lyceum in economics lessons and to identify the main approaches to the selection and structuring of the content of educational economic material. In our opinion, the process of structuring the training material should comply with the following principles:

- science, according to which educational materials should contain only reliable scientific knowledge in a form that corresponds to the scientific model of a certain level of adequacy [9, p. 34];
- systematic and consistent. When applying a systematic approach to learning, "a certain reconstruction or restructuring of the content of the educational material is required, that is, providing it with a structure that would facilitate the assimilation of knowledge in a coherent system" [10, p. 92];
- the visibility according to which the educational activity of the subjects of the educational process occurs with the most expedient involvement of the sense organs, with the most expedient modality of educational influences. The most important benefit of visibility-based learning is that students not only view specific visual models (graphs, statistics tables, areas of distribution or movement of money or financial papers, etc.), but also perform transformational activities with these objects. This is how the essential didactic prerequisites for learning achievement are realized: emotional inclusion, dosed multimodality of learning influences that stimulate involuntary attention, individualization of the pace of presentation of educational material [11, p. 70];
- accessibility regarding the selection of the content of the educational material, which is realized not only by structuring the content of the educational material, the choice of forms and means of training, but also depending on the individual characteristics of the student [12, p. 93].

The methodology of teaching economics should not repeat the mistakes of the old pedagogical practice. To make the economy unpleasant for students simply because of the fuzzy, boring and far from real economic life content. The choice of teaching methods is a
rather difficult problem, and the activation of the methodology of teaching economics is an objective necessity arising from the specifics of economic disciplines.

5. Discussion and Conclusion

Scientists of the Department of Geography and Economics of the Institute of Pedagogy of the National Academy of Pedagogical Sciences of Ukraine have created the Concept of economic education in Ukraine, the content of which is structured according to the basic didactic principles [13].

In order to carry out the didactic principle of linking theory with practice in teaching, it is necessary to convince students that theory and practice are two integral parts of human activity. The connection between theory and practice in teaching the basics of economics can be achieved with the right combination of theoretical and practical training in the curriculum. It is no coincidence that the course in economics is structured in such a way that each topic starts with theoretical information, followed by a list of practical works [14].

Moreover, theoretical material and practical works are distributed between separate courses so that a direct transition from theory to practical activity of students is ensured.

It should be noted that the whole subject of didactics of economics is the content and structure of the school economy and didactic tools for teaching, development and education of students in the process of forming their economic competences. In view of this, the leading aim of our study was to investigate the relationship between the formation of the economic competences of lyceum students and their mental development and upbringing, as well as to develop criteria for selecting the content of the economy and the courses for choosing the economic content according to the age characteristics of students and the diverse needs of society, which will largely determine the success of the Lyceum's life in the future. It is clear that the achievement of the objective just stated would not have been possible without the modernization of traditional teaching aids and the study of their impact on the effectiveness of teaching economics. Accordingly, special attention is paid to the application of modern information-networking and integrated information, first of all multimedia, tools of economics education, as well as the introduction of various technologies to the educational process of economics in the lyceum.

Therefore, didactics of economics is an area of pedagogical science that examines the content and structure of school economic education and the patterns peculiarities of the process of teaching economics in the lyceum. It develops and establishes rational methods, methodical techniques, means and forms of organization of educational and cognitive activity, during which not only students acquire a system of economic knowledge and skills regarding their application, but also comprehensive cultural and economic development and education of students. The subject of didactics of economics is the content and structure of school economics and didactic tools of teaching, development and education of students in the process of formation of their economic competences, and the object – teaching of economics. In doing so, didactics of economics explores the interrelationships of students' economic competence formation and their mental development and upbringing and develops the content of school economic education, which has four main components, namely:

- knowledge and experience of educational activity;
- ability and experience of mastering methods of practical activity;
- experience of creative activity and ability to choose ways to solve problematic situations in the economy;
- experience of valuation of economic processes.

In such circumstances, didactics of economics, like any partial didactics, is a doctrine that studies the various forms of interaction of learning in the process of mastering the content of economics in general education institutions. It is closely combined with general didactics, age-old psychology and theory of education. At the same time, modern general didactics is a pedagogical methodology of teaching that provides a theoretical justification for its tasks, content, methods and organizational forms. Instead, didactics of economics gives answers to school economics, such as: "What to teach?", "Why study?", "How to teach?" etc.

Didactics of economics has both theoretical and applied character. It promotes the introduction of new pedagogical ideas, educational technologies, tools and forms of teaching into school practice, and provides scholars with material for new research and development of updated scientific and methodological recommendations for teachers of economics.

These two aspects lead to urgent problems that modern didactics of economics should solve, namely: directing the goals and objectives of the school economy to the comprehensive development of students; further substantiation of principles of content selection and development of school economy structure; development of the psychological-didactic basis of economics education and introduction of psychological didactic principles in the practical activity of economics teachers; substantiation of the selection of methods and forms of scientific research aimed at determining the effectiveness of the use of didactic instruments in the lessons of economics in the lyceum; development of educational programs for experimental testing and dissemination of original author's teaching methods and technologies; improving the methodological apparatus of textbooks: apply training models and different texts in more detail, diversify questions and tasks etc.; development and provision of multivariate training kits through optional courses; improvement of the content and forms of organization of extracurricular work on economy; creation of methodological support for profile courses in economics, etc. [15, p. 52].

