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International Cooperation as a Necessary Component of Successful Training of Qualified Engineers

The article considers the role of international cooperation in the formation of future competitiveness of the engineering staff at the international labour market according to the modern requirements. A strategy of international development and evaluation of professional qualifications of the European standard, which can be implemented into the educational process thanks to the international cooperation of states, educational systems of higher education institutions and each individual separately, is also examined.

The growing interdependence in the world, emergence and exacerbation of global problems increased the need to strengthen the multilateral cooperation and spread to all spheres of life and science. Such development also led to the creation of many intergovernmental global and regional organizations.

Thanks to the cooperation of Donetsk National Technical University and Otto-von-Guericke University in Magdeburg the German Technical Department, which prepares bachelors of engineering, was created. And German colleagues provide support in training masters.

Thus, students acquire basic professional competences in their native environment and improve them in European educational environment.

Key words: *mobility of a future engineer, international cooperation, cooperation in higher technical education, professional competence, intercultural training.*

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**ON THE PROBLEM OF PROFESSIONAL ACADEMIC DEVELOPMENT
IN THE CONTEXT OF STUDENT CENTRED LEARNING**

The article presents an overview of one of the aspects of the Bologna process and corresponding shift to learning paradigm – the necessity of professional development of academics. It is stated that the implementation of the Bologna principles is connected with definite challenges facing individuals and institutions. There have been presented different views on the responsibility of academic development, with the extremes being from higher educational institutions to academics. The notion of academic freedom is viewed in the context of student centred learning.

Key words: *student centred learning, professional academic development, learning paradigm.*

The statement of the problem in a general way and its connection with important scientific and practical tasks. The survey run by the European Students' Union (ESU) and Education International (EI) found that European higher education staff and students' unions have expressed agreement that higher education should move further towards the needs of the student, thus stating that higher education should centre more on students. [6]

Professional development is a must on the way to student centred learning (SCL), which is an indispensable part of processes initiated by the Bologna reform. According to Diekelmann et al the SCL approach involves an ongoing reflexive process for teachers, in which they are engaged in thinking about their thinking, in order to improve their conventional pedagogy and delineating how they teach [5].

However, taking into account a great diversity of conditions and problems all throughout the European educational space this question appears one of the most complicated and controversial that academicians and higher educational institutions face on the way to transformation.

The analysis of research and publications that have started the discussion of the problem and that the authors base upon. Many prominent researchers in different fields have developed the questions connected with SCL. MsHemmer et al, Brandes et al have given definition to the notion of student centred learning. MacLennan and Soden (2004) have worked on the difference between the conventional and student centred approaches. Pellert (2009) states the necessity of organizational development in order to implement any changes. Similarly, the normative theory of social change is discussed by De La Sablonnière et al (2009). The result of Kember's (2009) research of the problem is a system promoting SCL [5].

The allocation of the unsolved aspects of the problem. The question of professional development

is especially urgent in the conditions of modern Ukrainian educational space, as our country has quite unique problems. Unfortunately, professional development is not a priority in the conditions of survival of educational establishments. Taking into account European experience academics and authorities can solve some problems on the way of transition to the Bologna standards.

The aims of the article. The article is aimed at giving an overview of the existing problem of the necessity of professional academic development and the lack of adequate support to solve this problem alongside with characteristic challenges higher educational institutions and academicians face during this process.

The main body of the article. The reform initiated by the Bologna process is not only structural. It must aim at the curricular level as well, beginning with reestimation of outcomes and continuing with changes on the level of practice. 'Curriculum change, the definition of learning outcomes, agreement on standards of quality assurance, and credit transfer all flow from the core aims of the process as it was first defined in Bologna in 1999 After some initial hostility, academics throughout most of Europe began to embrace the idea of totally rethinking their programs rather than merely paying lip-service to the new structures. Of course this implied determining what students should know, in terms of both content and methods of enquiry and learning' [6].

Student centred learning means reversing the traditional teacher centred understanding of the learning process and putting students at the centre of the learning process [3].

Doina Usaci et al say that such theorists as John Dewey, Jean Piaget, and Lev Vygotsky, whose collective work focus on how students learn, are primarily responsible for the move to student centred learning.

This paradigm shift from teaching to learning meant that the power moves from teachers onto students. In terms of curriculum development SCL idea enables students to choose what to learn and how to learn.

