

**19<sup>th</sup> PCSF 2019**  
**Professional Culture of the Specialist of the Future**

**THE PROBLEM OF FORMING LEGAL CULTURE OF  
ENGINEERING UNIVERSITY STUDENTS**

Konstantin Indyk (a), Dmitriy Mokhorov (b)\*, Yulia Dorovskaya (c), Kristina Semenova (d)  
\*Corresponding author

(a) Peter the Great St. Petersburg Polytechnic University (SPbSTU), Polytechnicheskaya, 29, St. Petersburg, 195252, Russia; konsind01@rambler.ru

(b) Peter the Great St. Petersburg Polytechnic University (SPbSTU), Polytechnicheskaya, 29, St. Petersburg, 195252, Russia; mokhorov@mail.ru

(c) Peter the Great St. Petersburg Polytechnic University (SPbSTU), Polytechnicheskaya, 29, St. Petersburg, 195252, Russia; juilador@mail.ru

(d) Peter the Great St. Petersburg Polytechnic University (SPbSTU), Polytechnicheskaya, 29, St. Petersburg, 195252, Russia; semenova86@bk.ru

***Abstract***

The article analyzes challenges in teaching legal disciplines at higher schools of engineering focus and describes the contributors own practical experience in the issues under consideration. The authors substantiate the need to critically rethink approaches to teaching legal disciplines at engineering universities, emphasizing the low level of legal consciousness and legal culture among students. While designating the degree of the problem, the authors suggest ways to increase the overall level of legal literacy of students and cite as an example one of the interactive engagement methods of students in legal practice. The authors underpin their research with the theoretical frameworks and hands-on experience of researchers from Russia and abroad. The main research methods included analysis, synthesis, questioning, observation, survey, and comparison. The authors have explored into the issues of legal education, formation of legal culture among engineering students and suggested the most efficient ways to overcome the crisis of legal knowledge. In research, the authors developed and described an interactive engagement method of students studying legal disciplines in the realities of practicing law. The study resulted in the following basic conclusions: the main objectives of teaching legal disciplines at engineering universities are to enhance legal literacy, legal culture and legal consciousness of students; educating specialists capable to provide legal support in the industry is impossible without overcoming ignorance of law; the dialectical connection between the level of students' legal consciousness and the quality of their legal education is one of the key factors of efficient educational process.

© 2019 Published by Future Academy [www.FutureAcademy.org](http://www.FutureAcademy.org).UK

**Keywords:** Education, legal education, legal consciousness, legal nihilism, legal culture, legal literacy.



## **1. Introduction**

The issue of developing legal culture and legal consciousness in Russia and worldwide is always relevant. A lack of knowledge about rights and obligations reduces the possibility of their efficient implementation by an individual, and makes it impossible for such individual to achieve legally significant goals, no matter what legal system such individual lives in. This problem is typical not only for Russia, but also for the countries of the European Union, the U.S., and others.

The most efficient tool for solving this matter is legal education. In Russia, the basic foundations of legal education are embedded in the high school curriculum, but as the practice shows that knowledge of school students in the field of law is fragmentary and shallow. Law universities offer a great opportunity to yesterday's school students to dramatically improve the level of legal knowledge, but when it comes to engineering university students, the problem of enhancing the level of legal knowledge arises most acutely.

The challenges arising in promoting legal culture of engineering university students are studied extensively, however no more or less distinct technique so far in the educational process of engineering universities exist.

As the study is aimed at identifying the problems of legal education at engineering universities, the study, along with international and Russian scientific sources, also refers to key publications of Peter the Great St. Petersburg Polytechnic University faculty members, which over the past decades have been successfully training lawyers who are ready to provide legal support in industry.

## **2. Problem Statement**

Over the past decades due to specificities in socio-economic development of the state the importance of legal education is increasing. In this regard, in the literature one can often come across the term 'legal pedagogy, which means the dissemination of legal knowledge among the population' (Alekseev, 1979, p.23). Its educational function is noted as one of the features of legal pedagogy (Zhelezovskaya & Khizhnyak, 2018). The development of legal education is associated with the need to develop legal culture and literacy. Legal education is especially relevant in the education of young people, including students of higher schools (Nikolić et al., 2018).

As Kovbenko (2014) rightly notes, in today's environment engineers often have to independently monitor the entire production process, including the conclusion of various supply contracts as well as they also require knowledge in such areas as labor, corporate legislation, consumer protection laws.

In reliance upon experience of teaching legal disciplines to students studying engineering and law sciences at Peter the Great St. Petersburg Polytechnic University, one of the factors that impedes students' quality learning legal issues is the presence of legal nihilism in the legal consciousness of students. Cautious attitude to the performance of public authorities, a lack of faith in the power of law is typical both for future engineers and, unfortunately, for future lawyers.

