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**МЕЖДУНАРОДНЫЙ ЖУРНАЛ
ИНФОРМАЦИОННЫХ И
КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ**

**ХАЛЫҚАРАЛЫҚ АҚПАРАТТЫҚ ЖӘНЕ
КОММУНИКАЦИЯЛЫҚ
ТЕХНОЛОГИЯЛАР ЖУРНАЛЫ**

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g.berdykulova@edu.iitu.kz**METHODOLOGY OF TEACHING THE ECONOMIC DISCIPLINES IN DIGITAL ERA**

Abstract. Underestimation of the scientific achievements of the post-industrial theory and disruptive innovations affect the quality of educational curricula and syllabi of the disciplines taught to economic majors, thereby ignoring the requirements of a new civilization and a new paradigm generated by the digital age. The article explains how new economic knowledge should be introduced in the content of such subjects as Economic Theory and Economics and Industrial Engineering. One of the ways to harmonize science and educational practice is updating the methodology of teaching economic disciplines. While teaching the Economic Theory and Economics and Industrial Engineering we introduced original examples of post-industrial society and breakthrough innovations in the process of digitalization in Kazakhstan, the theory of learning and communication management, behavioral science, research methodology, rhetoric model, the principle of specificity and scientific knowledge. To overcome the negative impact of disruptive innovations on the process of digitalizing education, the author suggests the method of synopsis writing based on tabulation, paraphrasing and forming questions for each lecture topic followed by online group and other communication activities during practical lessons. Implementation of the improved methodology of teaching economic disciplines in the study of other subjects at IITU and at an educational center in Almaty has demonstrated its effectiveness.

Keywords: teaching methodology, economic discipline, digitalization, principle of specificity, principle of scientific knowledge, written rhetoric, oral rhetoric

Introduction

The fourth technological revolution has brought about transformations in social and economic life associated with digitalization. There have taken place radical changes in almost all spheres of society, including the system of education. The university life is paramount to socio-economic development of the state, because it is higher educational institutions that form the intellectual, cultural, creative potential of society and are responsible for the preparation of the future specialists of a high level. The development of society is inextricably linked with the progress of education. Educational activities of the higher schools should be targeted on fostering a generation that is able to bring the best values of human society into daily life.

The article published in the Google Scholar base has identified four trends connected with the introduction of digital technologies and tools into the educational process: the formation of a blended learning model; transition to online learning; creation of a virtual (digital) educational environment; changing the approach to the management of educational organizations [1]. Higher education can lead to many benefits, including a prosperous career and financial security. In the 21st century, education plays an even more significant role in other aspects of personal life. Attaining a higher education level can increase opportunities and improve the overall quality of life [2]. Earlier, higher education was meant to provide the labor market with qualified personnel and many Americans viewed higher education as a path to a “good job.” Employers’ requirements to university graduates include teamwork, written and oral communication, ethical decision-making, critical thinking skills and the ability to apply knowledge in real-world settings. With the passage of time and under the influence of rapid changes in this century, the learning outcomes also include those skills that, in the opinion of many higher educational institutions, will prepare graduates not only for the job but also for an active life and interested citizenship [3].

A need to find out how changes in the methodology of economic science should be reflected in the content of economic disciplines, specifically, Economic Theory and Economics and Industrial Engineering became a driver of writing this article. The State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020-2025 prioritizes raising the status of the teaching profession, modernizing teacher education, introducing a vertical system of administration and financing of education [4]. The tasks of the previous program implemented before 2020 seem to be quite relevant. In particular, modernization of the system of technical and vocational education; achieving a high level of quality in higher education that meets the needs of the labor market, the tasks of industrial and innovative development of the country and the individual, compliance with the best world practices in the field of education [5].

A review of the relevant literature in the public domain shows that the focus is on the problems of teaching methods and techniques. Whereas teaching methods represent a tool in cognition and assimilation of knowledge, the educational methodology is the doctrine in the organization of purposeful training of students. Consequently, the research methodology of Economics is fundamental for the renewal of the content of education, training and teaching.

