innovation. This approach involves not only the ability to solve, but also to formulate problems, to see a difficult situation from different points of view, to anticipate social and economic consequences. Interdisciplinary programs provide the necessary multidisciplinary training of international bachelors. Modern requirements for professional training include increasing the preparation of bachelors for future practical activities by diversity not only of content but also forms and methods of teaching. The generalization of scientific research results allows to identify positive ideas of experience in training bachelors of international relations in British universities, to substantiate recommendations for their creative use in modernizing the Ukrainian higher education system.

Key words: *international relations, experience of Great Britain, content of educational programs, bachelor programs in international relations, system of credits and modules.*

UDC 378:61]-048.37:34]-048.22(73)

Alla Kulichenko
Sumy State Pedagogical University Named after A. S. Makarenko
ORCID ID 0000-0003-1469-3816
Maryna Boichenko
Sumy State Pedagogical University Named after A. S. Makarenko
ORCID ID 0000-0002-0543-8832
DOI 10.24139/2312-5993/2021.01/317-330

THE U.S. ACTS ON INNOVATION ACTIVITY: IMPLEMENTATION OF THE PRINCIPLES IN MEDICAL EDUCATION

The article reveals the U.S. Acts on innovation activity, implementation of the principles in medical education. It turned out that in the 1980s, the American Congress passed numerous laws running the U.S. innovation activity even in the 21st century. Thus, there were the following significant Acts for medical education: the Stevenson-Wydler Technology Innovation Act of 1980, the Government Patent Policy Act of 1980 (a.k.a. Bayh-Dole Act of 1980), the Small Business Innovation Development Act of 1982, the National Cooperative Research Act of 1984, and the Federal Technology Transfer Act of 1986. Besides, at the end of the 20th century there was a report on the inspection of ten research universities implementing The Bayh-Dole Act of 1980.

Key words: *U.S. Acts, innovation activity, nonprofit institutions, medical education, research universities, innovations, patents, technology transfer, royalties.*

Introduction. The main activity of the first American medical schools was to train a sufficient number of specialists who would provide qualified medical care to the population after graduation. Subsequently, scientific activities were added to educational ones, the combination of which, as a result, gave rise to innovations. Although there were innovative activities when consciously or unconsciously improved the educational process. As a result, there were new principles, forms, and methods of teaching, which had positive effects and attracted students to study in a particular education institution.

With the development of scientific and technological progress, the human idea of nature and its possibilities changed. New inventions appeared, both material and intellectual, aimed at application in human life. The

inventors began to look for government support that could preserve their right to innovate and direct funds to the innovation activity.

The booklet "Innovation Policy: A Guide for Developing Countries" (2010) provides an accurate comparison of the government responsibilities (as the highest executive body in the country. – A. K. and M. B.) with the ones of a caring gardener concerning innovations. Therefore, the gardener should water the plants (provide finance and support to innovators), remove weeds (through competition and deregulation), fertilize the soil (research and disseminate information), and prepare it where plants can grow (promote education) (World Bank, 2010). Continuing the comparison, we believe that ensuring the production process requires constant monitoring, control, and protection from harmful external and internal factors (effective legislation).

As for one of the world leaders of innovations, the United States, this country began to form a legal framework for this field in the late 18th century.

If we talk about the 20th century, the U.S. federal government played a significant role in the development of one of the world's most successful innovation systems. In the second half of the 20th century, American science and technology enterprises grew rapidly. The federal investment brought enormous benefits to the national economy, national defense, health care, social welfare (Institute of Medicine …, 1995), and education.

Analysis of relevant research. The U.S. regulatory framework for innovations, its history of development has become controversial in the works by R. Berry, B. Carlsson, H. Ellsworth, D. Mowery, Ch. Smith, and others.

Besides, in the study, we have dealt with:

– the U.S. Acts on innovation activity: the Stevenson-Wydler Technology Innovation Act of 1980, the Government Patent Policy Act of 1980 (a.k.a. Bayh-Dole Act of 1980), the Small Business Innovation Development Act of 1982, the National Cooperative Research Act of 1984, and the Federal Technology Transfer Act of 1986;

– the document presenting a review of patent issues in the framework of research funded by the federal budget (1994);

– reports and booklets submitted by various U.S. government agencies and organizations, including "Allocating Federal Funds for Science and Technology" (1995), "Technology Transfer: Administration of the Bayh-Dole Act by Research Universities. Report to Congressional Committees" (1998), "Innovation Policy: A Guide for Developing Countries" (2010), "Diminishing Funding and Rising Expectations: Trends and Challenges for Public Research Universities, A Companion to Science and Engineering Indicators 2012" (2012), and others.

