

The need to introduce new programs and improve the quality of forestry education at university level

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Abstract

Currently formulated range of knowledge about forests and forestry can be treated only to a certain extent as a constant reference point in the development of new curricula and variety of conditions, both natural, climatic and geographic, with simultaneous overlapping of cultural, social and economic influences cause that it is not possible to create a universal educational proposal of a global character. Forestry education at university level should also ensure a high level of knowledge and skills of graduates that will enable realization of the quintessential task of conducting forestry i.e. maintain the stability of forest condition and the area occupied by forests, including conservation of forest diversity, and at the same time protect and use it on a permanent basis. The need for new programs and improvement of the quality of forestry education at university level should start with the adoption of model construction requirements for graduates from the Faculties of Forestry.

The brief reference to the National Qualifications Framework shows exceptional potential benefit of research results achieved in this research project.

Key words: forest education, graduate's profile

Streszczenie

Ścisły związek nauk leśnych z całościowo widzianym procesem edukacji leśnej na poziomie uniwersyteckim jest oczywisty i istotą tego procesu są poszukiwania odpowiedzi na pytania, które dotyczą zarówno konieczności rozwiązania problemów znajdujących się w programach nauczania oraz wynikające ze zmian zachodzących w filozofii kształcenia, a dodatkowo, uwzględniającymi wymagania i oceny kształcenia formułowane przez pracodawcę. Osiągnięcie harmonii działań w tym zakresie jest trudne, bowiem systemy edukacyjne, również w zakresie leśnictwa, przeobrażały się w znacznym stopniu pod wpływem zarówno zmieniającego się leśnictwa i jego otoczenia, a przede wszystkim - odpowiadając na zapotrzebowanie społeczne, oczekujące od absolwentów uniwersyteckich studiów leśnych nowych, lepszych, innowacyjnych działań. Przesunięte w czasie działania w prowadzeniu leśnictwa, a mierzalne skutki tych działań (często przekraczające kilkadziesiąt lat) oraz przyspieszenie obiegu wiedzy i informacji we współczesnym świecie spowodowały, że mamy do czynienia z przekonaniem o konieczności dokonywania zmian w programach nauczania, systemach sprawdzających i oceniających wiedzę.

Dotychczas sformułowane zakresy wiedzy leśnej mogą być traktowane jedynie w pewnym zakresie jako stały punkt odniesienia w tworzeniu nowych programów nauczania, bowiem różnorodność uwarunkowań, zarówno przyrodniczych, klimatycznych, geograficznych, z równoczesnym nakładaniem się oddziaływań kulturowych, społecznych i gospodarczych powoduje, że nie można stworzyć uniwersalnej propozycji edukacyjnej w wymiarze globalnym. Należy także przyjąć, że edukacja leśna na poziomie uniwersyteckim powinna zapewnić absolwentom studiów

leśnych wiedzy i umiejętności, które umożliwią realizowanie najistotniejszego zadania w prowadzeniu leśnictwa: zachowując trwałą stabilność stanu lasu i powierzchni zajmowanej przez lasy, łącznie z zachowaniem bogactwa różnorodności leśnej, móc je trwale chronić i użytkować.

Efekty kształcenia na uniwersyteckich studiach leśnych to język opisu kompetencji, który oznacza kreatywność, innowacyjność i samodzielność działania oraz poczucie odpowiedzialności za czyny i słowa. Ważnym elementem, który musi być wzięty pod uwagę w powyższych rozważaniach jest sformułowanie zakresu wiedzy i umiejętności, które powinien posiadać absolwent studiów leśnych na poziomie uniwersyteckim. Odnosi się to zarówno do istniejących systemów edukacyjnych, jak i tworzenia innowacyjnych rozwiązań, wynikających z osadzenia nowych propozycji programowych w kontekście uwarunkowań krajowych, jak i międzynarodowych. Konieczność wprowadzenia nowych programów i poprawa jakości edukacji leśnej na poziomie uniwersyteckim powinna rozpoczynać się od przyjęcia modelowej konstrukcji wymagań stawianych przed absolwentami Wydziałów Leśnych. W jakim zakresie poniższy model spełnia nasze oczekiwania?