At the same time, of course, one cannot deny the existence of facts of violations of human and civil rights and freedoms. It is rightly noted that this circumstance is one of the negative factors affecting the development of legal nihilism in society, including among students (Dzhiembaev, 2018).

Analysis of the survey materials of working with engineering university students shows that the majority of students consider the study of law necessary and mandatory, since legal knowledge is constantly used by them in everyday life, will be used in professional activities, and, in general, enhance the general cultural level of the future specialist (Kovbenko, 2014).

Modern industrial production in Russia is impossible to imagine without legal footing aspects; therefore, it is important to note in this regard that legal literacy of an engineering specialist in industry is essential.

It is obvious that the area of professional activity of future engineers will be in the industry, information technology, development and creation of weapons and military equipment, etc.

Not less responsibility lies with the faculty members who lecture legal disciplines for students studying in engineering areas and specialties, for the quality of students' legal training, as well as enhancing their legal culture and legal consciousness.

In view of the foregoing it seems necessary to note that one of the main tasks of teaching legal disciplines at engineering universities is to increase the legal literacy of students, enhance their legal culture and legal consciousness. The implementation of these tasks is possible, first of all, by explaining to the students the essence of their legal status and mechanism for protecting the rights and freedoms of man and citizen.

### **3. Research Questions**

It seems necessary for the authors consider it necessary to investigate first of all questions about the definition of the main objectives for the teaching of legal disciplines at engineering universities; whether it is possible to surmount legal nihilism among students not majoring in law at the universities when conducting classes in legal disciplines. This issue is important as the level of legal literacy of such students is much lower than the level of law students; to identify the relationship between the level of students' legal consciousness and the quality of their legal education; on the development of ways to improve the effectiveness of legal education at engineering universities, and the main task is the search for new forms and methods applied in their educating.

### **4. Purpose of the Study**

The basic purpose of the research is to study the issues of the formation of legal consciousness and legal culture of engineering university students and to develop proposals for addressing them. This goal determines the formation of following specific tasks: to find ways to form and reinforce the lawful behaviour of future specialists; to determine the main objectives of teaching in delivering classes in the disciplines of the legal area for engineering university students; to identify the main reasons for the low level of legal consciousness and legal culture of students.

### **5. Research Methods**

The main research technique applied included such methods as analysis, synthesis, questioning, observation, survey, and comparison.

The key method of the research was the sociological method, where the opinion of a large number of students was gathered and analyzed using oral surveys and a written questionnaire technique.

In addition, the authors used the method of interactive involvement of future lawyers in real practical activities.

## 6. Findings

St. Petersburg Polytechnic University is one of the universities which successfully produce bachelors and masters in 'Jurisprudence'. Initially, the goal of creating legal education at the polytechnic university was to train qualified personnel who provide legal support in the field of industry. Today, observing educational traditions, the process of receiving classical legal education at the Polytechnic University involves the students studying special issues related to legal regulation in such areas as energy, environmental management, environmental protection, construction, etc.

The issue of the importance to teach legal disciplines to those studying relevant engineering skills (Klochkova, Bolsunovskaya & Shirokova, 2018) is often raised so far due to 'the increase in entities of various legal forms and management patterns...' (Porat, Bolshakov, & Zemlyakov, 2016, p. 10).

Peter the Great St. Petersburg Polytechnic University undertakes a lot of studies on the professional competences of engineers and improvement of the quality of their training (Akhmetshin et al., 2019; Almazova, Baranova, & Khalyapina, 2019; Kogan, Gavrilova, & Nesterov, 2018; Kuzmin, 2018; Necheukhina, Matveeva, Babkin, & Makarova, 2017; Pokrovskaya, Petrov, & Gridneva, 2018; Rudskoy, Borovkov, & Romanov, 2018).

As noted by one of the authors of the Constitution of the Russian Federation, S.S. Alekseev, '... legal nihilism is much spoken about at the highest level, and I would say even tougher: we are faced with a total underestimation of law. All the difficulties experienced by our society are connected with this' (cite by Died One of the Authors, 2013, para. 10). The issue of the efficient struggling against legal nihilism, including among young people and students, as well as raising their level of legal consciousness is given much attention in the scientific literature (Snetkov, 2016). The following methods are identified in the scientific literature as methods of fighting against legal nihilism: law education (e-edition Rzezpospolita), legal upbringing, formation of respect for the law, development of cooperation of educational institutions with other institutions of society, including the law-enforcement bodies and the army, increasing the effectiveness of measures for combating corruption and official misconduct (Demidov & Mokhorov, 2018).