It is worth mentioning that this issue is relevant for the Ukrainian educational space and needs detailed consideration.

The study aims to cover the U.S. Acts on innovation activity, their implementation in medical education.

Research methods. In the article, we have applied analysis, synthesis, and systematization of facts on this issue; historical and chronological method – to study the development of the U.S. Acts on innovation activity, descriptive method – to present the content of American Acts on innovation activity and their implementation in medical education.

Results. If we turn to the origins of the American legal framework on innovation activity, it is necessary to mention the Patent Act of 1790.

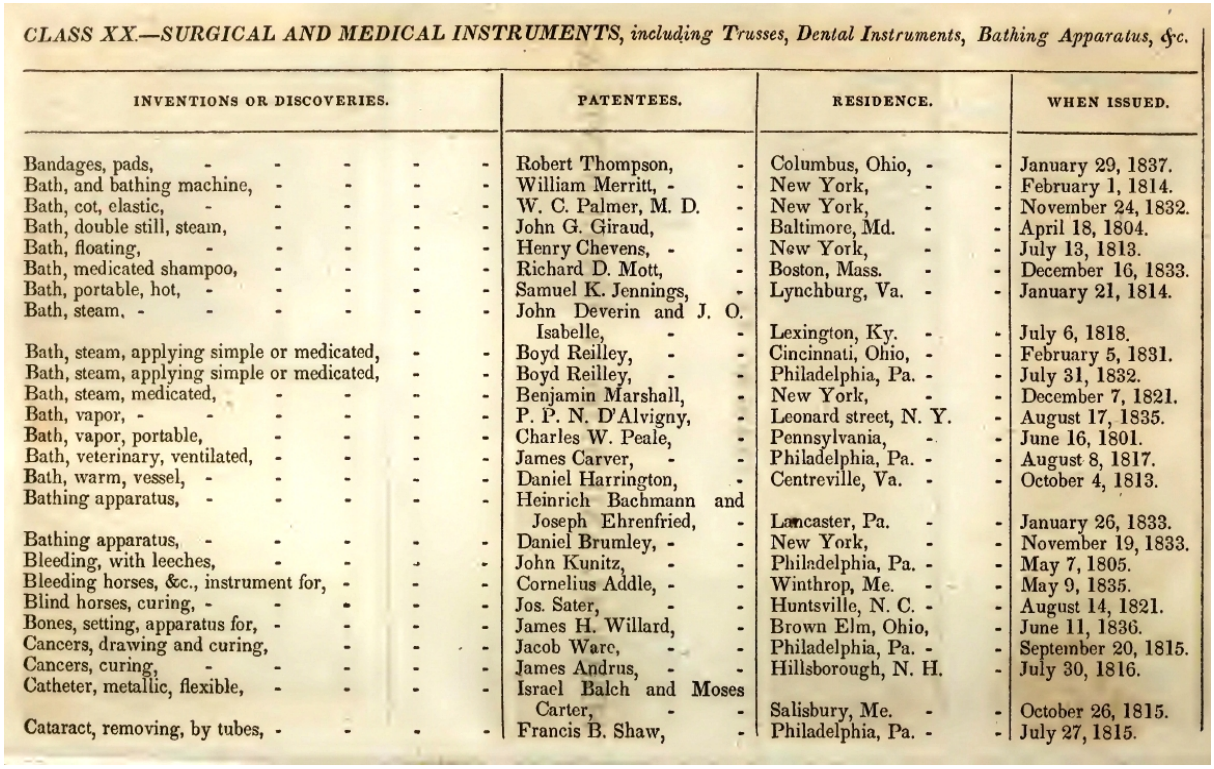
Ch. Smith pointed out that among the powers conferred on Congress by the Constitution was the promotion of the progress of science and useful crafts, guaranteeing for a time the authors and inventors the exclusive right to their works and discoveries. Thus, on April 10, 1790, Congress passed the Act, which marked the beginning of U.S. patent law (Smith, 1890).

The document of 1790 defined the objects for which a patent could be obtained as the invention or discovery of any useful craft, production, engine, machine, or device, or any other improvement of the above and previously unknown (Smith, 1890). Thus, a patent was convincing evidence in any lawsuit that the patent owner was the first inventor and that the invention was officially registered (Smith, 1890).

R. Berry stated that after the first Patent Act, numerous amended documents appeared in different years. There were the Acts of 1793, 1836, 1837, and 1870 – “they are an indispensable source for understanding the basic requirements of patent policy” (Berry, 2015). Each Act changed the requirements for inventions or discoveries, thereby disciplining their applicants and creating a legal awareness of liability in the case of false information.