„Absolwenci studiów leśnych na poziomie uniwersyteckim posiadają wszechstronną wiedzę niezbędną dla zapewnienia wielostrandowej funkcji lasu, z zakresu gospodarki leśnej i ochrony środowiska, a także dotyczącą projektowania, urządzania, organizowania i zarządzania gospodarstwami leśnymi zgodnie z zasadami ochrony środowiska i prawami przyrody; są przygotowani do sporządzania i realizacji planów gospodarczych, ochronnych i finansowych, do projektowania i realizacji inżynierskiego zagospodarowania lasu, prowadzenia nadzoru nad wykonawstwem prac leśnych oraz doskonalenia ich technizacji. Absolwenci mogą podjąć pracę w nadleśnictwach, placówkach związanych z ochroną środowiska, biurach urządzania lasu i geodezji leśnej, przedsiębiorstwach leśnej produkcji nieдрzewnej, placówkach ochrony przyrody i parkach narodowych, placówkach naukowo-badawczych i szkolnictwie, administracji państwowej i samorządowej, a uzyskana wiedza i umiejętności umożliwiają absolwentom m.in. otwieranie firm usługowych, a także podejmowanie pracy w prywatnych podmiotach gospodarczych działających na rzecz leśnictwa oraz ochrony środowiska”.

Introduction

The conviction of the need to make changes in curricula, checking systems knowledge and its assessment has been known for a long time. It is associated with the imperative of making permanent improvements throughout the educational process, which result in changes in the development of human civilization and is stimulated by scientific discoveries, practical work experience as well as changing social expectations.

Methodological assumptions of research

In a relatively short time Polish forestry must introduce significant developments in certain areas of its activities, coming close to the forest management of certain EU countries, as well as individual solutions to maintain the extraordinary beauty of Polish forest landscapes.

That close-up must take into account the principle that forest management is actively involved in preserving, protecting and maintaining the ecological balance of the whole country, as well as in solving important social problems and welfare, and that all branches of the timber industry create permanent economic activity of societies.

Maintaining autonomy is necessary in order to use all the values of the natural environment and

relies on a deep understanding and acceptance of cultural obligations, ethical, moral and historical issues, which requires both forestry profession humanization and social education.

Bringing our forestry closer to forestry operating in some countries should take place especially in those fields which have a significant impact on forestry creating its natural surroundings, such as regional development (including the agriculture, timber industry, and infrastructure). It should be accompanied by integration with other sectoral policies, partnership and complicity in state economic development, promotion of any goods and the benefits derived from the forest and - what must be emphasized - broadly defined international cooperation.

Maintaining our distinction depends on skilful combination of tradition with application of scientific and practical knowledge with a touch of romanticism inherent in our culture and economic pragmatism, that is, with certain reservations, adopted from the slogan of full market orientation towards the development of forestry (it should be market oriented). Realizing the need for proper balance and distribution of resources and benefits from the forest, we must notice that there is currently no adequate economic tool for proper evaluation of both benefits and losses and our scientific knowledge about functioning of forest ecosystems and biodiversity is inadequate.

All the above mentioned groups of factors affecting the forest sector both externally and internally make the desired appropriate level of knowledge of forest management, curriculum content and quality of teaching at university level one of the biggest challenges for the universities and the departments of forestry, not only in Poland but also all over the world.

Achieving harmony of action in this area is difficult, because educational systems, including forestry, changed to a large extent under the influence of changing environment, and above all have responded to public demand that graduates of university studies will contribute to the management of forestry with new, better, innovative activities.

Delay of action in the management of forestry, and measurable impacts of those activities (often over the period of tens of years), accelerating the circulation of knowledge and information in the modern world mean that we are dealing with the conviction of the need to make changes in curricula and systems checking the levels of knowledge and evaluating its quality.

Historically, forestry education at the university level has a long tradition that began with the publication of the first scientific textbooks in the field of forestry science in the eighteenth century in France by Duhamel du Monceau and in Poland by priest Krzysztof Kluk. Over the last 200 years forestry education has undergone fundamental changes in the formulation of objectives and methods of preparation for the profession in the field of forest management, with traditional subjects, the inclusion phase of the lecture content knowledge resulting from the development of civilization of societies.

Purpose and scope of research in the educational project of forest science

The close relationship of forest sciences seen as a whole process of forest education at university level is obvious and the essence of this process is searching for answers to questions that concern both the need to resolve problems in the curricula and resulting from changes in the philosophy of education and, in addition, taking into account the requirements and evaluation of education formulated by the employer.

