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RESEARCH ARTICLE

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Editorial

So Far, So Good: Editors' Note

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Beginning from 2014 till date, the Journal of Advocacy, Research and Education (JARE) Team had published eight (8) volumes. As an initiative of KAD International, Ghana with funding from the Academic Publishing House Researcher in Russian Federation, our journal publishes three (3) volumes each year under the open access policy. As an open access journal, we provide full fee waiver to all our authors.

We are pleased to also inform you that our journal is indexed in recognised databases like the Directory of Open Access Journal (Sweden), Electronic Journals Library – Social Science Research Center Berlin (Germany), Electronic Scientific Library (Russian Federation), Global Impact Factor (Australia), Index Copernicus (Poland), Journal Index (USA), Journals Impact Factor (JIF), MIAR – Information Matrix for the Analysis of Journals (Spain), Open Academic Journals Index (Russian Federation), and Sherpa Romeo (Spain). These databases afford all published manuscripts in the JARE, the privilege of having a higher online visibility. Currently, we have readers from all over the world and can boast of citations in many recognised scientific works.

Over these few years, we have recorded a population of over seventy-five (75) authors from about fifteen (15) countries. These countries include; China, Germany, Ghana, India, Japan, Nigeria, Philippines, Romania, Russian Federation, Serbia, Tanzania, United Arab Emirate, Ukraine, United States of America, and Zimbabwe. The editorial team's goal to become a world class multidisciplinary journal is still on course.

As a multidisciplinary journal, we aim to share papers covering topics in the arts, education, social sciences, law, health, applied sciences, pure sciences, engineering, technology, business and other related disciplines. Though the JARE receives many more submissions than it can publish, we strictly adhere to double-blind review procedures after pre-review by the Editor-in-Chief. We would like to remind you that to be published in the JARE, a paper should provide strong evidence for its conclusions. In addition, it should be novel, be of extreme importance to scientists in its specified field and ideally, interesting to other researchers, scholars and lay people all over the world.

It is the ultimate aim of the JARE Team to provide a global scientific home for researchers, students, industries and professionals to share unlimited scientific knowledge. On this note, we congratulate all our authors for their scientific achievements so far. We are also grateful to our editorial board and staff for their commitment over the years. We also acknowledge the managements of both KAD International and Academic Publishing House Researcher for their immense support.

Please visit our website [http://www.kadint.net/our-journal.html] to accustom yourself with previous issues of the JARE as well as instructions for our authors. We hope to receive your submission in our upcoming August publication (for our May – July Submissions).

We also encourage you to submit to our most recent electronic scientific journal, Africa: History and Culture [http://ejournal48.com/en/index.html]. The fundamental mission of this journal is to encourage the sharing of research findings that relate to the African continent. We welcome multidisciplinary and interdisciplinary studies that examine the role of Africa's history and culture on fields such as; agriculture, arts, development, social sciences, health sciences, education, law, humanities, applied sciences, pure science, engineering, technology and so forth.

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RESEARCH ARTICLE

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Articles and statements

Short Communication

Why does 'PubPeer' not acknowledge 'Retraction Watch' as a media source?

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Abstract

Retraction Watch is a social media organization that relies on a blog to transmit information primarily about retractions in the scientific literature. One of the Retraction Watch co-founders, Ivan Oransky, is in fact a "Distinguished Writer in Residence at New York University's Carter Journalism Institute" and the vice president of the Association of Health Care Journalists. Sharing a common funder, a philanthropic organization, the Laura and John Arnold Foundation, Retraction Watch regularly coordinates with a whistle-blower website that refers to itself as an "online journal club", PubPeer. Retraction Watch regularly cites and refers to PubPeer, and *vice versa*. It is therefore surprising that PubPeer does not list Retraction Watch on its "Press" and media coverage page. This potentially deliberate omission may be equivalent to a hidden conflict of interest, undermining the ethical fortitude and image of these science watchdogs, and fortifying the fake news era.

Keywords: Conflict of Interest; Journalism; Online Journal Club; Retractions; Whistle-Blower Website.

Short Communication

The Center for Scientific Integrity Inc. [CSI] and the PubPeer Foundation operate science whistle-blowing web-sites, Retraction Watch (Retraction Watch, n.d.) and PubPeer (PubPeer Foundation, 2017a), respectively. These organizations are financially linked, both funded by a wealthy philanthropic organization, the Laura and John Arnold Foundation [LJAF] (n.d.). However, neither site explicitly indicates that there exists this actual or potential financial conflict of interest between the PubPeer Foundation – based in California – and the CSI, Retraction Watch's parent organization, based in New York. Comments at PubPeer frequently cite Retraction Watch, while Retraction Watch frequently relies on and cites PubPeer comments to support its "journalistic" stories that reach a global audience. The President of CSI, Dr. Ivan Oransky, is a "Distinguished Writer in Residence at New York University's Carter Journalism Institute", and may be found alongside Salman Rushdie (New York University, n.d.) [Fig. 1A], a highly acclaimed and decorated novelist (Wikipedia, n.d.). Therefore, one can only assume, by this association, that

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Oransky must be of equivalent exceptional writing or journalistic standards. Retraction Watch imparts news, primarily about science retractions, and is thus an established news organization with a high monthly web-traffic. The media component of Retraction Watch is fortified by its powerful social media presence on Twitter (n.d.) [Fig. 1B], with thousands of followers, and Facebook (n.d.) [Fig. 1C], which are essential components to a media organization, and by the qualifications of its leader, Oransky, who is the vice president of the Association of Health Care Journalists (n.d.) [Fig. 1D]. One can therefore state that Retraction Watch is a formidable web-based media organization, supposedly specializing in science retractions, and that its leadership, primarily Oransky, are exceptionally trained and skilled media professionals.

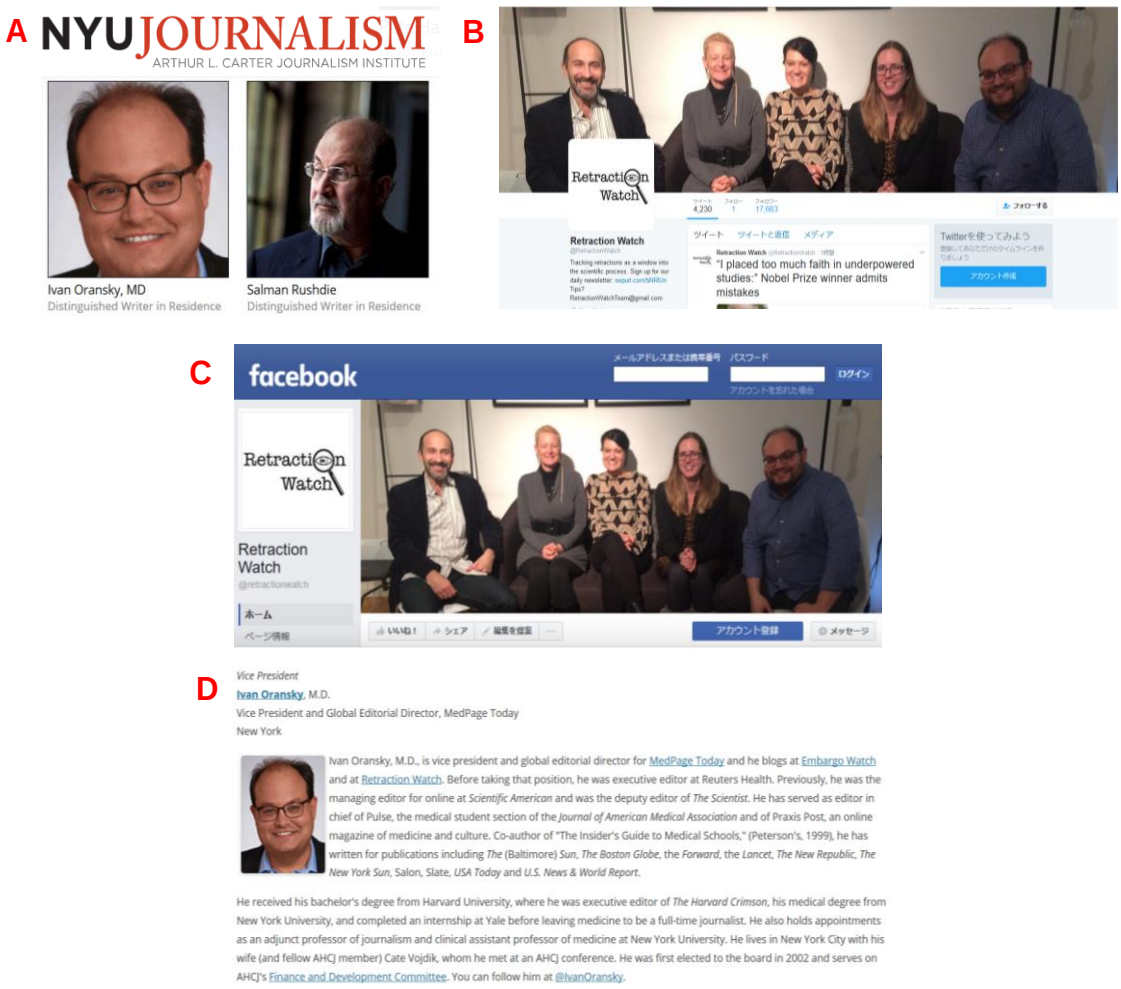

Fig. 1. Screenshot A, B, C, & D

It is therefore highly surprising to note that PubPeer fails to acknowledge Retraction Watch on its "Press" page dedicated exclusively to thanking those news and media outlets that have profiled PubPeer, and thus given it supposedly positive coverage [Fig. 2]. The only plausible explanation that exists for this distinct media omission is that both organizations share funding from the same philanthropic organization, the LJAF, and that they do not wish to make this fact public. Such opacity and possible dishonesty by these organizations, whose parent organizations are charities, underscores their intended purpose, namely to increase trust in science and society through fair, honest and transparent transmission of information. Structural and financial opacity by Retraction Watch are not new phenomena, continuing to undermine public trust in this media organization (Teixeira da Silva, 2016). Oransky himself also has a rich history of hiding the truth about his academic and professional past (Teixeira da Silva, 2017a), especially in publicly visible professional profiles about himself. This also indicates a high degree of dishonesty. Secondary interests that influence primary interests, i.e., the foundation of a conflict of interest (Flier, 2017),

are also at the base of the corruption of journalism and honest journalistic practices in a fake news era (Teixeira da Silva, 2017b).