It would be necessary to agree with the point of view that high-quality training of highly qualified personnel in the legal area is one of the efficient ways of dealing with legal nihilism (Kosenko, Avlasevich, & Shitova, 2018). In future the law school students will be employed in government authorities, including law enforcement bodies, judicial system, and will be actively involved in the development of normative legal acts, and in the enforcement activities. The level of legal consciousness of future specialists will directly depend on the level of professional training and legal consciousness of students, which will characterize the effectiveness of their learning of legal educational material at the training stage at the engineering university.

It seems fair to say that one of the reasons for legal nihilism, including among students, is the conviction that the activities of law enforcement bodies are entirely external in nature (Baboshin, 2011). It

is also necessary to agree with the fact that ‘...legal conscience of law enforcement representatives should not be subject to the destructive influence of legal nihilism’ (Podolsky, 2017, p. 123).

It is obvious that legal culture forms in a human, first of all, a respectful attitude to the legal system of the state, which is expressed in knowledge of rights and obligations as a participant in legal relations, forms the bases of a respectful attitude to the legal goals of other participants in legal relations. Ultimately, all this forms the so-called ‘legal behavior’ (Gruter, 1979). In addition, legal culture provides the possibility of forming in the legal consciousness of people an awareness of legal responsibility, non-acceptance of destructive behavior in the field of law, both on one’s own part and for other persons.

As the authors’ experience shows at the beginning of the study of the Law discipline, students, as a rule, demonstrate an interest in legal science, but often express a lack of confidence in the possibility of realizing their knowledge. Disbelief in the power of law is primarily due to the low legal literacy of students. For example, often students, in spite of the study of legal units within the school subject ‘Social Studies’, are not aware of the mechanisms of work of the most important institutions of our state. For example, when conducting a survey among students in the first class of the law discipline, students, as a rule, have a vague idea about the system of government bodies of Russia, and do not know the current procedure for examining complaints from citizens. The results of the student survey indicate that students themselves often do not have negative experience when interacting with governmental authorities, but students’ distrust in the existing law and the legal system of the country is mainly based on information obtained from the media, from stories of relatives and acquaintances.

Analyzing the experience of teaching the Law discipline to students studying at Peter the Great St. Petersburg Polytechnic University in engineering, it cannot but be mentioned that students have an interest in studying legal issues, especially directly affecting the areas of legal regulation related to their future professional activities. At the same time, students often show an interest in areas of law that do not directly relate to their profession, but help them in carrying on their professional activities. For example, first-year students of the Institute of Physics, Nanotechnology and Telecommunications of Peter the Great St. Petersburg Polytechnic University when studying the Law discipline in the spring semester of 2019 were primarily interested in issues related to the legal protection of intellectual property, the procedure for registering legal entities and individual entrepreneurs, essential terms of the conclusion of various transactions.

The methods applied have allowed making the general conclusion that among future lawyers, legal nihilism is inherent in the legal consciousness of predominantly students of junior years. A higher level of legal consciousness and legal culture is characteristic of senior year students who have already studied the specific mechanism of legal regulation and law enforcement and have already started practicing law.

For students enrolled in engineering and specialties, legal nihilism is characteristic of both junior and senior year students.

In the course of research, we found out that the depth of the problem of legal nihilism is differentiated depending on the level of legal education of students and the area of their education: the level of legal awareness among students majoring in engineering sciences is extremely low, among students of jurisprudence the level of legal nihilism increases from low to higher based on the year of study.

It causes no doubt that a high level of legal culture of an engineering university student should become one of the primary goals for law faculty members. The use of various techniques in the educational process is, of course, contributes to increasing the level of legal literacy, based on knowledge of rights and obligations.

One of examples of teaching experience in enhancing legal culture and legal consciousness of students of St. Petersburg Polytechnic University majoring in jurisprudence was the involvement of students to participate in activities related to the provision of legal assistance to boarders leaving children's homes. Fourth-year students of the law department prepared detailed recommendations on the basics of Russian legislation on issues such as the realization of the right to education, social security, the right to work, to housing, and on the public health issues. The experience gained at such event inspired students so much that they expressed a desire to continue their work within the walls of children's homes and establish a special telephone line for operational advice. The activity, in which the law students were involved, is basically a legal training, both for students and orphanage boarders. Student participation in the legal training of children's home boarders and their graduates has helped to realize future lawyers, that the main objective of the legislator, official, law-enforcement officers is to protect and defend legitimate interests of citizens - especially those who are unable to protect their rights on their own, belong to socially vulnerable groups of population. Thus, the constitutional norm in the learning process is learned by students as an element of their world view and as a part of their professional legal consciousness.