W. Fisher, when defining the term “patent”, emphasizes that “patents also provide for new chemical compounds, food, and medicines, as well as the processes used to obtain them” (Fisher, 2019).

Thus, in “A Digest of Patents, issued by the United States, from 1790 to January 1, 1839: Published by Act of Congress Under the Superintendence of the Commission of Parents, to which is Added the Present Laws Relating to Patents” that covered 49 years, there were about 135 registered patents dealt with surgical and medical instruments (Fig. 1).



CLASS XX.—SURGICAL AND MEDICAL INSTRUMENTS, including Trusses, Dental Instruments, Bathing Apparatus, &c.

INVENTIONS OR DISCOVERIES.	PATENTEES.	RESIDENCE.	WHEN ISSUED.
Bandages, pads,	Robert Thompson,	Columbus, Ohio,	January 29, 1837.
Bath, and bathing machine,	William Merritt,	New York,	February 1, 1814.
Bath, cot, elastic,	W. C. Palmer, M. D.	New York,	November 24, 1832.
Bath, double still, steam,	John G. Giraud,	Baltimore, Md.	April 18, 1804.
Bath, floating,	Henry Chevens,	New York,	July 13, 1813.
Bath, medicated shampoo,	Richard D. Mott,	Boston, Mass.	December 16, 1833.
Bath, portable, hot,	Samuel K. Jennings,	Lynchburg, Va.	January 21, 1814.
Bath, steam,	John Deverin and J. O. Isabelle,	Lexington, Ky.	July 6, 1818.
Bath, steam, applying simple or medicated,	Boyd Reilley,	Cincinnati, Ohio,	February 5, 1831.
Bath, steam, applying simple or medicated,	Boyd Reilley,	Philadelphia, Pa.	July 31, 1832.
Bath, steam, medicated,	Benjamin Marshall,	New York,	December 7, 1821.
Bath, vapor,	P. P. N. D'Alvigny,	Leonard street, N. Y.	August 17, 1835.
Bath, vapor, portable,	Charles W. Peale,	Pennsylvania,	June 16, 1801.
Bath, veterinary, ventilated,	James Carver,	Philadelphia, Pa.	August 8, 1817.
Bath, warm, vessel,	Daniel Harrington,	Centreville, Va.	October 4, 1813.
Bathing apparatus,	Heinrich Bachmann and Joseph Ehrenfried,	Lancaster, Pa.	January 26, 1833.
Bathing apparatus,	Daniel Brumley,	New York,	November 19, 1833.
Bleeding, with leeches,	John Kunitz,	Philadelphia, Pa.	May 7, 1805.
Bleeding horses, &c., instrument for,	Cornelius Addle,	Winthrop, Me.	May 9, 1835.
Blind horses, curing,	Jos. Sater,	Huntsville, N. C.	August 14, 1821.
Bones, setting, apparatus for,	James H. Willard,	Brown Elm, Ohio,	June 11, 1836.
Cancers, drawing and curing,	Jacob Ware,	Philadelphia, Pa.	September 20, 1815.
Cancers, curing,	James Andrus,	Hillsborough, N. H.	July 30, 1816.
Catheter, metallic, flexible,	Israel Balch and Moses Carter,	Salisbury, Me.	October 26, 1815.
Cataract, removing, by tubes,	Francis B. Shaw,	Philadelphia, Pa.	July 27, 1815.

Fig. 1. Examples of patents registered between 1790 and 1839. Reference: (Ellsworth, 1840).

Moreover, patented tools became an integral part of the educational process in American medical schools. Sometimes they were sold abroad – for use in higher education institutions, where there was a medical profession.

In the 1890s, Ch. Smith argued that "a sanitary improvement may be invented and patented, but it can give no wealth to the owner of the patent unless it is adopted by a multitude of people whose comfort and health are increased by it, and who would not adopt it if it did not do this for them" (Smith, 1890).

In the 1880s, there was a period of economic depression and growing concern about the power of "big business" which marked the passage of the Sherman Antitrust Act in 1890. That affected the patent industry as courts declared patents invalid. The depression ended in the late 1890s, and interest in patents reappeared (*A brief history of…,* 2014, May 7). As a result, patent law stimulated the study of the mysteries of nature, which was as scientific with its methods and objects as any intellectual work the world had ever known (Smith, 1890).

In the first half of the 20th century, innovation policy as such did not exist. It was rather a way to promote country industrial competitiveness and social well-being, an adjunct to government action to develop defense technologies launched during World War II (World Bank, 2010).