Fig. 1: (A) Dr. Ivan Oransky is a "Distinguished Writer in Residence" at New York University's Carter Journalism Institute, alongside Salman Rushdie, and a co-founder of Retraction Watch. (B) Screenshot of Retraction Watch Twitter top-page. (C) Screenshot of Retraction Watch Facebook top-page. (D) Screenshot of Oransky's profile at the Association of Health Care Journalists. Screenshot of (B) has been spliced together to remove redundant white spaces and to focus only on two Distinguished Writers In Residence. All screen-shots, taken on February 21, 2017, are used under the fair-use agreement for post-publication peer review (Teixeira da Silva, 2015). Sources: [A] (New York University, n.d.); [B] (Twitter, n.d.); [C] (Facebook, n.d.); [D] (Association of Health Care Journalists, n.d.).

Fig. 2: Retraction Watch, one of the most prominent science blogs in web media today, is distinctly absent from the PubPeer "Press" page (PubPeer Foundation, 2017b). The most likely reason is hidden financial conflicts of interest, as both organizations are funded by the Laura and John Arnold Foundation (n.d.). All screen-shots, which have been spliced together to remove redundant white spaces, and to form a collage, taken on February 21, 2017, and used under the fair-use agreement for post-publication peer review (Teixeira da Silva, 2015).

Fig. 2. PubPeer "Press" page

The correct thing to do would be for PubPeer to list Retraction Watch on that "Press" media page, and to also add a footnote to indicate that it shares a financial conflict of interest. In addition, each time Retraction Watch cites, or refers to PubPeer, for example when referring to comments that appeared on PubPeer related to a retracted paper or a paper being profiled by Retraction Watch, a footnote should also appear to indicate this financial conflict of interest in much the same way that any academic that publishes a paper should indicate actual or perceived conflicts of interest.

Conflicts of Interest

The author and his work have been profiled by PubPeer and by Retraction Watch. The author, who has in the past used PubPeer and Retraction Watch, both as a signed, registered commentator, and anonymously, has been banned from commenting on both websites. The author declares no other conflicts of interest.

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RESEARCH ARTICLE

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The Natural Harmony of Interests: Adam Smith and the Political Philosophy of the Classical School

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Abstract

This paper explores the idea of laissez-faire and economic liberation as a corollary to the emergence of the national economy. It discusses the extent to which the individual actor as identified in Adam Smith's economic philosophy is fundamental to the societal economy. It also reviews the essential role played by the individual actor towards the shaping of national or public policy.

Some authors suggest that economic freedom increases economic growth, however for economies that are emerging, it is better for the state to control, regulate and invest in economic activities until their industries are strong enough to engage in competition with large firms from developed nations.

Keywords: Adam Smith, Economic Philosophy, Market, Natural Harmony, Political Philosophy.

Introduction

The political philosophy of the 18th century Europe which emerged during the mercantilist era was marked by the thoughts of Adam Smith and the classical theorists. The economy during the mercantilist era emphasized the belief that a nation's wealth is based on the accumulation of gold and silver through exports, and government played a major role in heavily regulating domestic and foreign economic transactions. Adam Smith and classical theorists believe that there is a natural order in the economic system. A society of economic freedom is more conducive to the prosperity of all individuals and society in general. If left alone the economy is self-regulating, it will function as under the influence of an "*invisible hand*".

They suggest that domestic and foreign transactions should be free from government interference. Individuals will naturally pursue their own interests for their personal wellbeing; consequently, the general welfare of society will result unintentionally. Therefore, the functions of government as Smith suggests should be limited to ensuring "*national defense, administration of an impartial system of justice; and facilitation of certain public works and institutions that are beneficial to society*" (Ebenstein, & Ebenstein, 1991); in other words, establishing law and order to protect the interests of individuals.

The purpose of this paper is to explore the idea of laissez-faire and economic liberation as a consequence to the development of the national economy. It discusses the extent to which the individual actor as identified in Adam Smith's economic philosophy is fundamental to the societal economy and subsequently shapes national or public policy.

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Capital Accumulation System Prior to the Advent of Laissez-Faire

The theory of natural harmony of interests was put forth during Adam Smith's era as a better economic alternative to capital accumulation theory of mercantilism. Mercantilism is a "phase in the history of economic policy" (Haley, 1936); it is an economic thought and a commercial policy that emerged during the 17th century in Europe which legitimized the way the economic system worked at that time (Irwin, 1991). It was believed that the power of a nation's economy was reflected in the amount of gold and silver in its public treasury (McEachern, 2009). Mercantilism was supported by governments and states to secure and maximize the wealth of a nation by controlling the economic activities and resources they depended on, and setting economic rules and regulations that benefit the mother country so as to achieve a favorable trade balance for merchants and producers (Nettels, 1952). The rise of mercantilism coincided with Europe's expansion to the New World. The purpose of this system was to accumulate as much gold and silver as possible from colonies. In order to reach that goal, the policy was to restrict imports of finished goods and encourage exports as this can bring more wealth to nations (Ebenstein, & Ebenstein, 1991). States would acquire raw materials from colonies for cheap prices, manufacture and sell finished goods at higher prices for gold and silver (Nettels, 1952).

Mercantilism is a "*positive nuisance*" (Johnson, 1937; Wilson, 1957) that should have been abolished or avoided; but how, if it has made such a strong impact on economic policy? Mercantilism was a system based on military power and conquest according to Professor Viner (Wilson, 1957). He argues that wealth and power are interdependent and are the aims of national policy, however, national defense prevails on economic ends at times. According to Adam Smith, when it comes to enriching people, there are two systems of political economy based on commerce and agriculture. The mercantile system just brought confusion between wealth and money; exporting gold and silver would be a loss of wealth. Therefore, to prevent any loss of treasure, it was necessary to strictly control exports and imports. An economic system that rose in England and supported by Thomas Mun in his – "*a discourse of trade, from England unto the East Indies* in 1621" rapidly spread and was being applied by other European countries as a way to increase their wealth (Wilson, 1957).

Mercantilism was a "*flawed*" economic idea that the government and its representatives failed to understand; the merchants and producers supported this system with the sole purpose of advancing their own interests according to Adam Smith. In effect, this was regardless of the wellbeing of the general population (Nettels, 1952, Wilson, 1957). The role of the government according to Adam Smith is to foster national defense, administer an impartial system of justice and facilitate public works and institutions. But the governments during the mercantile era considered it a duty to accrue their national wealth and power for strategic and economic purposes by protecting the interests of merchants and producers against foreign competition. Thus, this led to the enactment of different protectionist laws and regulations such as Corn Laws on agriculture, the Navigation Act of 1651, the Stapple Act of 1663, and the protective tariff for domestic manufactures (Nettels, 1952).

In England, Nettels (1952) wrote that governments coordinated with merchants, shippers and manufacturers to find out their best interest and supported them with different subsidies. Irwin (1991) argued that government interference with commercial policy gives domestic merchants and manufacturers a large advantage when trading internationally because their cost of export becomes lower than their foreign competitors which in return yields more benefit to the mother country. However, there are divergences between the interest of influential merchants and the interest of the nation as a whole at times (Viner, 1948).

Haley's (1936) analysis of Heckscher's book on mercantilism discussed four major tenets of mercantilism as an economic policy:

* Unification of the state regarding "*customs barriers and tolls, the currency system, regulation of industrial activity, of domestic and foreign trade, and the system of weights and measures*" which was more successful abroad.

* Increase of the power of the state and the national income by establishing some rules and regulations to efficiently control economic services such as imports, exports and the marine, and all activities the state depends on.

* Increase the wealth of the state by means of protectionism of production through restrictions on imports especially with gold and silver, and promotion of exports of highly-priced goods, and also personal development of human capital to avoid unemployment.

* Mercantilism could be also characterized as a system of monetary policy in the fact that specific measures were established regarding the accumulation and use of money as capital, as a source of national wealth increase, as a positive asset in foreign relationships.

The fifth aspect Haley (1936) discussed about Heckscher's book on mercantilism was that the state believed in liberty and freedom of the individual but only for the purpose of increasing the wealth and power of the state and public good. Individuals would even receive various incentives from the state to do what they want but the ultimate results must benefit the state first. Adam Smith along with other classical economists such as John Ramsay, McCulloch, James Mill, David Ricardo, Nassau Senior and others opposed this idea of mercantilism as too many restrictions or government interference with the market discourage specialization and would not allow maximum efficiency and benefit for the people (Pincus, 2012).

Natural Harmony Interests in the Market

The Wealth or Nations (1776) by Adam Smith is a systematic explanation of how the economy of his era works. Adam Smith was a fervent supporter of economic freedom as it is essential to the development of wealth. Foreign and domestic economies at that time were heavily regulated by the government and that was a hindrance to individuals' specialization and economic growth. The government during the mercantilist era which Adam Smith opposed was known for poor economic policies and mismanagement of resources (Ebenstein, & Ebenstein, 1991). Most social philosophers then advocated for limited government interference, if none at all, in many areas. Government is not necessary a priori except when people have valuables that need to be protected.