We believe that this practice can and should be introduced into the program of law clinics. In many countries the Universities and inter alia Turkey, have followed this path of development of the law educational process (Uyumaz & Erdoğan, 2015).

Clearly, we believe that the key foundations for fostering a high level of legal culture of engineering university students are basic knowledge in the legal field, including both basic main general regularities of the state and law, and private patterns of law branches and certain areas of law sciences (This knowledge will provide young professionals with more opportunities to compete in the labor market both in Russia and abroad as a matter of course); a wide variety of special forms and methods of the educational process, which would allow more effectively assimilating legal knowledge and skills that are difficult for a technical university student; clear awareness by students that they will work in teams where relations are regulated among other things by rules of labour law.

## **7. Conclusion**

1. The main goals of teaching legal disciplines at engineering universities are to enhance legal literacy, legal culture and legal consciousness of students, to train specialists who are able to provide legal support in the field of industry, development of information technologies, environmental management, etc.

2. Analysis of the data obtained from a survey of students majoring in engineering and law, has shown that the main factor hindering the quality of legal training of students, is legal nihilism among students which is a reflection of mass legal consciousness.

3. Based on an extensive review of the scientific literature, it is possible to reveal the dialectical relationship between the level of legal consciousness of students and the quality of their legal education.

The activities of modern graduates in government authorities will have a direct impact on the level of legal consciousness, and, as a result, on the level of legal literacy of future specialists.

4. As one of the efficient methods and ways of raising legal consciousness of students, it is proposed to involve the students themselves in the process of legal education and counseling of people who need to acquire basic knowledge of legal reality. Experience of legal education by future lawyers of children's home graduates contributed to the development of students' legal consciousness, enhancing the level of their legal culture, awareness of the main role of a lawyer as a defender of the rights and freedoms of man and citizen.

## References

- Akhmetshin, E. M., Mueller, J. E., Yumashev, A. V., Kozachek, A. V., Prikhodko, A. N., & Safonova, E. E. (2019). Acquisition of entrepreneurial skills and competences: Curriculum development and evaluation for higher education. *Journal of European Economy*, 22(1). Retrieved from: <https://www.abacademies.org/articles/acquisition-of-entrepreneurial-skills-and-competences-curriculum-development-and-evaluation-for-higher-education-7814.html>
- Alekseev, A. I. (1979). Kriminologia i Pedagogika [Criminology and Pedagogy]. *Soviet State and Law*, 10, 89-93. [in Rus].
- Almazova, N., Baranova, T., & Khalyapina, L. (2019). Development of Students' Polycultural and Ethnocultural Competences in the System of Language Education as a Demand of Globalizing World. In Z. Anikina (Ed), *Going Global through Social Sciences and Humanities: A Systems and ICT Perspective. GGSSH 2019. Advances in Intelligent Systems and Computing*, 907. (pp. 145–156). Cham, Switzerland: Springer.
- Baboshin, V. V. (2011). Moral'nyy i pravovoy nihilizm: sravnitel'nyy analiz. [Moral and Legal Nihilism: a Comparative analysis]. *The science. Innovation. Technology*, 76, 125-131. [in Rus].
- Demidov, V., & Mokhorov, D. (2018). Professional Culture Of A Specialist In The Field Of Jurisprudence. *The European Proceedings of Social & Behavioural Sciences*, 51, 932-942 <https://doi.org/10.15405/epsbs.2018.12.02.101>
- Died one of the authors of the Constitution of Russia (2013, May 13). *Vesti.ru*. Retrieved from <https://www.vesti.ru/doc.html?id=1083904&cid=7>
- Dzhiembaev, R. K. (2018). O probleme povysheniya urovnya pravosoznaniya i pravovoy kul'tury grazhdan [On the Problem of Raising the Level of Legal Consciousness and Legal Culture of Citizens]. *Bulletin of the Institute of Legislation of the Republic of Kazakhstan*, 3(52), 30-37. [in Rus].
- Gruter, M. (1979) The origins of legal behaviour. *Journal of Social and Biological Structures*, 2(1), 43-51.
- Klochkova, E. S., Bolsunovskaya, M. V., & Shirokova, S. V. (2018). The Significance of Humanities for Engineering Education. In S. Shaposhnikov (Ed.), *Proceedings of the 2018 XVII Russian Scientific and Practical Conference on Planning and Teaching Engineering Staff for the Industrial and Economic Complex of the Region (PTES)* (pp. 265–268), St. Petersburg, Russian Federation: IEEE. <https://doi.org/10.1109/PTES.2018.8604199>
- Kogan, M. S., Gavrilova, A. V., & Nesterov, S. A. (2018). Training Engineering Students for Understanding Special Subjects in English: The Role of the Online Component in the Experimental ESP Course. In Prudnikova Y. (Ed), *IV International Conference on Information Technologies in Engineering Education (Inforino)*; (18326949). Moscow: IEEE. <https://doi.org/10.1109/INFORINO.2018.8581837>
- Kosenko, A. A., Avlasevich, I. A., & Shitova, T. V. (2018). Pravovoy nihilizm v sovremennoy Rossii. [Legal Nihilism in modern Russia. *The Era of Science*, 16, 34-36 Retrieved from: <https://cyberleninka.ru/article/n/pravovoy-nihilizm-v-sovremennoy-rossii-1> [in Rus].
- Kovbenko, N. D. (2014). Prepodavaniye prava v tekhnicheskom vuze. [Teaching Law at a Technical University]. *Problems and Prospects News SPbGAU*. 37, 308-313. Retrieved from