Purpose of the research

Teaching in a new technological reality of the 21st century should meet the requirements of a new civilization structure and a new paradigm of the world community development. A rapidly changing reality requires the compliance of the teaching methodology of economic disciplines with the updated research methodology of economic theory and the innovative pedagogical and educational content of academic courses. After modifying the existing methodology of teaching economic disciplines, the quality of education will increase based on the targeted impact of updated principles, methods, technologies and a new didactic system on the cognitive process of training a competitive specialist and a creative personality. Thus, the purpose of this article is to conceptualize ways of modifying the methodology of teaching economic disciplines based on the updated economic research and new pedagogical and educational technologies in the digital era.

Materials and research methods

To achieve the goal of the study, several objectives were set. Among them, *literature review* of the manuscripts posted in the Kazakhstan Citation Base (KazBC), the Russian Science Citation Index (RSCI), Scopus bibliographic and abstract database, as well as the results of scholarly research in the open space. Acquaintance with the sources has shown that both domestic and foreign authors focus on the study of individual components of the methodology.

The directions of research cover the topical problems of teaching economic disciplines, modern forms and methods of organizing the educational process, including distance learning, the most pressing methodological issues of teaching related to the students' cognitive ability, the development of their practical skills, systemic thinking, deepening and expanding their competences. Teachers share their experience and offer their vision of the existing problems and ways of solving them. The table below presents a classification of literature on the topics related to different content components of methodology.

Table 1 - Classification of literature by teaching methodology components

Author	Source	Content
	Methodology and techniques of teaching	
L.I. Podderegina.	Methodology of teaching economic disciplines in a technical university.	Principle of methodology. System approach. Dependence on the important aspects of learning process.
L. I. Podderegin, E. M. Gainutdinov.	Methodological foundations of teaching economic disciplines (including marketing and management) in the higher education system.	Lack of domestic methodological developments.
Editorial team: T.I. Trubitsyna E.V. Ogurtsova	Techniques of teaching Economics: experience and problems.	Distance learning. Current methodological issues of teaching. Cognitive activity of students. Development of practical skills. Systemic thinking.
	Methods	
D.M. Senkebaeva.	Applying new methods of teaching Economics to college students.	The focus on new teaching methods and new technologies.
V.G. Budashevsky, K.V. Krinichansky O. N. Pastukhova.	The development of disciplines with a flexible subject area in the digital age: logical and heuristic methods and model.	Human and technological progress. Flexible subject. Logical methods. Heuristic methods. Model. Digital age.
	Principle of learning	
T Green.	Flipped classrooms: An agenda for innovative marketing of education in the digital era.	Flipped teaching, learning, and assessment ideas for marketing educators.

Oparaocha Gospel Onyema, Pokidko Daniil.	Educating the 21st century learners: are educators using appropriate learning models for honing skills in the mobile age?	A new digital environment potentiating a global diaspora of highly interactive entrepreneurial and intrapreneurial commerce. The UNESCO ICT-CFT Model.
Educational Policy		
Mohamed Ally.	Competency profile of the digital and online teacher in future education.	The forces shaping education in the future and the competencies required for the digital teacher to function effectively.
S.L. Hoe.	Digitalization in practice: the fifth discipline advantage.	Systems thinking, personal mastery, mental models, shared vision and team learning in the context of the current digitalization megatrend.
Technologies		
Patricia Altass. Sean Wiebe.	Re-imagining education policy and practice in the digital era.	Technology automation and digital Taylorism. Technology, changing communication, collaboration and knowledge creation.
Pedagogical innovation		
Orit Avidov-Ungar, Alona Forkosh-Baruch.	Professional identity of teacher educators in the digital era in the light of pedagogical innovation.	Vis-à-vis technology-integrated teaching. Institutional support. Professional identity construction of innovative teacher educators.
Compiled by the author based on sources [5], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16].		

Proceeding from the *principles of specificity*, the original examples of teaching the disciplines "Economic Theory" and "Economics and Industrial Engineering" were used to reveal the research problem. The teaching uses the fundamental provisions of the theories of post-industrial society (PIS) and disruptive innovations (DI), constituting the basis of new scientific knowledge. Thus, the updated knowledge of teaching methods, the implementation of the *principle of scientific knowledge*, which has enriched the teaching methodology, have significantly affected the educational process.