Consistent with Adam Smith, economic activities if left alone function under the influence of a harmonious natural order (Viner, 1927); humans are individualistic and can naturally prosper as such instead of as a group, and without government interference. Humans generally act in favor of their own interests and due to their capacity of sympathy they will not deliberately do harm to others. By working to achieve what is best for him/her in a free market, an individual will indirectly influence the well-being of society at large. The role of the government then is to set the boundaries so that self-interests of all individuals can be maximized without causing harm to one another. The prosperity of people as individuals is what constitutes the wealth of the nation and this prosperity is only possible in a free economy where government is limited and individuals are specialized.

The wealth of the nation grows when there is division of labor, when individuals are specialized. The existence of free domestic and foreign trade is more conducive to such growth. Government interference in terms of heavy laws and restrictions on the economy, on domestic and foreign trade as was the case during the mercantilist era is counter-productive. The economy should be left alone, domestic and foreign transactions should be free from government interference. There is a natural harmony of interest between individuals regarding their personal growth and the flourishing of the economy when the government stays away from it. In keeping with Smith, the government has three major functions: to ensure "national defense, administration of an impartial system of justice; and facilitation of certain public works and institutions that are beneficial to society" (Ebenstein, & Ebenstein, 1991). These functions are too big to be carried out by individuals.

The government should guaranty the protection of individuals' properties from domestic harm as well as foreign invasion. When individuals' self-interests which are originally positive to them, are not regulated, they can be destructive to others (Viner, 1927). The government should also create a physical environment that facilitates commercial interactions of individuals among them domestically and with other nations through infrastructures such as highways, ports and airports. These can be financed by fees individuals pay for access and through taxation. This will protect the government from incurring heavy debts, and will keep it from overtaking the whole economy. However, if the government has to tax individuals to finance activities that will help individuals' growth, "*taxation should be proportionate to income*", "*certain*" and "*convenient*" for the individual. The ideal for individuals to acquire wealth, enjoy the fruit of their labor in a just

environment and for the economy to keep growing can occur when government interference is limited to non-existent (Ebenstein, & Ebenstein, 1991), or when there is a system of total "*laissez-faire*" as the Physiocrats advocate (Viner, 1927).

Francois Quesnay (1694-1774) was the first to coin the phrase "laissez faire la nature" and was among the first to analyze economic growth as a function of capital accumulation which reminds the mercantilist ideology of exporting more to accumulate gold (Schachter, 1991). He is known as the main representative of the Physiocrats, a group of philosophers in the mid 1700's in France. The Physiocrats believed that the wealth of the nation depends only on agriculture and they basically focused mostly on domestic trade. They developed many economic tools among which the Tableau Economique as a tool that contributed to "*the development of national income analysis, quantitative methodology, and the conceptualization of the general equilibrium theory*". The economic system that the Physiocrats promoted though was and ideal system that did not actually value economic freedom because they were more aligned with the absolutism of the monarchy. The Physiocratic philosophy emphasized the natural order of things where everything is interdependent and exists in harmony, and the role of the government is to enforce this natural order by protecting the rights of individuals and setting boundaries for interactions within society (Schachter, 1991).

Men come into society with the expectations of mutual protection of property and human life; order is thus necessary to guaranty those expectations. The Physiocrats believe that the order of society is also a natural order, so when men violate the order in society they walk into their own destruction. So as in Adam Smith's view on individuals' self-interests, the Physiocrats believe that individuals will naturally work to acquire wealth and improve their wellbeing which will result in the general welfare of the society. Unlike Smith though, Quesnay believes that the measurement of wealth is the satisfaction of human needs with natural goods such as food, shelter and clothing. The Physiocrats advocated free trade but mainly for agricultural products. They believed that exports of raw material from domestic agriculture will bring more wealth into a nation and that will increase production because raw materials are the basis for everything else that is produced (Schachter, 1991).

The Physiocrats asserted that France was a poor country at the time compared to England because they focused on export of luxury products such as silk which benefited merchants instead of supporting farmers. They suggested that the government should establish free economy in terms of agriculture that will empower farmers because they are the productive class that brings wealth to the nation. Quesnay proposed three classes in society: the productive class that consists of farmers, the property owners' class who receive rent from their lands, and the sterile class that consists of manufacturers and merchants. The latter class does not bring any wealth to the nation; the profit they get comes from ripping of the farmers who produce the raw materials by paying them low prices that do not reflect the value of their production. They do not add any value to the products they manufacture or sell except the cost of the material and their personal labor; this is not good for the wealth of the nation. The solution for the Physiocrats then was to allow higher prices for agricultural products. The "laissez faire" of the Physiocrats was in practice meant to only benefit the aristocracy because they held the economy at that time (Schachter, 1991).

In their ideology of "laissez faire", which is rather freedom in the market of agriculture, the Physiocrats also advocated that farmers be completely relieved from the burden of taxation, but propose instead a single tax on the rent landowners received (Meek, 2013) because it is "above and beyond the cost of production" (Schachter, 1991). The ideology of the Physiocrats did not last long because of their close ties with the monarchy in an era where revolutions against absolutism and clericalism were underlying. Establishing free trade in agriculture although it could bring wealth to the nation would only increase the gap between classes and furthermore, this surplus of wealth will probably not be reinvested in agriculture but directed toward opulent lifestyles and wars, which was common of the ruling class in the 18th century (Schachter, 1991). The idea of "laissez faire", government's hands off the economy was rather biased toward one group of society, the farmers who have the monopoly of agriculture; and it does not allow the maximization of the nation's wealth let it alone the prosperity of each individual as the "laissez faire" of Adam Smith advocates.

Natural Harmony Interests and Modern Economy

Total economic freedom which would mean no government interference in the economy is quite utopic and this is even true in today's economy. The mercantilist ideas of protectionism are

still valid today. With the advent of industrialization, competition is so intense globally that it requires governments to be strong in creating good infrastructure and mobilizing its population for economic development, this is even true for developing countries (Hall, 1987). Hall (1987) argues that economic development is about "brute self-interest", if those interests are ignored or neglected, it can lead to social or political unrest. Prosperous states are very pragmatic in managing their economies but Adam Smith discouraged state interference in the market because during his time, the state did not provide equal opportunity for all its citizens. In modern times, the market cannot be left alone; its efficiency depends on states capability to provide social infrastructure to all layers of society. By providing equal conditions for its citizens, strengthening social skill and supporting the economy internally instead of practicing laissez-faire, states allow their corporations to compete internationally (Hall, 1987).

A study by Scully (2008) investigated how economic liberalization affects economic growth and income inequality in twenty-six countries. He supports Adam Smith's idea that the role of government should be limited to establishing proper infrastructure and environment for economic development. When government interferes in the market it is usually for taxation purposes and taxation discourages people from engaging in economic activities. Now tax revenues should be used to improve infrastructure for economic growth instead of merely redistributing them to a certain group of people because this will negatively affect the national economy. Scully (2008) found that developed nations with more liberal economies have higher rates of economic growth. Economic growth though increases inequality to a small extent. However, overtime, economic freedom creates better outcomes for low income individuals more than tax revenue redistribution from government.

An article by Cooter, Hans and Schaefer (2010) discusses 3 approaches related to the growth of the national economy of developing nations. The state-led approach argues that in a free market developing nations are unable to accumulate capital so they should control the economy by owning and investing in and subsiding productive firms, and regulating the economy. The other approach of liberalization aligns Adam Smith theory of laissez-faire. The third approach argues that developing nations should establish legal institutions that will not be the state or the market itself, in other words, a separate institution that will enforce sanctions on rule breakers in the market. Cooter et al. (2010) argue that developing countries cannot rely on the ability of the market to correct itself as under the influence of an invisible hand because in a free market, small or emerging firms cannot compete with large firms from more advanced nations. Natural harmony of interests in the market will not work for developing economies because their firms do not have the same capabilities when entering international competition as larger firms. So, developed nations should protect their industries with tariffs like during mercantilism, regulate their economy and accumulate enough capital to finance investments before they deregulate because history reveals that developed economies first went through the process of strong protectionism before they chose to free their market (Cooter et al., 2010).

Conclusion

Natural harmony cannot endure without government interference. It is necessary for government to intervene in the economy, to regulate prices, correct market failures, and redistribute resources within society through taxation and subsidies whenever there is a need for it. Adam Smith and the classical economist elaborated a solution to the economy of their time that was running under the mercantilist system. But in today's economy relying on the invisible hand to regulate the market can be detrimental especially for developing economies. Some authors suggest that economic freedom increases economic growth, however for economies that are emerging, it is better for the state to control, regulate and invest in economic activities until their industries are strong enough to engage in competition with large firms from developed nations.

Conflicts of Interest

The authors declare that they do not have any conflicts of interest.

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RESEARCH ARTICLE

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Modern Educational Technology Training: Definitions, Components and Functions

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Abstract

The paper presents a review on the practice of modern educational technology in high school. The term "educational technology" is now a common termnology in science and education. Generally, it is described to be composed of three facets, namely: (1) scientific, (2) procedural and descriptive, and (3) procedural effective. In order to determine a universal structure for educational technology, the authors identified the following components; (1) the conceptual part, (2) substantive part, (3) procedural part, and (4) methodological and software support part. It is noted from our analysis that, a good technical information technology is needed to develop programmed instructions, which are associated with the unique capabilities of modern computers and telecommunications. The main goal of modern information technology education is to prepare students to function holistically in the existing information society.

Keywords: Educational Process, High School, Modernity, Pedagogical Technologies Training, Student, Teacher.

Introduction

The ideal modern teaching persona is not to only develop an encyclopedic memory, but a flexible mind with a rapid response to all new information. It is expected that teachers should have full, well-developed knowledge which can further produce independent actions with good indicative skills and creative abilities. "*One of the most serious shortcomings of our school practice is that teaching children is mainly done by the teacher*" – this opinion by V. Sukhomlinsky is still applicable to today's educational process (Sukhomlinsky, & Soloveichik, 1977; Sukhomlinsky, 1981).