In the second half of the 20th century, the United States began to dominate. There were the following reasons for the country leadership:

– destruction in Europe, namely in Germany and the United Kingdom;

– high absorption capacity as a result of significant funding for innovations;

– formation of a new generation of technology-oriented innovation systems, which together were considered as a “national innovation system” (Carlsson, 2011).

Despite the tangible success of federal efforts to support innovations, in the late 1970s, the academic community was utterly dissatisfied with federal policies for patenting scientific knowledge (*General Accounting Office…,* 1998).

B. Carlsson notes that “1980 represents something of a turning point. A number of institutional reforms mark a transition to a new technological regime in which new business formation plays an increasing role in converting new knowledge into economic growth. These institutional changes stimulated not only innovation but also entrepreneurial activity” (Carlsson, 2011).

As a result, in the 1980s, the American government actively passed numerous Acts ruling U.S. innovation activity in the 21st century. Let us briefly consider the Acts that are important to American society.

In October 1980, the U.S. Congress passed the Stevenson-Wydler Technology Innovation Act. In general, the Act aimed to encourage the improved use of federally funded technological developments, including inventions, software, and educational technologies, by state and local governments and the private sector. Moreover, attention was focused on encouraging the exchange of scientific and technical personnel among university, industry, and federal laboratories (*Stevenson-Wydler Technology Innovation Act,* 1980). The Act also described the transfer of technology from university research. Moreover, the Act initiated the establishment of the Office of Innovation and Entrepreneurship, a regional innovation program, a regional research and information program, a rational grant program, etc.

Besides, Congress encouraged organizations to innovate by launching various competitions and awards. For example, the Stevenson-Wydler Technology Innovation Act proposed that a National Technology Medal be awarded for outstanding contributions to the development of technology or the technological workforce to improve the economic, environmental, or social well-being of the United States. (*Stevenson-Wydler Technology Innovation Act,* 1980).

In December 1980, the Government Patent Policy Act (a.k.a. Bayh-Dole Act) was passed. D. Mowery et al. pointed out that the Bayh-Dole Act was preceded in the late 1940s by controversy over the use of intellectual property, which was the result of funding research from the federal budget. However, the decisive factor in

the adoption of the Bayh-Dole Act was that most American universities were already patenters and licensors (Mowery et al., 2004).

The purpose of the Bayh-Dole Act was to reform U.S. patent policy related to state-funded research. This Act allowed universities, nonprofits, and small businesses to retain ownership and implement federal-funded inventions. Moreover, it allowed federal agencies to grant exclusive licenses for federally owned technology (*General Accounting Office…,* 1998). We would like to add that other strategic tasks were the following: "to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise" (*Government Patent Policy Act,* 1980).

As for the term "nonprofit institution" in the mentioned Act, we compared its definitions (Table 1).

Table 1

The term "nonprofit institution" in American Acts in the 1980s.

Act, date of adoption	Definition of the term "nonprofit institution"
Stevenson-Wydler Technology Innovation Act, October 21, 1980	an organization owned and operated exclusively for scientific or educational purposes, no part of the net earnings of which inures to the benefit of any private shareholder or individual (Stevenson-Wydler Technology Innovation Act of 1980)
Government Patent Policy Act (a.k.a. Bayh-Dole Act), 12.12.1980	universities and other institutions of higher education <…> or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute (Government Patent Policy Act, 1980)

As a result of the rapid development of innovations, the U.S. Congress passed the Small Business Innovation Development Act in July 1982, which stated that "while small business is the principal source of significant innovations in the Nation, the vast majority of federally funded research and development is conducted by large businesses, universities, and Government laboratories" (*Small Business Innovation Development Act,* 1982).

The Act interpreted the term "research and development" as any activity that can be:

– systematic, intensive research aimed at gaining more knowledge or a deeper understanding of the studied topic;

– systematic research aimed at applying new knowledge to meet a specific need;

– systematic application of knowledge for the production of useful materials, devices, as well as systems or methodologies, including the design, development, and improvement of prototypes and new processes that would meet specific requirements *(Small Business Innovation Development Act,* 1982).

On October 11, 1984, the National Cooperative Research Act was passed, which meant the term "joint venture for research and development" as any group of activities, including attempts to create, develop or execute orders by two or more persons for:

– theoretical analysis, experiment or systematic study of phenomena, facts;

– development or testing of basic engineering techniques;

– expansion of research results, theories of scientific or technical nature in practical application for experimental and demonstration purposes, in particular, experimental production and testing of models, prototypes, equipment, materials, and processes;

– collection, exchange, and analysis of research results, etc. (*National Cooperative Research Act,* 1984).