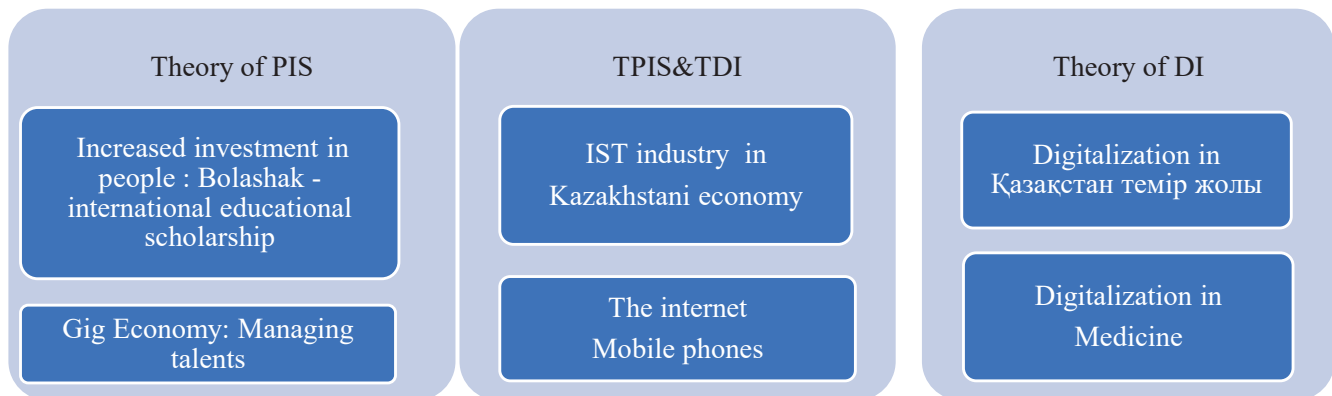


Figure 1 – Examples of issues of post-industrial society and disruptive innovations

In a rapidly changing world, students ought to receive advanced knowledge, therefore, the standard curricula of disciplines should be periodically revised, and scientific achievements in the field of Economics must be implemented. Hence, the *comparison of research as a model of rhetoric* becomes one of the bases of teaching methodology.

The new knowledge embraces various types of communicative interaction in oral and written speech (including the traditional rhetoric: *bene dicendi scientia* "the science of good speech"), natural and artificial languages. Such a methodological requirement has become especially relevant in the context of a pandemic and the transition to online education. The standard educational policy of teaching the courses "Economic Theory" and "Economics and Industrial Engineering" requiring that students must be disciplined, educated and polite in accordance with university policy and social requirements of the community was enriched during the quarantine with the development of appropriate online communication skills and competencies.

Power Point Presentation of the first introductory lecture contains a slide on online communication and management. Assignment for students' self-study is based on the recommended MOOC courses "What is communication and effective online communication: why is it important in management"? Mandatory online learning outcomes include reporting on progress in the acquisition of online communication skills [17].

Communication management and online communication

Communications management is the systematic planning, implementing, monitoring, and revision of all the channels of communication within an organization, and between organizations; it includes the organization and dissemination of new communication directives connected with an organization, network, or communications technology.



Online communication is how people communicate, connect, and transact to send, retrieve, or receive information of any kind via the internet using digital media. All the communication that is carried out via the internet is known as online communication. Because of our increasing presence online, this type of communication is becoming as important as offline communication.

<https://www.youtube.com/watch?v=S7CN9Trw43w&...>

<https://www.youtube.com/watch?v=nIQhHEWpdW...>

Figure 2- Communication management and online communication in teaching Economics and Industrial Engineering

Written rhetoric in digital times is extremely important due to issues of disruptive innovations. The original methodology consists in compiling a Synopsis of the lecture based on paraphrasing and questionnaires. The purpose of this activity is to make students fully understand the content of each lecture. The objectives include the requirements of keeping a personal copybook, in which the student should reflect a summary of PPT of each lecture in a tabular form, based on reading each slide, its paraphrasing, and setting appropriate questions to the text of the slide [17].