The development of the creative potential of the student is treated today as the main task of higher education. To implement this aim, we must first consider the student not as a sum of external influences, but as a coherent, active being. In this sense, the main essence of restructuring of the educational process is to transform the student - not as an object but above all, the creator of his/her own "I". Consequently, the learning process should be constructed so as to promote the conscious participation of the individual who learns the discipline.

Presently, addressing these urgent concerns may be possible only through the extensive introduction of new educational technologies that are aimed at the comprehensive development of students. According to one of the earliest definitions, "*educational technology is a field involved in the facilitation of human learning through systematic identification, development, organization and utilization of a full-range of learning resources and through the management of these processes*" (Association for Educational Communications and Technology, 1972).

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Currently, educational technology is seen to be composed of three fields of use. These include: *"(i) Technology as a tutor (computer gives instructions and guides the user), (ii) Technology as a teaching tool and (iii) Technology as a learning tool"* (Stošic, 2015, p. 111). Learning with innovative technologies are much efficient than the old classical form of education. These technologies are also able to integrate the learning processes used within classical education, training, career planning, and continuous education. As observed, several studies have been conducted on the use of educational technology, but little has been done regarding the scientific analysis of existing educational technologies which are used in the educational process.

Method

The study was conducted as part of a comprehensive program for the Research Department of Theory and Methodology of Professional Education at Kharkiv National Pedagogical University named after G. S. Skovorody. The main project is titled; "*Improving the effectiveness of the educational process in secondary and higher education*" [LC number 200199004104].

During the study, the following methods were used:

i. theoretical analysis of the sources of problems,
ii. examination of electronic educational resources, and
iii. synthesis and evaluation of the results.

Results and Discussion

The Term "Educational Technology"

Lately, the concept of "educational technology" is increasingly spreading across science and education. Terms like "educational technology", "technology education", "technology in learning", and "technology in education" – are widely used in psychological and pedagogical palette and have a lot of formulations, depending on how the authors imagine their structure and component of the educational process.

The etymologly of the word "technology" means "*knowledge of material processing*." Technology also includes the art of the process, so personalized. The process always involves a sequence of operations using the necessary means [materials, tools] and conditions. In procedural understanding, technology answers the question: "*How do you do (what and in what ways)?"* In practice, technology goes with innovation. Thus, "innovation" has to do with updating the learning process and relies mainly on domestic factors (Savelev, 1990). "Innovative Technology" is a systematic purposeful set of methods and means that cover the whole process of learning to obtain results. The system is based on the internal conditions of learning, thus, "educational technology" is related to the ideas and experiences of psychology, sociology, systems analysis etc. (Burkova, 2001).

The concept of "educational technology", known from the XX century were founded in the works of A. Uhtomskyy, S. Shatskyy, V. Behtyerev, and I. Pavlov. In subsequent years, the essence of the concept was extensively published by researchers such as; T. Ilyina, S. Shapovalenko, L. Pressman, D. Chernilyevskyy, O. Filatov, I. Lerner, V. Bespalko, M. Klarin, V. Buhvalov, M. Sybirska, B. Horyachov, V. Huzyeyev, A. Kushnir, V. Monahov, H. Selyevko, M. Choshanov, V. Yevdokymov, I. Prokopenko, V. Palamarchuk, S. Sysoyeva, O. Pyehota, T. Nazarova and others (Bespalko, 1989). In foreign pedagogical theory and practice, problems presented in educational technology research were done by scholars such as K. M. Culp, M. Honey, E. Mandinach, M. Clark, D. C. Duhaney, F. Percival, H. Ellinhton, P. Mitchell, M. Woolman, S. Spaulding, S. Wedemeyer, R. Thomas and others (Culp, Honey, & Mandinach, 2005; Duhaney, 2001; Klarin, 1989; Wells, & Lewis, 2006).

Likewise, "educational technology" reflects the way specific educational material (concepts) develops within respective subject, topic, and issue. In esscence, a comprehensive look at educational technology cannot be complete if it fails to offer special needs of educational content, it forms and methods (Sysoyevoyi, 2001). Different authors have given different definitions over the years. According Klarin (1989), educational technology means the totality of the system and the functioning of all personal, instrumental and methodological tools used to achieve educational goals. "Educational technology" can also be deifned as a set of tools appropriate to the needs and capabilities of the individual and society that are theoretically grounded in teaching and educational systems of socialization, personal and professional development and self rights in an

educational institution. This also offers teachers with optimal resources and guarantees the efforts of all participants in the educational process to ensure an effective implementation of consciously defined educational goals (Sysoyevoyi, 2001). Others have also defined "educational technology" as a joint industry of educational knowledge (Pyekhota, Kiktenko, & Lyubars'ka, 2001).

Summarising from these definitions, educational technology can be represented in three aspects: scientific [educational technology – part of science teaching, designing educational processes in educational systems]; procedural narrative [description, algorithm process, set the goals, content methods and tools to achieve guaranteed results intended purpose]; an effective procedural [implementation process, the operation of personal methodological tools and pedagogical tools]. Though, the concept of "educational technology" is very common in science and education, there are diverse approaches to describe it.

Characteristics of Modern Educational Technologies

The analysis of "educational technology" shows the following structure:

i. Conceptual part [brief description of ideas, hypotheses, principles that help its understanding];
ii. Content part [learning objectives, scope and nature of educational content];
iii. Procedural part – production process [organization of educational process, methods of learning among students, methods and forms of teacher training process diagnostics];
iv. Software and methodological support [curricula and programs, teaching and learning aids, learning tools and diagnostics].

A critical look at the structure of educational technology may not provide the same high level educability and education for all students; the outcome is influenced by many factors. These factors may include: the level of pedagogical skill of the teacher, intellectual and emotional background of the group, the material base of the institution and more. Important basic criteria that educational technology need to meet include the follwoing:

i. Conceptuality [relying on a concept that includes philosophical, psychological, educational, social and pedagogical justification for educational purposes];
ii. Systematic [educational technology must have all the features of a system];
iii. Process logic [the relationship of all its parts, integrity];
iv. Controllability [goal planning, design learning, staged diagnosis – varying means and methods to correct results];
v. Efficiency [optimal cost, guaranteed to achieve the intended result – a certain standard of education];
vi. Reproducibility [possibility of other similar conditions as other business to make use].

Modern educational technologies come from sources like:

i. Social transformation and new pedagogical thinking;
ii. Social, educational, psychological science;
iii. Modern advanced teaching experience;
iv. Historical domestic and foreign experience [heritage of previous generations];
v. Folk pedagogy (Bespalko, 1989).

The leading principles that matter to educational technology include:

i. The principle of orientation - clearly and thoroughly defined goals [objectives formulation is either through the contents of an object or its parts through the work of the teacher];
ii. The principle of elected training – didactic choice [this principle implements students' rights to freedom of didactic choice];
iii. The principle of subjectivity training [individual subjectivity (personality) appears in integrating and evaluating facts, events, events of reality based on personal values and significant internal guidelines. This should help individuals to know themselves (self-determination and self-realization, not predetermined shape properties)];
iv. The principle of variability study [requires original and new pedagogical impact of students' perception. As subjects constantly change, the teacher should be able to naturally and organically change their position according to the new situation by providing a dynamic learning process];
v. Pedagogical competence principle [dictates the optimal ratio of different types of students (e.g. training, employment, social, sport, art), gaming and non-gaming, traditional and

original forms of educational work, mind and emotions of teachers in student life, providing educational measure];

vi. The principle of corresponding human nature [this means building a learning process that best meets the natural mechanisms of assimilation of social experience and provides students the opportunity to develop their intellectual capacities).

vii. The principle of professional similarities and borrowings [demonstrating the close relationship of educational technology to other types 'chelovekovedcheskih' activities {theater, rhetoric, psychotherapy, social psychology, aesthetics}, requiring mandatory teaching professional interpretation of borrowing to convert them into actual pedagogical tools] (Burkova, 2001).

Classification of Educational Technology

Among the educational technologies are the following groups: educational technology for the target orientation, educational technology for the nature of the relationship between teacher and student, and educational technology by means of training (Savelev, 1994; Sokolov, 1995). From this review, the following groups (types) of educational technologies can be identified to emit certain types of technologies:

i. Pedagogical technologies for target orientation:

- The level of use [for general technology, subject specialization technology, module-rating technology];
- The contingent consideration of students [gifted education technology, technology for working with "difficult" students, the mass technology, advanced technology education, etc.];
- The direction of modernization for traditional education [based on revitalization, based on the intensification of activities based on the performance of education, copyright technology based on humanization and democratization of relations, based on new didactic and methodological organization {reconstruction} materials];
- The nature of the content [teaching and educating, general and professional, humanistic and technocratic].

ii. Teaching technology for teacher-student relationship:

- Depending on learners [authoritarian technology-centered, technology cooperation, free education, esoteric technology].

iii. Pedagogical technologies by means of training:

- The organizational forms [lectures and seminars, individual, group, collective, in pairs, academic and club [interest] individual and differentiated learning];
- The dominant means [dogmatic, reproductive, explanatory, illustrative, software, problem, dialogue, developing education, flexible learning technologies, gaming technology, self-development training, computer technology];
- The type of cognitive control activities [classical learning, learning through audiovisual TMT, the system of "adviser"; learning through textbooks, the system of "small groups" – group, differentiated teaching methods, computer training, the system of "tutor" – individual training, "training program", for which there are pre-compiled program] (Bespalko, 1989)
- The focus on personality structure [Information technology – designed to build knowledge and skills; operational – aimed at creating ways of learning activities, self – formation mechanisms of self-identity, heuristics – the development of creative skills] (Vitvyts'ka, 2003).