Thus, the starting point to formulate a research goal is the thesis of the need to build new programs and improve the quality of forestry education at the university level and is based on the following statements:

1. Currently formulated range of knowledge about forests and forestry can be treated only to a certain extent as a constant reference point in the development of new curricula.
2. Variety of conditions, both natural, climatic, geographic, with simultaneous overlapping of cultural influences, social and economic issues causes that it is not possible to create a universal educational proposal.

3. There should be a close relationship of scientific achievements in forestry with forest education programs at the university level and expressed in permanently revised and improved curricula.
4. Forestry education at university level should ensure a high level of knowledge and skills of graduates that will enable realization of the quintessential task of conducting forestry i.e. maintain the stability of forest condition and the area occupied by forests, including conservation of forest diversity and at the same time protect and use it on a permanent basis.

National and international circumstances

An important element that must be taken into account in these considerations is to determine the extent of knowledge and skills that graduates should acquire in the course of forestry studies at university and therefore the need to find such a framework that will be comprised in the various educational programs on science and practical forest management, including the use of traditional knowledge.

This applies both to existing education systems and the development of innovative solutions, resulting from the deposition of new program proposals in the context of national and international conditions.

European Parliament draft resolution on improving the quality of teacher education takes into account the report of McKinsey & Company entitled: „The road to the top of the best education systems in the world” (2007), which states (quoted in extenso):

A. Bearing in mind that high quality education and training brings multidimensional benefits that go beyond job creation and promotion of competitiveness and are important elements of learning throughout life,

B. Bearing in mind how important it is to develop independent persons who are knowledgeable and committed to the idea of social cohesion and the quality of teaching is the primary factor contributing to job creation, competitiveness and growth potential in the European Union in the era of globalization, it is important to Member States to ensure efficiency of spending on education and its focus on those areas that will produce the best results” (end quote).

This means that EU member states will receive additional support from both the state budget and from the EU budget to finance the tasks whose implementation will lead to improving the quality of education at universities.

Established by the Ministry of Science and Higher Education in Poland aims to be achieved, through the implementation of National Qualifications Framework for the Polish education system, are not only an international obligation arising, inter alia, from the implementation of the objectives of the Bologna Declaration and other international provisions. That process should be primarily considered in the category of tools which are improving the quality of education (MNiSzW Project) - National Qualifications Framework ... 2011).

Construction of the National Qualification Framework is based on finding a common system leading to the clarity of the interaction between different qualifications and the construction of curricula based on learning outcomes. Universities are expected to have considerable autonomy in the sphere of teaching which means they can build their own educational and training programs, however, subject to the appropriate method for qualification framework.

- Improve the capacity of the system to the effects of education-oriented teaching and learning and the comparability of learning outcomes (competencies of graduates) and diplomas, as well as increasing motivation for learning,
- Improvement of curricula aimed at ensuring compliance training based on knowledge of the requirements of state economic development and better information about the competence of graduates, while increasing the quality of teaching,

- Promoting innovative programs and methods and best practices (teaching and organizational), also through the development of the educational portal Scholaris and increase student mobility.

The above very brief reference to the National Qualifications Scholars Framework shows exceptional potential usefulness of research results achieved in this research project. It is particularly important in the field of environmental education, which includes a large part of forestry at the university level.

Summary

Making changes in curricula and assessment systems of checks and knowledge is based on continuous improvement of learning outcomes, i.e. what a learner knows, understands and is able to do after receiving a university degree: the knowledge, skills and competence. Effects of university education in forestry sciences also indicate creative innovation and independence of action and a sense of responsibility for actions and words.

They are related to changes in the development of human civilization and stimulated by scientific discoveries, practical work experience and changing social expectations.

The need for new programs and improvement of the quality of forestry education at university level should start with the adoption of model construction requirements for graduates of Forestry Faculties.

Graduates of forestry at the university level have a comprehensive knowledge necessary to ensure multilateral forest functions, in the scope of forest management and environmental protection and also concerning design, facilities, organization and management of forest holdings in accordance with the principles of environmental protection and laws of nature. They are prepared to draw and implement economic, financial and protection plans, to design and implement engineering forest management, carry out supervision over the execution of forest operations and to improve their technical and technological levels. Graduates can work in forest districts, institutions related to environmental protection, forest management offices surveying the forest, at forest timber production companies, conservation sites, national parks, scientific and research institutions, higher education units and state and local administration offices. Acquired knowledge and skills enable graduates to open service companies themselves as well as taking jobs in private business entities acting on behalf of forestry and environmental protection.

To what extent does the following model meet our expectations?

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