On October 20, 1986, the Federal Technology Transfer Act was passed amending the Stevenson-Wydler Technology Innovation Act of 1980. The attention of the Act was focused on the intensive development of technology transfer (*Federal Technology Transfer Act,* 1986).

Note that the mentioned Acts, adopted in the 1980s, reinforced each other and, consequently, created the necessary legal environment for the development of innovation activity.

However, in 1994, a review of certain federal budget-funded research outlined in the Bayh-Dole Act took place. A positive result of the implementation of the Bayh-Dole Act was the unified patent procedure, active marketing of inventions by experienced university staff, protection of domestic interests, and promotion of research funded by the industry (United States…, 1994).

However, the public was concerned that the government did not properly regulate the final price of federal-funded technologies. Moreover, the question arose whether the federal government should participate in university-sponsored research awards and then be licensed to the private sector (United States …, 1994).

In education, the Bayh-Dole Act intensified the work of research universities, both public and private. As medical schools in the United States

are part of universities, it is important to consider how research universities have influenced the innovative activity of medical schools.

Research universities are institutions that have priority in discovering new knowledge and training doctors of philosophy in a wide range of disciplines. Although research universities also educate students, train professionals, and provide services to society, are engaged in applied work and technology transfer, their hallmark is the production of new knowledge, particularly in science and technology (Mohrman et al., 2008).

Research universities perform more innovative activities. Thus, they bring many potential benefits to the state and local economy. Research universities also provide a range of services to the state, including advanced health care and the promotion of natural resources at the state and local levels (National Science Board, 2012).

In 1998, the U.S. General Accounting Office submitted a detailed report "Technology Transfer: Administration of the Bayh-Dole Act by Research Universities. Report to Congressional Committees". The report stated that although the Ministry of Commerce issued implementing regulations and provided coordination in limited circumstances, the Bayh-Dole Act was applied by the funding agencies (General Accounting Office…, 1998).

The inspection visited ten large research universities and found that they all had officially approved programs and procedures for implementing the Act. Research universities had special units for reporting and licensing inventions, followed established procedures to enforce the law, set up computerized databases to monitor inventions, and actively continued to license inventions. According to the leadership of such universities, the Act had positive results and worked on the appointment of Congress. Moreover, universities and researchers have benefited more from their inventions and transferred technology better than when the government retained ownership of the inventions (General Accounting Office…, 1998). Table 2 provides information on the application of the Bayh-Dole Act in biomedical research at American research universities during the 1990s.

Table 2

The application of the Bayh-Dole Act in biomedical research at American research universities during the 1990s

No.	Name of the American research university	The application of the Bayh-Dole Act, achievements
1.	Columbia University	The technology transfer took place through the Columbia Innovation Enterprise and a second office on the Health Science Campus. The process patented in 1983 became innovative. It was connected with gene transfer and the

		production of a specific protein for commercial production. This process has been used by 28 pharmaceutical companies in the production of new medicines, especially for the development of blood-soluble protein. Other innovative inventions include Xalatan, a drug for the treatment of glaucoma, and Avonex, a drug for the treatment of multiple sclerosis
2.	Harvard University	The Office for Technology and Trademark Licensing was responsible for the implementation of the Bayh-Dole Act and technology transfer. Harvard Medical School had a separate licensing unit that reported to the Office for Technology and Trademark Licensing. Harvard Medical School was actively working with five hospitals, which in 1995 were among the best recipients of federal funding. When teachers or staff of Harvard Medical School were involved in the creation of the invention in one of the hospitals – a process was under the control of two organizations. In 1996, the institution received $3.9 million royalty from a contrast agent license for heart imaging. Another $ 1.3 million was received from licenses for research agents to determine DNA sequence
3.	Johns Hopkins University	The Johns Hopkins University School of Medicine's Office of Technology Licensing was established for: • its intellectual property policy, and this policy required reporting innovations at Johns Hopkins University; • an automated intellectual property database system with basic information on innovation (license revenues and costs). During the university's 1995 and 1996 fiscal years, the medical school received 60.9 percent of revenue from invention fees supported by federal research funds
4.	Massachusetts Institute of Technology	In 1940, the Technology Licensing Office was established to report, patent, and license inventions developed by faculty and staff at the Massachusetts Institute of Technology, the Lincoln Laboratory, and the Whitehead Biomedical Research Institute. In the 1990s, the research university received $91,679 royalties from the commercialization of diagnostic arrhythmia prediction technology developed with funding from various federal agencies