New Information Technology [NIT]

"New information technology [NIT]" is a set of methods and technical means for collecting, organizing, preserving, processing, transmiting and presenting information through computers and computer telecommunications (Zhernovnykova, 2016; Zyazyun, 2001).

"Pedagogy determining NIT" as a form of training methodology and technology for educational process uses the latest e-learning approaches. The components of NIT training generally focus on means and methods of NIT training.

By means, NIT assign training through the following components:

i. Hardware [classes teaching computers, local and global educational computer networks, electronic equipment demonstration].

ii. Software and methodology [software and methodological tools, computer courses, instructional software and systems];

iii. Teaching (teaching manuals, specifications and technical documentation, organizational and instructional materials).

By methods, NIT also assign training through the following components:

i. Traditional learning model [fragmented computer use in the classroom or as a trainer for demonstration, monitoring and testing knowledge, scientific and research work of students];

ii. Alternative learning model [research work in computer laboratories, computational experiments, telecommunication projects educational, distance learning] (Okomkov, 1994).

Functions of Educational Technology in Learning

The functions of educational technology are both essential and numerous. Its main purpose is to prepare students for a full life in the information society (Lozova, 2000; Lozovoyi, 2005). Currently, educational technology is being applied in the following learning methods:

First is the dogmatic learning approach. This is based on dogmatic learning – a way to study the facts and phenomena of reality as certain immutable provisions (dogmas) without practice, and human experience. The use of educational technology in dogmatic learning teaches learners to memorize subject materials. It also allows the mechanical reproduction of finished phrases, quotes, extraordinary thoughts, that to some extent, it contributes to the development of mechanical storage instead of individual intellectual capabilities and their independence.

Secondly, it is also applied in an explanatory learning approach. The main purpose of this method is to provide a system of mastering the subjects of scientific knowledge, and related skills. This explains, justifies, comments and enables the comprehension of materials that cannot be learnt through rote memorization and therefore needs comprehensive mental activities. Consequently, educational technology provides the opportunity for independent work, tasks, exercises, translations, preparation of charts, and tables for such purposes. It also incorporates the extensive use of visuals and reproductive nature of learning process.

The next is the problem learning approach. This is the organization of the learning process with the focus on problem situations; identifying problems and enabling students independently or to solve them with the help of their teachers. So, the main tasks of problem-based learning are to use educational technology to develop thinking skills of the individual learners. Again, it enhances their creative skills and promote the capacity of students to solve non-standard problems during active cognitive activities.

The modular learning approach uses educational technology to teach substantive modules. This approach is composed of the following components: target – the purpose and objectives of the study of a particular module. A module is meaningful and presents the basic content in unit terms. It also contains concepts and laws that are the essence of a particular section of the discipline. The analysis indicates each unit module is reflected in the scores that each student gains. Modular learning is associated with a ranking system control; the larger and more complex the module, the more points it is given.

The distance learning approach provides spatial distance learning subjects that interact with each other via telecommunications. This type of learning is built on the use of computer technology. It allows students to access the world and scientific treasures from anywhere where there is access to the Internet to communicate with teachers, professionals, peers from other cities, universities, and experts. It also allows students to choose from the system of training, and can simultaneously be in different virtual classes with their own pace of learning. The simultaneous participation in the Olympiad, where large number of students from different cities has the effect of their creative union and the general cooperation is an example. It allows students to publish their work online and in addition, remove the psychological problems associated with direct communication.

Next is the personality-oriented learning approach. This is also called the student-centered learning. This approach is based on the learner's identity, and self-worth of each person. This means that educational technology develops software based on the unique identification of individual subjective experience, abilities, interests, values, and consequently offers opportunities to realize themselves through knowledge acquisition, training activities, and behaviour.

Another function of educational technology is to provide a developing learning approach. This method is composed of an orientation of the educational process, contents, principles, methods. This promotes different levels or forms potential development of a person [intellectual, sensual, strong-willed sphere etc.]. The main task of the teacher in the process of developing training is to organize educational activities/subjects aimed at developing students' mental abilities, cognitive activities, independence, and cognitive interests using technology.

Finally, the mobile learning, which is becoming very popular in recent times offers learning based on an intensive use of modern mobile equipment and technology. It is closely linked to educational mobility in the sense that students are able to participate in educational activities without restrictions in time and space. The use of mobile technology opens up new opportunities for learning, especially for those living in isolated or in remote places who faces difficulties in accessing proximal traditional learning institutions. The ability to study anywhere at anytime, which is characteristic of mobile learning, is becoming the general trend of education in the information society.

Conclusion

The article discusses modern educational technology and give reasons to believe that they are of much importance when it comes to the art and science of teaching and learning. From the many definitions and descriptions of educational technology, the central theme is that it is associated with the unique capabilities of modern computers and telecommunications. Studies of many authors suggest that the main goal of modern information technology education is to get ready – students for a full life in the information society. The newest of modern technology is the technology of mobile learning which is based on intensive use of modern mobile equipment and technology.

Conflicts of Interest

The authors declare that they do not have any conflict of interest.

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

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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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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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RESEARCH ARTICLE

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Professional Trainee Teacher's Readiness to Use Cloud Technologies in Educational Process: The Role of Academic Motivation

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Abstract

This article examines the role of motivation in the formation of professional trainee teacher's readiness to use cloud technologies. The author observes that, it is possible to define the exact characteristics of the motivational criteria, which is a part of the motivational-valuable component of professional trainee teacher's readiness to use cloud technologies. These unique characteristics may include; (1) trainee teachers' knowledge of the importance of the pedagogical potential of cloud technologies, (2) their understanding of the importance of using cloud services in the training of their students, and (3) self-improvement, self-educational activity, the desire to create, implement and expand new ideas on using cloud technologies in the educational process.

Keywords: Cloud Technologies, Educational Process, Learning Motivation, Motivational Criteria of Professional Readiness, Motivational-Valuable Component, Trainee Teachers.

Introduction

"A cloud is an on-demand computing model composed of autonomous, networked IT (hardware and/or software) resources" (Hassan, 2011: 17). From a pool of computing systems and related resources come cloud computing or technology. Beginning from 2007, the term, 'cloud computing' was accepted into the scope of IT terminologies, though the concept of cloud computing is not new (Hassan, 2011). Presently, many fields are advocating for the use of cloud computing or technologies and the educational arena is not an exception (Ercan, 2010; Gartner, 2009).

According to Ercan (2010), the incorporation of cloud computing in education is very desirable for students and teachers. The impact of such technical progress on the process of professional and pedagogical activity is enormous. Influenced areas consist of; (1) the development of modern informational educational technologies [the Web 2.0, mobile studying, cloud technologies, etc.], (2) mainstreams the problem of training qualified and creative teachers, (3) assists in the provision of the means to master new opportunities for information and communication technologies [ICT], (4) provides effective pedagogical and information technologies to improve the quality of student learning, (5) provides opportunity for virtual educational environment, and (6) organizes the educational process at a high level, using modern information technology.

To foster the development of cloud technologies within the educational arena, a considerable rise in the motivation of trainee teachers as the main driving body – is chief. As a consequence, it is

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important for existing training institutions to examine their existing educational process for training professional trainee teachers to identify their readiness to use cloud technologies.

The Essence of the Concept – "Motivation"

In a global world with large-scale informatization of the educational system, teaching with the help of cloud technologies forms one of the keys to trainee professional success of students. The readiness to use cloud technologies by teachers should not only be an 'end', but rather, a 'means' to training.

It should also be the basic condition for an effective realization of each individual's potential. In this sense, the dialectical nature of readiness as both a quality of state as well as dynamic process cannot be taken too lightly. The study of the state of scientific development of the problem allows us to conclude that motivation and motives of behaviour and activity is one of the fundamental problems in psychology (Adusei, Sarfo, Manukure, & Cudjoe, 2016; Han, Yin, & Wang, 2016; Watt, & Richardson, 2007). Motivation is one of the most important factors that ensures the success of activities. All human activities depend on motivation that aims at achieving a clearly defined goal (Honcharenko, 1997; Watt, & Richardson, 2007).

In the dictionary of professional education, motivation [from lat. Motivation] is simply defined as an internal or external drive of a person in an activity to achieve certain goals (Vishnyakova, 1999). In some cases, motivation as a holistic process may eliminate the functional approach of studying some particular problems, facets, essence and conditions of development of individual motives, and their means of formation (Ilyin, 2000). As Asmontas (2002) noted, motivation allows the developing individual to determine not only the direction but also the ways to implement various forms of professional activities like emotional and volitional spheres. It is noteworthy that without a positive motivation, it is impossible to achieve great results in the personal career or professional development. The success of training activities among trainee teachers will therefore depend on their internal and external motivating factors.

Formation of Motivation among Trainee Teachers

The process of building drive in educational training of teachers may involve a complex system of motives. Organically, this system includes: cognitive needs, interests, efforts, ideals, and motivational attitudes that are active and directional in nature. Thus, academic motivation is characterized by both stability and dynamism (Zimnyaya, 2004). The notions of "educational motivation" and "professional motivation" are distinguished in psycho-pedagogical literature of trainee teachers. On the one hand, trainee teachers' motivation cannot be equated with the school educational motivation. This is because the nature regular students' motivation may not meet the professional requirements of future specialists' motivation to engage in professional teaching activities.

Professional motives desirable for trainee teachers have more intensive influence on the efficiency of educational activities than the cognitive ones required by regular students. It is therefore advisable that professional motives are prioritized in the hierarchy of motives when training professional teachers. Nonetheless, cognitive and professional motives in educational settings are closely connected with each other and both are necessary to enhance performance (Adusei et al., 2016).

From these premises, trainee teachers' readiness is a necessary component of both their motivation and successful professional career. It is a work that contains 'basic' professional and educational motive and 'related' motives.