Table 2 - Sample of "My Synopsis" of the lecture with paraphrasing and questions

Number of the slide	Text of the slide	Paraphrasing	Question	Note
1.	Economics and Industrial Engineering.	The title of the introductory lecture of the discipline.	What is the name of the discipline? Who delivers the lecture?	Two
2.	Ancient scholars on economy.	Explanation of the nature of economy by the ancient scholars: Hesiod, Xenophon, Aristotle and al-Farabi; their main book.	Who is the first to mention the term "economy"? Name the peculiarities of the economic concepts of the ancient scholars. Trace the links between Aristotle and al-Farabi economic heritage. Who talks on natural needs of people, values, and rules of economy?	Four.
3-15	Corresponding text.	Corresponding paraphrasing.	Corresponding questions.	Corresponding meaning.

The constant updating of academic curricula is a warrantee of the long-term practice of teaching economic disciplines, including Economic Theory and Economics and Industrial Engineering. The development of teaching methodology reflects changes in the methodology of economic theory. Therefore, the digitalization of all aspects of life, including the economic one, requires the inclusion of a section and the essence of changes caused by

ICT and digital technologies. The original updated course content includes a discussion of various emerging trends in economic theory with real-life examples and case studies. This becomes possible after examining such issues as ICT and economy, Information Kazakhstan, Digital Kazakhstan and Industrial and Innovation Policy in Kazakhstan, Post industrial Society, Digital Economy, Digital Entity and Digital University.

Results

Research on methodology of teaching economic disciplines in the digital era has shown the conceptualized ways of modifying the methodology of teaching economic disciplines based on the updated research into economic theory and new pedagogical and educational technologies in the digital era. The research findings may be categorized into the following sections.

First, the analyzed experience demonstrates examination of different aspects of methodology and techniques of teaching, principle of learning, educational policy, methods and technologies. Among them the methodology of teaching economic, marketing and management disciplines in technical universities, the cognitive activity of students, practical skills and systemic thinking, using the mobile age models to hone skills, the benefits of ICT in education for teacher’s professional development, flipped learning and teaching as an educational principle, digitalization in practice and digital Taylorism. The area of technologies is of interest in re-imagining education policy, practice, and technology-integrated teaching in the digital era.

Second, from the viewpoint of effective pedagogy, enrichment of academic programs curricula and syllabi with relevant and new knowledge, use of the principles of specificity and scientific knowledge, the traditional oral and written rhetoric as "the science of good speech" contribute to the development of teaching methodology in general and, in particular, of teaching economic disciplines. Based on these provisions, the author's contribution to the methodology of teaching economic disciplines has been tested for several years. Generalization of this experience makes it possible to systematize the research results.

Table 3 - Systematization of research results

Problem	Theory fundamentals	Issue	Methodology	
Underestimation of the new knowledge.	Post-industrial society.	Knowledge- strategic resource.	Principle of specificity.	Principle of scientific knowledge.
	Disruptive innovations.	Intellectual property and intellectual capital. Digitalization and freelancing.	Increased investment in people: international educational scholarship Bola lshak. Gig Economy: Managing talents. Digitalization in “Қазақстан темір жолы”. Digitalization in Medicine.	Ongoing updating of academic curricula and syllabi.
Negative influence of disruptive innovation.	Learning theory.	Reluctance to write, poor handwriting, no written speech skills.	Written rhetoric.	Oral rhetoric.
		Inability to concentrate, work with text, analyze, be attentive, and diligent.	Regular execution of tasks in writing in the discipline notebook. Make notes in the discipline notebook during each lecture. Work on the lecture texts in the form of notes based on paraphrasing and formulating questions for self-examination.	NA
	Behavioral science. Theory of communication management.	Insufficient level of general culture, education and communication.		Development of on-line communication and skills by working in groups through a defined channel of communication, discussion, group presentation, peer-review.
			NA	

The following learning outcomes testify to the effectiveness of the proposed teaching methodology:

- The positive students' feedback.
- Application of the original methodology "My synopsis" to the study of other disciplines taught by other teachers.
 - Implementation of the author's teaching methodology in the educational center of Almaty.
 - Application of new knowledge in reports to the employer and in the situations where a company needs to overcome crisis.
 - Creating a friendly atmosphere during joint online learning, building social networks, mastering time management and online communication skills, as well as familiarization with and application of cultural and ethical values in everyday life.