5.	Michigan State University	The Office of Intellectual Property was responsible for technology transfer. Inventions involving the use of platinum complexes as antitumor agents were successful
6.	Stanford University	In 1970, Stanford University's Office of Technology Licensing was established. In the fiscal year 1996, the university had 72 % royalties from the invention related to recombinant DNA. Another joint invention with the University of California was phycobiliproteins for cancer detection and other screening tests
7.	University of California	The Office of Technology Transfer was the responsible unit for the operation and management of the technology transfer program. In January 1990, independent technology transfer offices were established on the Berkeley, Los Angeles, San Diego, and San Francisco campuses. In the fiscal year 1996, an artificial lung surfactant, proposed in 1980, grossed $0.7 million. Another $1.6 million royalties came from a 1984 nicotine patch
8.	University of Michigan	In 1982, the Technology Management Office was established that reported, patented, and licensed inventions developed by faculty and staff. The medical school had its technology office, but without the authority to sign license agreements. The medical school collaborated with the technology management office on inventions in the medical field. One of the promising inventions was the intranasal influenza vaccine
9.	University of Washington	In 1983, the Office of Technology Transfer was established with the Health Science Sector, the Science-Engineering-Arts Technologies Sector, and the Software Sector. This unit was responsible for administering intellectual property policy at the University of Washington and coordinating technology transfer. In the 1990s, two inventions were largely responsible for the number of royalties received from the commercialization of the inventions of the University of Washington, namely the hepatitis B vaccine and the method of using yeast to produce interferon, a drug used to treat cancer
10.	University of Wisconsin-Madison	The Wisconsin Alumni Research Foundation dealt with questions concerning inventions. The discovery of vitamin D in 1971 led to new vitamin D derivatives for the treatment and

		prevention of osteoporosis, kidney disease, osteodystrophy, and other disorders associated with calcium deficiency. Moreover, there were conditions under which organs were kept out of the living body before transplantation. The invention received about $10 million of royalties

Reference: (General Accounting Office…, 1998).

Conclusions. Thus, the starting point for the U.S. legislative framework on innovation activity was the Patent Act of 1790, which approved state-owned patent objects. Significant Acts were also those adopted in 1793, 1836, 1837, and 1870. At the end of the 19th century, the adoption of the Sherman Antitrust Act led to the levelling of patents and patent policy. However, interest in innovations stimulated new researches. The first half of the 20th century, because of numerous historical events, changed the course of U.S. public policy and developed innovative activities to promote scientific and industrial competitiveness and meet social challenges. The second half of the 20th century marked the prospects for the United States as a world leader. However, in the late 1970s, the academic community was utterly dissatisfied with the legal framework for innovations. As a result, the 1980s were fateful, as the U.S. government actively passed many Acts governing U.S. innovations in the 21st century. The Stevenson-Wydler Technology Innovation Act of 1980, the Government Patent Policy Act of 1980 (a.k.a. Bayh-Dole Act of 1980), the Small Business Innovation Development Act of 1982, the National Cooperative Research Act of 1984, and the Federal Technology Transfer Act of 1986 were important for medical education.

The Bayh-Dole Act was rapidly implemented because it aimed to regulate innovation activity in American education institutions, including research universities. This Act received both positive and negative feedback, which in 1994 initiated a review of certain issues related to technology transfer. At the end of the 20th century, a report on the inspection of ten research universities stated the application of the Bayh-Dole Act.

As the article covered U.S. Acts on innovation activity, it is evident to analyze other documents relating to innovations in American medical education.

REFERENCES

A brief history of the patent law of the United States. (2014, May 7). *Ladas & Parry.* Retrieved from: https://ladas.com/education-center/a-brief-history-of-the-patent-law-of-the-united-states-2.

Berry, R. H. (2015). Researching the Early History of the Patent Policy: Getting Started. *Journal of the Patent & Trademark Resource Center Association, 25*. Retrieved from: https://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?article=1037&context=library_staff.

Carlsson, B. (2011). New knowledge: the driving force of innovation, entrepreneurship, and economic development. In D. B. Audretsch, O. Falck, S. Heblich, and A. Lederer (Eds), *Handbook of research on innovation and entrepreneurship,* (pp. 214-228). Cheltencham, UK; Northampton, MA, USA: Edward Elgar Pub.

Ellsworth, H. L. (1840). *A Digest of Patents, issued by the United States, from 1790 to January 1, 1839: Published by Act of Congress Under the Superintendence of the Commission of Parents, to which is Added the Present Laws Relating to Patents.* Washington: Printed by Peter Force.

Federal Technology Transfer Act of 1986, Pub. L. 99-502, 100 Stat. 1785. Retrieved from: https://www.govinfo.gov/content/pkg/STATUTE-100/pdf/STATUTE-100-Pg1785.pdf.