Motivation Trainee Teachers to Use Cloud Technologies in the Educational Process

Equipping trainee teachers to build a stronger motivation, especially regarding the use of cloud technologies in the educational process is a vital process. Motivation to use cloud technologies among trainee teachers allows them to acquire both theoretical and practical knowledge on the use of cloud technologies in trainee professional activity. In addition, it takes into account their peculiarities in the organization of lessons with application of modern information technology, operational skills and abilities to work with cloud technologies, the development of reflective abilities, and emotional skills.

All the elements stated above interrelate, interact and integrate, and the consideration of each separate element is conditional. It is therefore important to apply the methods of active and interactive studying to: (1) create a problem situation, and (2) use a professional context in business games, situational tasks, and educational training to encourage growth of motivation of trainee teachers. The very structure of subject-subject interaction between teachers and students in the educational process should include: dialogue, pedagogical tact, and the creation of situations of success taking into account the interests and needs of students, and other reasonable requirements.

As a prerequisite, the successful formation of professional trainee teacher's readiness to use cloud technologies depends on both the drive, and the control of the dynamics of change in the educational process.

Motivational-Valuable Component as the Basis of Formation of Professional Trainee Teacher's Readiness

Motivational-valuable component is one of the main components in the formation of professional trainee teacher's readiness to use cloud technologies in the educational process. Komar (2011) explores wider, the motivational-valuable component. In her opinion, "*the study of needs, motives and interests of the individual is important in professional training of teachers. The needs of human, as says the scientist, though is impossible to do without, is the one of the vital drives that moves all activities of modern teachers*" (p. 89).

Thus, the motivational-valuable component is characterized by the trainee teachers' relation to work with cloud technologies. Specifically, this includes;

- their interest in cloud technologies,
- their desire to possess new cloud technologies and to achieve success in their acquirement,
- their ability to generate their own motivation, the level of confidence in their psychological and pedagogical readiness to implement cloud technologies in their own existing and future profession.

It can be said that the motivational criteria are indispensable when diagnosing the levels of formation of the motivational-valuable component of professional trainee teacher's readiness to use cloud technologies in the educational process. In the pedagogical dictionary, the criteria (from the Greek. kriterion – a mean for judgment [reasoning] is defined as "*the characteristic, based on which the evaluation, definition or classification of something; a measure of judgment, evaluation of a phenomenon*" (Kodzhaspirova, & Kodzhaspirov, 2005). H. Biletska notes that "*in the pedagogical science, criteria define the characteristics which assess and compare the pedagogical phenomena, processes etc.*" (Biletska, 2014: 20). Zamerchenko (2012) understands criterion is the qualitative characteristics of the object of the monitoring studies, the reference characteristic that is the basis for the classification.

As indicated by Reshetnyk (2013), "*the system of international standards ISO defines a criterion as a measure of the integrity of the reflection properties of the object, ensuring its existence; methodological means of management for education quality; the ideal sample, reflecting the higher, perfect level of the phenomenon under study; selection mean or measure alternatives. A measure is a specific measuring criteria, making it accessible to observation, recording and fixation*" (p. 218).

As a consequence, the motivational criterion to measure the formation of professional trainee teacher's readiness to use cloud technologies in the educational process is a measure to assess the degree of awareness that they require in order to embrace and use cloud technologies in both existing and future teaching career. It is worth stressing that the motivational criterion is regarded also as motives, interests, and needs that determine the individual's ability and aspiration to self-regulation, self-determination, self-reflection, self-affirmation. It is therefore characterized by; (1) the desire to acquire cloud services, (ii) the presence of personal interest to apply them in the educational process, (iii) awareness of the importance of mastering skills to use cloud technologies in the educational process, (iv) the presence of a clearly defined self-development program and, (v) the ability to be creative in new knowledge creation.

To assess the motivational criterion, it is necessary to examine the interests of trainee teachers to perform specially selected and developed tasks. This will help to establish how they

carry out self-examination, their ability to engage in self-cognitive and self-educational activities, how to regulate and adjust their actions when performing creative tasks, and the ways of manifesting willpower in difficult situations. Taking into account the degree certain measures of the motivational criterion manifest, it is important to examine the distinguished levels of formation of the motivational-valuable component of trainee teachers' readiness to use cloud technologies in the educational process.

These levels of formation may be high [research], middle [reflexive] and low [reproductive]. High level [research] of formation of the motivational criterion of professional trainee teacher's readiness to use cloud technologies is characterized by their perseverance during the carrying out of proposed tasks. The awareness of the importance of the pedagogical potential of cloud services, and the active aspiration of the students to master the needed information and technology knowledge is instrumental at this level. The trainee teacher has a strong motivation for continuous improvement and self-education activities. There is also the desire to create, implement and expand new ideas on the use cloud technologies in the educational process.

The middle level [reflexive] of formation of the motivational criterion of trainee teachers' readiness to use cloud technologies is also characterized by their understanding of the importance of the pedagogical potential of cloud services. Though trainee teachers at this level share the interest in using cloud services in educational process, they are anxious about the difficulties in organizing the training sessions with their implementation, self-improvement, self-education and the desire to create and expand new ideas on the use cloud technologies.

Finally, the low level [reproductive] of the motivational criterion of trainee teachers' readiness to use cloud technologies is characterized by the understanding of the pedagogical potential of cloud services, but do not by the desire to obtain the needed information and technological skills to work with cloud services. Trainee teachers at this level also lack the desire for self-improvement and are unable to commit to reproductive studying.

Conclusion

In summary, it is remarkable that the understanding of trainee teachers' motives, needs, interests, values, and aspirations regarding the implementation of cloud technologies is crucial for the development of education in any country. Prospects of further studies lie in the presentation of the results of experimental verification of the levels of formation of motivational-valuable component of the professional trainee teacher's readiness to use cloud technologies in the educational process. This paper has implications for research, training of future teachers and the development of global education.

Conflicts of Interest

The author declares no conflicts of interest in relation to this work.

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Ways to Realize the Subject-Subject Interaction in the Process of Teaching Foreign Language Communication

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Abstract

The article deals with the definition of the term "subject-subject interaction" on the grounds of the scientific and pedagogical literature analysis. This technology involves the highest level of pedagogical interactions which may be characterized by students' and teachers' cooperation, partnership and reflexive management. The author highlights the main ways to efficiently realize the subject-subject interaction in the process of teaching foreign language communication in higher educational establishments. In addition, it is proven that the application of these interactive technologies increases the interest of participants and increases their enthusiasm for information exchange. It also helps them to discuss academic problems, persist in their ideas, prove their point of view or to put forward other problem-solution.

Keywords: Foreign Language Communication, Interaction, Interactive Learning Technologies, Student, Subject-Subject-Interaction, Teacher.

Introduction

Nowadays, all educational systems in the world are undergoing significant transformations. It is becoming apparent that global educational systems at every level encourage educational interaction of its participants. These systems aim at the concordance of external influences to internal personality traits, which ensures the changes in the consciousness and behaviour. Such interpretation corresponds to the modern learning paradigm; new conceptual approaches – humanistic, constructivist, learner-centred pedagogical ideology (Alur, Fatima, & Joseph, 2002; Motschnig-Pitrik, & Mallich, 2004).

The modern learning paradigm make available the platform for the educational process to be organized as interactions between teachers and students. In contrast to the traditional dominance of teachers over students' cognitive activity, teachers these days reasonably play indirect role in their education and upbringing. Modern teachers take and treat each learner as a self-developing subject, encouraging and helping their professional and personal self-determination (Niemiec, & Ryan, 2009; Sarfo, & Adusei, 2015).

The Question of the Subject-Subject Interaction

Famous Ukrainian educators [H. Vashchenko, A. Makarenko, V. Sukhomlynskyi] devoted their time to work on the ideas of constructive pedagogical interaction in the educational process. Theoretical aspects of social and learning interactions have been grounded in the researches of such eminent psychologists [as Sh. Amonashvili, L. Vyhotskyi, V. Davydov, D. Elkonin, O. Leontiev.

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H. Andreieva, O. Bodalov, A. Dobrovych, M. Kahan, V. Kunitsyna, B. Lomov, and Ye. Melibrud] who researched into the processes of personal interaction from the point of view of communication psychology. Others [like Ye. Bondarevska, I. Bekh, V. Rybalka, V. Sierikov, O. Orlov, and I. Yakimanska] also analysed certain aspects of these processes in terms of the learner-centred approach. Kh. Liimets, V. Liaudis, A. Markova, O. Petrovskyi, D. Feldshtein researched the problem in the context of educational cooperation. However, the question of the subject-subject interaction in the process of teaching foreign language communication in higher educational establishments has not been studied thoroughly (Feschuk, 2016; Kasiarum, 2013; Pavlenko, 2003; Tarnopolsky, 2000). The purpose of this research is to describe the ways to realize subject-subject interaction in the process of teaching high school students to converse in a foreign language.

The Concept "Subject-Subject Interaction"

Interaction as a scientific category is characterized by a democratic nature that is based on the equality of the both sides of the pedagogical process. Both participants of the pedagogical interaction are in asymmetric relations in turns, depending on which side is the subject or the object of the educational process. Such equal relations cause reciprocal influence and changes that predetermine a peculiar form of the subject-subject interaction or cooperation.

In this article, the author treats the subject-subject interaction as the interchange of educational quintessence. It allows the privilege to enjoy equal rights between the subjects of the pedagogical process which takes place during joint educational activity and is mediated by interpersonal relations. In other words, subject-subject interaction explains the highest level of pedagogical interaction, which is characterized by students' and teachers' cooperation. This cooperation occurs in the form of both partnership and reflexive management.