Conclusion

According to the results of the study, it was found that the existing educational issues in teaching Economic Theory and Economics and Industrial Engineering disciplines were associated with the need to update the curriculum. Therefore, the sections on the theory of post-industrial society and the theory of disruptive innovations have been included in the author's teaching methodology for a number of years. For these purposes, there were used the principle of specificity and the principle of scientific knowledge, written and oral rhetoric as components of the methodology of teaching economic disciplines. It became possible to deliver and receive the necessary new knowledge in the field of Economics, as well as use this methodology in the study of other subjects and in teaching at other educational institutions.

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Бердіқұлова Ғ.М.

Цифрлық дәуірде экономиканы оқыту әдістемесі

Андатпа. Постиндустриалды қоғам теорияларының ғылыми жетістіктерін және жаңашыл инновацияларды бағаламау білім беру бағдарламалары мен экономикалық мамандықтар пәндерінің бағдарламаларының сапасына әсер етеді, осылайша цифрлық дәуір тудырған жаңа өркениет пен жаңа парадигманың талаптарын елемейді. Мақалада экономикалық теория мен экономика және өнеркәсіптік инженерия сияқты пәндердің мазмұнына жаңа экономикалық білімдерді қалай енгізу керектігі түсіндірілген. Ғылым мен оқу практикасын үйлестіру әдістерінің бірі - экономикалық пәндерді оқытудың жаңартылған әдістемесі. Экономикалық теорияны оқытуға постиндустриалды қоғам мен Қазақстандағы цифрландыру үдерісіндегі жаңа инновациялар, оқыту мен қарым-қатынасты басқару теориясы, мінез-құлық ғылымы, зерттеу әдістемесі, риторикалық модель, спецификалық принципі мен ғылыми білімдер енгізілді. және экономика. және өнеркәсіптік құрылыс. Білім беруді цифрландыру үдерісіне серпінді инновациялардың теріс әсерін жою үшін автор лекцияның әр тақырыбы бойынша кесте қоюға, перифрадациялауға және сұрақ қалыптастыруға негізделген авторлық дәріс жазбаларын жазу әдісін қолданды. Практикалық сабақтар кезінде жазбаша және ауызша риторикаға негізделген онлайн -топтық іс -шаралар мен онлайн -байланыс жүзеге асырылды. Зерттеудің тиімді нәтижесі экономикалық пәндерді оқытудың жетілдірілген әдістемесін басқа пәндерді оқуда және Алматыдағы оқу орталығында қолдану деп санауға болады.

Түйін сөздер: оқыту әдістемесі, экономикалық тәртіп, цифрландыру, ерекшелік принципі, ғылыми таным принципі, жазбаша риторика, ауызша шешендік өнер.

Бердыкулова Г.М.

Методология преподавания экономических дисциплин в цифровую эру

Аннотация. Недооценка научных достижений теорий постиндустриального общества и прорывных инноваций сказывается на качестве образовательных программ и программ дисциплин экономических специальностей, игнорируя тем самым требования новой цивилизации и новой парадигмы, порожденной цифровой эпохой. В статье объясняется, как новые экономические знания должны быть внесены в содержание таких предметов, как экономическая теория и экономика и промышленная инженерия. Одним из способов гармонизации науки и образовательной практики является обновленная методика преподавания экономических дисциплин. Оригинальные примеры постиндустриального общества и прорывных инноваций в процессе цифровизации в Казахстане, теория обучения и коммуникационного менеджмента, поведенческая наука, методология исследования, риторическая модель, принцип специфичности и научного знания были внедрены в преподавание экономической теории и экономики. и промышленное строительство. Для преодоления негативного влияния прорывных инноваций на процесс цифровизации образования была использована авторская методика написания конспекта лекций на основе табулирования, перефразирования и формирования вопросов по каждой теме лекции. Реализована онлайн-групповая деятельность и онлайн-общение на основе письменной и устной риторики во время практических занятий. Эффективным результатом исследования можно считать применение усовершенствованной методологии преподавания экономических дисциплин при изучении других предметов и в образовательном центре в г. Алматы.

Ключевые слова: методология преподавания, экономическая дисциплина, цифровизация, принцип специфичности, принцип научного познания, письменная риторика, устная риторика.

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