- <https://cyberleninka.ru/article/n/prepodavanie-prava-v-tehnicheskome-vuze-problemy-i-perspektivy> [in Rus].
- Kuzmin, A. (2018). Student final grading method for informatics and computer architecture. In S. reija, & S. Skujeniece (Ed), *Engineering for Rural Development, 17, 17th International Scientific Conference Engineering for Rural Development*; (pp. 1091-1095); Latvia University of Agriculture: Jelgava, Latvia.
- Necheukhina, N. S., Matveeva, V. S., Babkin, I. A., & Makarova, E. N. (2017). Modern approaches to the educational process aimed at improving the quality of highly qualified personnel training. In S. Shaposhnikov (ed.) *Proceedings of the 2017 IEEE VI Forum Strategic Partnership of Universities and Enterprises of Hi-Tech Branches (Science. Education. Innovations) (SPUE)*; (pp. 192–195), St. Petersburg, Russian Federation; IEEE.
- Nikolić, V., Kaljevic, J., Jović, S., Petković, D., Milovančević, M., ... Dachkinov, P. (2018). Survey of quality models of e-learning systems. *Physica A: Statistical Mechanics and its Applications, 511*, 324-330.
- Podolsky, V. V. (2017). Pravovoy nihilizm kak osobaya forma deformatsii pravosoznaniya v sovremennoy Rossii. [Legal Nihilism as a Special Form of Deformation of Legal Consciousness in Modern Russia]. *Bulletin of the Adyge State University. Series 1: Regional Studies: Philosophy, History, Sociology, Jurisprudence, Political Science, Cultural Studies, 1(194)*, 123.
- Pokrovskaya, N. N., Petrov, M. A., & Gridneva, M. A. (2018). Diagnostics of Professional Competencies and Motivation of the Engineer in the Knowledge Economy In A. Zhuravlev (ed) *Proceedings of the 2018 Third International Conference on Human Factors in Complex Technical Systems and Environments and Environments (ERGO)*, (pp. 28–31), St. Petersburg; Russian Federation; IEEE.
- Porat, B. O., Bolshakov, E. V., & Zemlyakov, Y. D. (2016). Problema prepodavaniya yuridicheskikh distsiplin v tekhnicheskome vuze. [The Problem of Teaching Legal Disciplines at the Technical University]. *News TSU. Economic and Legal Sciences, 2(1)*, 10-14. Retrieved from <https://cyberleninka.ru/article/n/problema-prepodavaniya-yuridicheskikh-distsiplin-v-tehnicheskome-vuze>. [in Rus].
- Rudskoy, A. I., Borovkov, A. I., & Romanov, P. I. (2018). General Professional Competence of a Modern Russian Engineer. *Vyshee Obrazovanie v Rossii, 27(1)*, 5-18.
- Snetkov, V. N. (2016). *Innovatsii vospitaniya npravstvenno-pravovoy kul'tury lichnosti yurista. [Innovations in the Education of the Moral and Legal Culture of the Personality of a Lawyer]*. St. Petersburg: Publishing house of Polytechnic University. [in Rus].
- Uyumaz, A., & Erdoğan, K. (2015). The Theory of Legal Clinic in Education of Law. *Procedia - Social and Behavioral Sciences, 174*, 2116-2122.
- Zhelezovskaya, G. I., & Khizhnyak, V. S. (2018). Traditsii i innovatsii v prepodavanii yuridicheskikh distsiplin [Traditions and Innovations in the Teaching of Legal Disciplines.] *News of Saratov University. New series. Philosophy Series. Psychology. Pedagogy, 18(1)*, 91-94. [in Rus].