At the high school level, the organization of the subject-subject interaction differs from the strictly rationalized approach to teaching and learning. Teachers desist from using traditional authoritarian teaching methods like the use of demanding discipline and critical remarks toward students. Rather, teachers appreciate each student as an integrated personality; whose development is the main aim of the educational process (Edward, 1991).

These conditions regulate the contemporary educational environment by encouraging the formation of students' pedagogical abilities. It also helps students to realize their personal potential. The establishment of such a favourable environment for both students' professional and personal development promotes their foreign language communicative competence.

To foster a sound subject-subject interaction environment, some scholars believe that the following characteristics should be in existence: (1) humanization of the pedagogical process when the subject of the learner's individuality is preserved; (2) humanization of pedagogical influence on the scientific methods; (3) bringing education closer to real life and using both personal and collective experience in this regard; and (4) communication of subjects' mutual support and respect (Dychkivska, 2004). In effect, such an environment harmonizes with the personal integrated world of the subjects, and it ensures their psychological comfort.

In the course of the analysis of the scientific and pedagogical sources (Dychkivska, 2004; Edward, 1991; Felder, 1994; Kagan, 1994; Lyaudis, 1980; Maksiuta, 2007; Roger, & Johnson, 2001), it had been found out that one of the efficient ways to realize the subject-subject interaction in the process of teaching foreign language communication is to use interactive learning methods. Interactive learning is known to be characterized by a high level of intensive interpersonal communication, activities exchange, wide range of kinds, forms and methods, and purposeful reflection of the participants.

Interactive Learning and the Process of Teaching Foreign Language Communication

Nowadays the term "interactive cooperation" is more often used in domestic and foreign literature in the context of learning foreign language. In a wider sense, interactive cooperation means a dialogue between any subjects – using all available ways and methods. Both sides actively participate in the dialogue, exchanging questions and answers. In the educational process, the education based on interaction is called an "interactive learning". The lexeme "interaction"; is derived from the English word "interact" (inter – mutual, act – do something). Interactive means cooperating with someone or something [e.g. a computer] in the form of a dialogue (Kagan, 1994).

So, interactive learning is, first of all, learning with the help of a dialogue, in the course of which cooperation is performed. Apart from this general description, interactive learning includes an extremely important element which allows teachers and students to treat it as one of the ways to realize the subject-subject interaction in the process of teaching foreign language communication. This component is the inner dialogue which means existential processing of the obtained information, giving it a personal sense in the process of reflection (Lyaudis, 1980). That is why, interactive learning methods are gaining more and more popularity nowadays, leading to the change in the type of interaction between teachers and students.

Interactive pedagogical cooperation is characterized by an intensive communication of its participants. It is aimed at the alteration, and improvement of teachers' and students' behavioural models and activities (Felder, 1994). At present, while teaching foreign languages in high school, special attention should be drawn to the interactive educational cooperation of the pedagogical process participant. The main signs and tools included in this process include: polylogue, dialogue, intersubjective relations, freedom of choice, content-creativity, creation of situation success, positive assessment, reflection, etc.

Interactive Technologies Used in Teaching Foreign Language

It is essential that the characteristic traits of the interactive technologies used in teaching foreign language meet the needs of time. Firstly, interactive learning calls for cooperation between the agents of the educational process [direct or indirect], which makes it possible to realize the ideas of peer training and collective mental work in the course of teaching and learning. Secondly, under the condition of applying interactive technologies, all the participants are interested in the result and are ready for the information exchange to discuss the problem, continue in their ideas, and to prove their point of view or suggest their variant of the problem-solution. Specifically, this fact proves the communicative aspect of the interactive learning together with the application of modern information technologies [distance learning]. Thirdly, this type of learning is based on real problems and professional situations. Learning reality is both personally and associatively motivated. That is, it gives rise to personal response to active communication, and, as a result, each educational process participant gains more personal experience.

The analysis of the following theoretical sources (Kagan, 1994; Lyaudis, 1980; Maksiuta, 2007; Osova, 2017; Panyushkin, 1984; Roger, & Johnson, 2001, Spencer, 1999; Tellis, 1997) allow one to single out some other ways to realize the subject-subject interaction in the process of teaching foreign language communication. For example, since the 1980s, British and American schools have been actively implementing such methods as cooperative learning in small groups, and team learning [learning in cooperation]. Learning in small groups [from two to five members] was used in Western Germany, the Netherlands, Great Britain, Australia, Japan, etc. as early as at the beginning of the XXth century. It is an important element of the pragmatic approach to education presented in John Dewey's philosophy and his project method (Rud, Garrison, & Stone, 2009). However, it was only in the 1980s that this approach was developed and described in detail by the three groups of American educators from The University of Minnesota – R. Johnson, D. Johnson ["Learning Together"], Elliot Aronson's innovators group from California ["Jigsaw"], from Johns Hopkins University – R. Slavin ["Team Learning" and "Jigsaw -2"]; research activities of those who learn in groups became the groundwork of Sh. Sharan's team from Tel Aviv University.

On the grounds of the scientific and pedagogical sources review (Osova, 2017; Panyushkin, 1984; Spencer, 1999; Tellis, 1997), five main elements of the cooperative learning can be singled out to include:

i. positive interdependency ["we'll drown or swim out together", coordinated actions, active work, rejoice at common success];
ii. coordination "face to face" [contribute to each other's success, support and assist one another];
iii. personal and group responsibility ["say 'no' to inactivity!"];
iv. interpersonal relations [active communication within the group and with the teacher, formation of skills to take part in discussions, to make decisions, to solve conflicts, trust building];

v. summarizing of joint actions results in groups [discussion of behaviour patterns, monitoring each team member's success, grades are of socio-academic character].

The educator either guides or consults the group, and the rest of their time can be devoted to the individual approach to each student. The authors of this method believe that teachers should be more concentrated on the questions of the group formation, that is on the students' placement according to their personal and psychological characteristics, level of knowledge, etc., as well as on the development of tasks to every group and activity stimulation and motivation.

Doctor Spencer Kagan developed a range of class activities that contribute to obtaining the best results from team work: "Think-pair-share" – triad. The triad concept means that, the individual thinking should be followed by a discussion with a partner and then sharing with the other team. In addition, the "three-step interview" or "Round Robin Brainstorming" presents the method of ideas generation through collective discussion with absolute freedom to suggest various solutions. Finally, the "three-minute review" or "Team Pair solo" allows working in the team, then with a partner, and then alone (Kagan, 1994).

Group Learning Versus Leaning in Cooperation

Group learning should not be identified with leaning in cooperation. According to the scheme of learning process participants' productive cooperation suggested by V. Liaudys, as well as collaboration dynamics formation developed by V. Paniushkin, three stages of cooperation formation are singled out. The first is a preparatory one, that is the stage of attraction to activity. The second is the stage of collaboration dynamics – agreement of teachers' and students' actions, the third is the partnership as the result of this process (Panyushkin, 1984).

In the course of the scientific search three principal differences have been found. Learning in cooperation is characterized by:

* the dependence on the single recognized aim which the students can reach only after joining their efforts;

* the dependence on the type of the award. Each learner gets the same, usually averaged [mediated], grade for their academic knowledge and all members' achievements together;

* dependence on the information sources, as a group member knows only a part of the general information, necessary for their contribution to taking the final team's decision.

The aforesaid allows us to claim that cooperative type of learning contributes to the enhancement of learning success because students do not compete with each other, but vice versa support one another. So, even a weak student feels a bit more confident and takes delight in the learning outcomes.

Subject-Subject Interaction and the Process of Teaching Foreign Language Communication

These days, the subject-subject interaction is widely used in the process of teaching foreign language communication in higher educational establishments. One of the popular methods is brainstorming. This is the joint active consideration of something, search for the truth on the grounds of the absolute prohibition of any sharp criticism of the ideas suggested by the participants, as well as the encouragement to express one's own thoughts, to take everything with humour (Santanen, Briggs, & de Vreede, 2004).

Another wide-spread form of interactive learning in teaching foreign languages in higher pedagogical educational establishments is also a role play (Limbu, 2012). Business games, used along with role plays, help to reproduce communicative environment which positively influences the formation of social and professional qualities of future specialists. Business games that are based on the methods of independent search for the best variants of the problem-solution not only improve theoretical knowledge, but also form functional skills, develop creativity and belief in oneself (Gooding, & Keys, 1990).

Using such methods as discussion, debates, and interview stipulates talking about a topical problem. They promote formation of value judgments and develop communication culture in case of favourable psychic atmosphere, mutual respect and interest. Simulation method includes artificial problem situations that represent various aspects of reality. It allows subjects to analyse a wide range of factors that influence them, find out the reasons why the communication was not

successful, gain personal experience. Situational method, or Case Study, one of the most popular ones in teaching foreign language, originated in Harvard Business School (Tellis, 1997).

Tellis (1997) underline in the definition of Case Study that teachers and students are in permanent interaction in order to do a particular professional [educational] task. Real "cases" or situations they choose offer justified behaviour patterns and arguments that are dictated by real life. The attention is focused on the process of professional skills formation, on deliberate knowledge acquisition, but not on automatic memorization typical for traditional authoritarian education. The obvious advantage of the educational interaction method is the development of students' value system, professional competitive qualities that appear as a result of creative, emotional discussion and solution of the simulated real problem. Teachers synthesize performance of several functions: communicative, educational, organizational and research ones. Accordingly, a Case Study is applied to help a future professional [especially in the areas of education, medicine, business and law] to understand the specificity of relations, motivation, responsibility types, to acquire communicative skills to adapt as quickly as possible to realities of future activity, etc.

Conclusion

This paper explores in detail, the process of teaching foreign language communication. The methods needed to realize the subject-subject interaction include: application of interactive, cooperative learning technologies and team learning (learning in collaboration). Interactive learning stipulates cooperation between the agents of educational process, which allows subjects to realize the ideas of peer training and collective mental work in the course of teaching and learning. Application of the above-mentioned technologies makes all the participants interested in the result and ready for the information exchange, problem discussion, perseverance in their ideas, proving their point of view or suggesting their variant of the problem-solution.