Fisher, W. W. (2019, 27 May). *Patent*. *Encyclopedia Britannica*. Retrieved from: https://www.britannica.com/topic/patent.

General Accounting Office, Washington, DC. Resources, Community, and Economic Development Div. (1998). *GAO/RCED-98-126 – Technology Transfer: Administration of the Bayh-Dole Act by Research Universities. Report to Congressional Committees*. Retrieved from: https://www.gao.gov/assets/rced-98-126.pdf

Government Patent Policy Act of 1980. Pub. L. No. 96-517, 94 Stat. 3015. Retrieved from: https://www.congress.gov/96/statute/STATUTE-94/STATUTE-94-Pg3015.pdf.

Institute of Medicine, National Academy of Sciences, National Academy of Engineering, and National Research Council (1995). *Allocating Federal Funds for Science and Technology. Washington, DC: The National Academies Press. https://doi.org/10.17226/5040.* Retrieved from: https://www.nap.edu/catalog/5040/allocating-federal-funds-for-science-and-technology.

Mowery, D. C., Nelson R. R., Sampat B. N., Ziedonis A. A. (2004). *Ivory Tower and Industrial* Innovation*: University-Industry Technology Transfer before and after the Bayh-Dole Act*. Stanford, CA: Stanford University Press.

Mohrman, K., Ma, W., Baker, D. (2008). The Research University in Transition: The Emerging Global Model. *Higher Education Policy, 21 (1)*, 5-27. Retrieved from: https://doi.org/10.1057/palgrave.hep.8300175.

National Cooperative Research Act of 1984, Pub. L. 98-46, 98 Stat. 1815. Retrieved from: https://www.congress.gov/98/statute/STATUTE-98/STATUTE-98-Pg1815.pdf.

National Science Board. (2012). *Diminishing Funding and Rising Expectations: Trends and Challenges for Public Research Universities, A Companion to Science and Engineering Indicators 2012.* Arlington, VA: National Science Foundation.

Small Business Innovation Development Act of 1982, Pub. L. 97-219, 96 Stat. 217. Retrieved from: https://www.govinfo.gov/content/pkg/STATUTE-96/pdf/STATUTE-96-Pg217.pdf.

Smith, Ch. (1890). A Century of Patent Law. *The Quarterly Journal of Economics, 5,* 44-69. Retrieved from: https://www.jstor.org/stable/1880832.

Stevenson-Wydler Technology Innovation Act of 1980, Pub. L. No. 96-480, 94 Stat. 2311. Retrieved from: https://www.govinfo.gov/content/pkg/STATUTE-94/pdf/STATUTE-94-Pg2311.pdf.

United States Judiciary Committee (1994). *The Bayh-Dole Act, a Review of Patent Issues in Federally Funded Research: Hearing Before the Subcommittee on Patents, Copyrights and Trademarks of the Committee on the Judiciary, United State Senate; One Hundred Third Congress, Second Session on Public Law 96-517; April 19, 1994.* Washington: U.S. Government Printing Office.

World Bank (2010). *Innovation Policy: A Guide for Developing Countries.* Washington, DC: The World Bank. Retrieved from: https://openknowledge.worldbank.org/handle/10986/2460.

РЕЗЮМЕ

Куличенко Алла, Бойченко Марина. Законы США об инновационной деятельности: внедрение их принципов в медицинском образовании.

В статье освещены законы США об инновационной деятельности, их реализация в медицинском образовании. Выяснено, в 1980-х гг. Американским конгрессом был принят ряд законов, регулирующих инновационную деятельность США и в XXI в. Для медицинского образования важными стали Закон Стивенсона-Вайдлера (1980), Закон о государственной патентной политике (также известный как закон Бэя-Доула) (1980), Закон об инновационном развитии малого бизнеса (1982), Закон о национальных кооперативных исследования (1984), Закон, который вносил поправки в Закон Стивенсона-Вайдлера о технологических инновациях (1986). В конце XX ст. был обнародован отчет о проверке 10 исследовательских университетов, которые реализовали Закон Бэя-Доула.

Ключевые слова: *законы США, инновационная деятельность, некоммерческие организации, медицинское образование, исследовательские университеты, инновации, патенты, трансфер технологий, авторский гонорар.*

АНОТАЦІЯ

Куліченко Алла, Бойченко Марина. Закони США про інноваційну діяльність: впровадження їх принципів у медичній освіті.