It is quite difficult to find the most acceptable format of economic-oriented didactic materials, because of the dynamic views of the applicants. Also important are the conflicting views and a certain reassessment of one's own competence in the economic sphere. Yes, 75% of the Lyceum students who study economics consider themselves knowledgeable (at a sufficient and high level) in economics and 60% consider themselves financially literate, but at the same time 50% of the same respondents cannot explain the meaning of the term “Financial literacy”, and 80% are little (sometimes never) interested in the economic situation in the country and in the world. Although, the survey shows that the majority of the Lyceum students surveyed strongly believe that studying financial literacy (87.6%) is necessary in educational institutions because it is important for a person in modern society to keep track of personal money and plan their budget. This clearly illustrates the motivation for studying economics at school.

In Fig. 1 illustrates how lyceum students characterize (self-examination) their level of economic competence. In this context, didactic materials focused on their economic skills as well as those that would allow them to gain some experience can become more effective for the students of the Lyceum.
Fig. 1. Self-examination of the Lyceum students in assessing their own level of economic competence

Of the variety of didactic materials, the most effective, in our opinion, are those that are oriented to “reproduce or imitate the behaviour of any real existing system on a specially constructed by its rules analogy or model; modelling in economics is a purely theoretical process that requires a researcher to have a thorough knowledge of the problem under study, the ability to properly account for and capture in the model those factors that reflect its economic nature [16, p. 30].

Therefore, in didactic materials, models of economic processes and phenomena should represent meaningful structuring, oriented towards the qualitative composition of the Lyceum students.

In conducting a survey among teachers who teach economics at the specialized level of study, we concluded that the toolkit of didactic materials of economic purpose should be based mainly on project (71.6%) and interactive technologies (76.7%), mainly by integrating subjects, profiling training and delivering optional courses [4, p. 60].

The illustration shown in Fig. 2. Proves that the most effective toolkit of didactic materials of economic purpose is economic tasks and the use of video content of economic content. However, the main (86.1%) didactic tool for today is still an economics textbook.

Fig. 2. Structural elements of didactic materials having economic direction according to the survey of economics teachers

The illustration shown in Fig. 3. Demonstrates a comparative characteristic between parents and their children studying at the Lyceum for educational interest in the meaningful content of economics as a school subject.
As we can see, preference for content-based economics courses is the same for students and parents as education customers. The most popular of both groups are the topics "How to set your own financial goals and make a personal financial plan", "What are the laws on consumer protection and what to do when consumer rights are violated" and "What information to pay when signing a contract with bank or financial company." Therefore, this topic should become a framework for the organization of economic education in high school.

The didactic materials used in the lessons of economics at the lyceum should be based on the principles of modeling economic processes and phenomena, as well as demonstrate the interconnection of generations: parents and children. An example of didactic material is the introduction of an educational game with the creation of a model of GDP (Gross Domestic Product) formation in the form of modeling of economic processes in the country in a simplified form. It is advisable to choose the level of meaningful lines based on the age characteristics of the students and the lessons of the lesson.

MODEL OF FORMATION OF Gross Domestic Product

Preparatory stage. 11 participants, 10 illustrations of goods and services, 10 blank of operations.

Terms and conditions.
1. 10 participants choose the areas of activity (preferably different) they would like to engage in and the products or services they would like to produce (for example: education - tutoring, or food – bread).
2. 10 participants develop illustrations for their products or services.
3) 10 participants form the pricing policy of the selected goods or services, based on real market trends.
4) 10 participants fill in the form of transactions, exchanging goods and services (product / service - payment + statistical report is provided to the state); generalization of simplification: all participants behave honestly; all participants need only the goods and
services offered and the quantity offered; all participants have sufficient resources; the state does not withhold any payment; participants operate only within a limited market.

5) 1 participant always performs the role of the state – collects statistical reports of all operations.

Conclusions: Finally, we need to form an idea of GDP.

Handouts: blank operations

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Conclusion

Globalization and exacerbation of socio-economic, natural resource and other problems increase the role and importance of economic education. In a market economy, it is very important to know precisely the economic nature and content of its categories. To bring about dramatic changes in the Ukrainian economy, it is necessary to prepare new highly qualified specialists, deeply and comprehensively educated, able to adapt to the new conditions and actively integrate into the socio-economic transformations of society. Therefore, in our opinion, the problem of economic preparation of high school students is urgent and leads to the study and consideration of didactic principles. The structuring of economic content is governed by didactic principles because they provide purposefulness, consistency and coherence to the entire learning process.

The conducted pedagogical research allowed to develop principles of selection of didactic materials in order to increase the efficiency and applied value of the economy as a subject of study.

Further research requires an analysis of the means of teaching economics in high school and the interconnection of views on the educational process and didactic provision of economics as one of the most important avenues of the educational process at the present stage of Ukrainian society's development.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed Consent Informed consent was obtained from all individual participants included in the study. All subjects of the institutional survey gave consent for anonymised data to be used for publication purposes.

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