The above-mentioned ways to realize the subject-subject interaction in the process of teaching foreign language communication represent all levels of communication. Hence, it becomes clear that taking into consideration the type of teachers' and students' participation in a communicative educational action, their interpersonal relations, as well as the way of collaboration procedural realization is one of the most important conditions for efficient development of foreign language communicative competence.

Further investigations are necessary to study the experience of language interaction realization in the process of teaching foreign language in higher pedagogical educational establishments.

Conflicts of Interest

The author declares no conflicts of interest in relation to this work.

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RESEARCH ARTICLE

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Letters to the Editorial office

Staffing of Higher Educational Institutions of Ukraine in the Second Half of the XXth Century: Quality Assurance Issues

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Abstract

The importance of training researchers to provide quality higher education in Ukraine is an urgent need that cannot be ignored. As the world aims at attaining a golden age in education, it is crucial for countries like Ukraine to also take a second look at issues that may affect the quality of their education. The author reviewed educational regulations and analyzed some archival documents on educational policy regarding teachers' training and staffing of the Ukrainian Republic. It is remarkable that the ways of staffing higher educational establishments in the USSR between 1950 and 1990 revealed various successes and challenges of which, the Post-Soviet era today can learn from. It is important that future studies and policies look into how staffing issues affect the development of education in the independent Ukraine.

Keywords: Higher Educational Institutions, Quality Assurance, Research and Teaching Staff, Second Half of the XXth Century, Staffing, Ukraine.

Dear JARE Editors

A wide range of Ukrainian scientists [L. Berezovskaya, E. Goloborodko, A. Dubase, nuk, I. Zhorova, A. Zubko, B. Korolev, S. Krysyuk, A. Kuzminsky, V. Lugovoy, V. Maiboroda, A. Savchenko, N. Slusarenko, A. Sukhomlinska, I. Shorobura, Y. Sherbak, O. Yankovich, D. Doroshenko, O. Ohloblyn, M. I. Marchenko etc.] today study the national educational history. Research into the history of pedagogy gives an opportunity to reflect, to analyze and to make constructive critique of the past with the aim of transforming the establishment and development of the national system of education (Horak, 1965).

Most of the research on establishment and development of education in Ukraine began in latter part of the XXth and beginning of the XXIst centuries. Particular among them include; V. Vihrush who examined the development of theoretical and conceptual foundations of didactics [second half of XIX –beginning of XX century]. N. Hupan also researched on the development of the history of pedagogy in Ukraine. Others like M. Koziy also studied about the development of secondary teacher education in Ukraine [1945–1990] while M. Evtuh did a good work on the development of education and pedagogical thought in Ukraine [end of the XVIII – first half the XIX century].

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These were followed also by V. Lugoviy [who worked on the tendencies of pedagogical development in Ukraine (theoretical methodological aspect)], V. Mayboroda [worked on the formation and development of national higher teacher education in Ukraine (1917-1992)], L. Medvid [also worked on the history of education and pedagogical thought in Ukraine], N. Slusarenko [who studied the formation and development of labor education of girls in Ukrainian schools at the end of XIX–XX centuries], B. Struhanets [researched on the training of teachers in labor studies at higher educational establishments of Ukraine (1958-1994)] and O. Yankovic [who also worked on the development of educational technologies in theory and practice among higher pedagogical institutions of Ukraine (1957-2005)], etc. Notwithstanding these efforts, Ukrainian educational system has some quality assurance needs that are yet to be addressed (United Nations International Children's Emergency Fund [UNICEF], n.d.).

One of the important machineries of quality assurance for any educational establishment or institution is the availability of highly qualified personnel. The level of education which will form a component of future specialists depends on them. The governing structure of the Ukrainian SSR in the 1950s gave considerable attention to the faculty of the teacher training institutions [pedagogical Institute, teachers' institutes, pedagogical colleges, etc.] in order to improve their level of scientific work. However, as stressed by A. Onishchuk: "*the training of highly qualified personnel were governed exclusively by the Legislative Acts of the CPSU Central Committee and USSR Council of Ministers, which was copied by the relevant Ukrainian authorities. Established in the beginning of 1955, the USSR Ministry of Higher Education of the USSR (MBO USSR) controlled only academic and scientific work of universities and colleges located in the territory of the USSR*" (Onischuk, 2013: 182).

Research shows that the number of scientific-pedagogical personnel in the universities within the Soviet Ukraine kept growing continuously in the early 1950s. For example, "*in 1954, 19218 people worked in the universities, while about 23280 people were employed in 1959*" (State Statistical Publishing House, 1957: 445). Nevertheless, as remarked by A. Sergeychuk, "*the number of persons with academic degrees and titles did not meet the needs of higher educational institutions*" (Sergeychuk, 2002: 8). In a Memorandum titled, the "*status of training teachers in teacher education establishments in the Republic*", states that, higher educational establishments of the Republic in the 1950s recruited only 18.5% of teachers with scientific degrees and ranks. The issue of ensuring qualified teaching staff of universities was very acute, and therefore at the state level, some steps had to be taken to improve the situation.

In the 1950s also, there was an expanded admission for graduate schools. Moreover, permission was granted to undertake research trips, sabbaticals, internships and summer graduate school. Nominations were granted to able university graduates to teach. In addition to these policies, directives were given to universities to make use of the works of doctors and candidates of Sciences, and graduates of leading educational establishments. According to Sidorchuk (1998), "*training of scientific and scientific-pedagogical personnel in 1955 occurred in 85 high educational establishments and in 101 universities and research institutions, the Institute of Advanced Training of Physicians and the Institute for Training Teachers of Social Sciences*" (p. 13). For the period of the fifth five-year plan, the number of scientific workers in the USSR increased from 22.4 to 30.2 thousand persons, including doctors of Sciences – from 0.9 to 1.1 thousand and candidates of Sciences – from 6.1 to 10.6 thousand (Institute of History of Ukraine, n.d).

According to V. Kozlov, despite the improvement of the qualitative composition of teachers, the level of their academic qualifications regressed their quantitative growth (Kozlov, 1984). As a result, though the 1953/54 academic year for the universities recorded 15347 scientific-pedagogical staff, about 783 people had a degree of doctor of science with an additional 5010 being professors (Lyubchenko, 1954). Within that same period, the qualitative component of the personnel for educational institutions began to face some challenges. To curb these challenges, each College was required to prepare perspective plan for the training of scientific-pedagogical specialists through postgraduate studies including schedules for teaching staff. Nevertheless, such formal approaches to handling such situations were not favorable.

The document of 1972 titled "*the future development of higher education",* also focused on strengthening departments by employing highly qualified teachers. In particular: the extension of the practice with the "*secondment of qualified scientific and pedagogical staff in universities lacked highly qualified teaching staff for reading lecture courses, assisting in the improvement of*

the educational process and the organization of scientific research" (Lyubchenko, 1954: 9). This initiative was done to further improve the work of graduates at the Pedagogical Institutes and to also strengthen the controls over the preparation and training of scientific and pedagogical staff (Ministry of Education of the Ukrainian SSR, 1972).

The specificity of the Soviet period, given the subject of this paper showed that the main problems exhibited in the training of teachers were discussed at the reporting-election party conferences, plenums, the Bureau of the regional committees and the district committees of the party was covered on the pages of the Party-Soviet press. Party committees created a Commission to provide verification and implementation assistance to teacher training institutions and pedagogical colleges, education departments and schools, and other primary Communist party organizations. Meetings were held with heads of bodies of national education, principals, and secretaries of party organizations within educational institutions, municipal and district assembly of teachers, communists, intellectuals, meetings of party and Soviet workers, teachers, lecturers and students (Kozlov, 1984).

Actively monitored staffing of universities, as was required at the levels of both Ministry and faculties, reported on scientific and teaching staff of the university, faculty, department and their scientific capacity-building. For an example, the report on the work of the Department of Technical Disciplines in the 1986–1987 year at the Kherson Pedagogical Institute by Krupskaya (1986) noted that the population of employees included: teachers – 11, doctors of science – 0, candidates of Sciences, associate professors – 6, with no scientific degrees and titles – 5, and members of the CPSU – 3. One thing was certain with the past; the Communist Party controlled the system of education in Ukraine. Their controlled covered teachers' training, and the Council of Ministers RSRS. They also controlled the implementation of orders, decrees, laws of the Central Committee of the CPSU and ideological and theoretical content and methodological level of training sessions, best practices of teachers, the level of organization of pedagogical and industrial practice, and the qualitative composition of staffing.

Besides, the doctors who were in the system got overwhelmed due to the fact that most Ukrainians were not able to study the 'stuff' required in the doctoral programs. Chief among the factors that led to this decline was because they were not provided for by the normative legal documents of the USSR. It was as well found out that, there was a tight control over the staffing of higher education institutions by the Soviet leadership in the Ukrainian Republic. Undeniably, this control affected the vertical administrative interaction in the USSR and was actively built on the basis of normative-legal documents of the USSR (Krupskaya, 1986).

Subsequently, scientists from all Soviet republics were admitted into the doctoral program from only the leading Russian universities. Another challenge was that, it was opened only to those employers who have received appropriate directives, given the country's leadership in Moscow. In effect, this became a common feature for increasing the qualitative composition of teaching staff in higher educational institutions [i.e. steady tendency to train candidates of Sciences, associate professors] in Ukraine between the periods of 1950 and 1990. Taking to attention the complexity and the diversity of producing pedagogical personnel over the years, it is necessary for future studies in this direction to raise questions about the impact of these historical revolutions on modern day education in Ukraine. Concerns about the quantity and quality of staffing higher education establishments in the independent Ukraine can equally be looked at.

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