У статті висвітлено закони США про інноваційну діяльність, їх імплементацію в медичній освіті. Для досягнення мети розвідки було використано такі методи: аналіз, синтез і систематизація фактів із зазначеного питання; історико-хронологічний та описовий методи.

З'ясовано, що відправною точкою законодавчої бази США про інноваційну діяльність став Патентний закон 1790 р. Важливими законам стали також ті, що прийняті в 1793 р., 1836 р., 1837 р. та 1870 р. Наприкінці XIX ст. прийняття Антимонопольного закону Шермана призвело до нівеляції патентів та патентної політики. Однак, інтерес до інновацій стимулювати нові дослідження. Перша половина XX ст. через низку історичних подій змінила курс державної політики США й інноваційна діяльність розвивалася для сприяння науково-промислової конкурентоспроможності та задоволення соціальних викликів. Друга половина XX ст. ознаменувала для США перспективи як світового лідера. Проте, наприкінці 1970-х рр. освітня спільнота була вкрай незадоволеною законодавчою базою про інноваційну діяльність. Тому в 1980-х рр. американським конгресом було прийнято низку законів, що регулюють інноваційну діяльність США й у XXI ст. Для медичної освіти важливими стали Закон Стівенсона-Вайдлера (1980), Закон про державну патентну політику (також відомий як Закон Бея-Доула) (1980), Закон про інноваційний розвиток малого бізнесу (1982), Закон про національні кооперативні дослідження (1984), Закон, який вносив поправки до Закону Стівенсона-Вайдлера про технологічні інновації (1986).

Увагу сфокусовано на Законі Бея-Доула, оскільки він був націлений на регулювання інноваційної діяльності в американських закладах освіти, зокрема в дослідницьких університетах. Цей законодавчий документ отримав як позитивні, так і негативні відгуки, що ініціювало в 1994 р. перегляд певних питань, пов'язаних із трансфером технологій. Наприкінці XX ст. було оприлюднено звіт про перевірку 10 дослідницьких університетів, що застосовували Закон Бея-Доула.

Перспективним є аналіз інших нормативно-правових документів, що стосуються інноваційної діяльності у медичній освіті США.

Ключові слова: *закони США, інноваційна діяльність, некомерційні установи, медична освіта, дослідницькі університети, інновації, патенти, трансфер технологій, авторський гонорар.*

УДК 37:347.191.11(73)

Ірина Литовченко
Національний технічний університет України
«Київський політехнічний інститут імені Ігоря Сікорського»
ORCID ID 0000-0002-8578-3985
Юліана Лавриш
Національний технічний університет України
«Київський політехнічний інститут імені Ігоря Сікорського»
ORCID ID 0000-0001-7713-120X
Валентина Лук'яненко
Національний технічний університет України
«Київський політехнічний інститут імені Ігоря Сікорського»
ORCID ID 0000-0003-3748-2616
DOI 10.24139/2312-5993/2021.01/330-341

СУТНІСТЬ КОРПОРАТИВНОЇ ОСВІТИ ЯК СКЛАДОВОЇ ОСВІТИ ДОРОСЛИХ США

Вивчення різних аспектів теорії і практики корпоративної освіти як складової освіти дорослих у США потребує визначення понятєво-категоріального апарату дослідження, що дасть змогу систематизувати й охарактеризувати зв'язки між основними поняттями. Отже, результатом бібліографічного опрацювання проблеми корпоративної освіти стало визначення понятєво-термінологічного апарату дослідження. Для розкриття сутності поняття корпоративної освіти як складової освіти дорослих виокремлено та схарактеризовано базові поняття: «освіта», «неперервна освіта», «доросла людина», «освіта дорослих», «неперервна професійна освіта дорослих».

Ключові слова*: доросла людина, корпоративна освіта, освіта дорослих, неперервна професійна освіта, Сполучені Штати Америки.*

Постановка проблеми. Процеси глобалізації, інформатизації, інтеграції та інтернаціоналізації економіки, бізнесу та освіти, розбудова суспільства знань зумовлюють перехід до нової економіки – економіки, що базується на знаннях, стають найважливішими викликами для України й спонукають до пошуку нових підходів до розвитку людських ресурсів як необхідної умови конкурентоздатності організацій і сталого економічного зростання суспільства в цілому. На VI Міжнародній конференції ЮНЕСКО освіту дорослих було визнано головним інструментом розв'язання проблеми вдосконалення людських ресурсів (CONFINTEA VI, UNESCO, 2009). У цьому контексті особливого значення набуває корпоративна освіта як важлива складова освіти дорослих. За результатами досліджень, зарубіжні компанії розвинених країн світу розглядають корпоративну освіту як стратегічний інструмент