It is worth pointing out that 'teacher centred' and 'student centred' learning are neither simply methods, nor strategies. They are philosophical paradigms that reflect different views about the contested nature of 'learning', 'teaching' and 'knowledge'. But they are reflected in educational practices, by the defining of the learning outcome, the selecting of the contents and methodology and the conceiving of assessments tasks. But both strategies are not mutually exclusive. Rather, they constitute a continuum. The choice will be dictated by contextual factors [1].

The change of attitude towards learning with SCL in mind must be exercised by not only students, but also teachers. As in conventional learning approaches they have been the focus of attention, the responsibility for the shift towards SCL lies with them. In this connection professional development of academic staff becomes an area of vital importance.

Measures of academic development are necessary to implement the Bologna reforms successfully. To shift towards learning paradigm teachers need a massive amount of support. However, the tools of implementing a SCL approach work differently in different educational environments, sometimes even inhibiting the changes in view. Therefore it is urgent to analyse deeply the conditions and realities of higher educational institutions (HEI), if necessary changes are to take place.

The authors of the work devoted to SCL point out three main challenges in respect to the implementation of the Bologna process [5].

The first challenge is deteriorating conditions of academic work. The workload is increased alongside with bureaucratic tasks. With the absence of sufficient investment in higher education and corresponding aggravating conditions the job security has decreased greatly.

The second challenge was defined by the authors as the great diversity in academic career paths across Europe. The studies of academic labour markets in European countries show that they are mainly nationally organized. Foreign academic career is still an exception for young academicians. The challenge in academic careers started to attract attention some time after the start of the Bologna process. In 2009 the Leuven/Louvaine-La-Neuve Communiqué adopted at Ministerial meeting provides -

Attractive working conditions and career paths as well as open international recruitment are necessary to attract highly qualified teachers and researchers to higher education institutions. Considering that teachers are key players, career structures should be adapted to facilitate mobility of teachers, early stage researchers and other staff ... [2]

The third problem is the loss of control of academics over academic issues. Other reforms have necessarily been implemented in higher educational institutions with a view to transform them into more business-like structures. A lot of researchers criticise this trend pointing out that professors are no longer in charge of educational processes resulting in lack of academic freedom.

Analysts agree that if professional development is to become a must these challenges must be in mind. Taking everything into account one can come to a conclusion that the pressure of the reforms can limit the time and opportunities of academicians necessary for developing new or improving old skills. Another concern is that across Europe the statuses of academic careers are different. Thus, the necessary approach would be the one that improves the professional standing of the academic. If the teachers are needed to provide the highest-quality results they must be given a position in which they can be fully in charge of their work.

Another concern connected with the shift to learning paradigm is whether teachers are trained in an appropriate way. The next question will be connected with another aspect of professional work – the research, which is often given priority over teaching in academic work.

Against the background of ongoing changes associated with the Bologna process, technological breakthrough and globalization process, professional development of academicians seems a necessity. However, a lot of debate arises on the question of the framework of the policy to support this development.

The positions on the academic development can be classified by the question of who is responsible for it. On one extreme the responsibility lies with the government and higher educational institutions authorities. This is associated with some obligation to take compulsory courses. On the other side the academics themselves are responsible for professional development. The more structured organization of the process is needed, as at the moment the methods differ from country to country.

In some countries a particular amount of time is allocated within working hours for research. In others the development courses are taken on voluntary basis.

The Organization for Economic Development (OECD) suggests the following ways to structure professional development:

- to entitle academics with some amount of time and/or money to undertake recognized development programmes;
- participation in professional development activities as a requirement for an increase in salary or promotion;
- establishing training departments whose function will be to connect individuals and HEIs;
- making opportunities for academicians to gain some experience outside academia through sabbatical leave or extended leave without pay.

Academic freedom is of special concern for many aspect of professional academic development. The UNESCO Recommendation concerning the Status of Higher Education Teaching Personnel [4] shows that appraisal is an integral part of the teaching, learning and research process.

Higher education institutions should ensure that:

- Evaluation and assessment of the work of higher-education teaching personnel are an integral part of the teaching, learning and research process, and that their major function is the development of individuals in accordance with their interests and capacities;
- Evaluation is based only on academic criteria of competence in research, teaching and other academic or professional duties as interpreted by academic peers;
- Evaluation procedures take due account of the difficulty inherent in measuring personal capacity, which seldom manifests itself in a constant and unfluctuating manner;
- Where evaluation involves any kind of direct assessment of the work of higher-education teaching personnel, by students and/or fellow colleagues and/or administrators, such assessment is objective and the criteria and the results are made known to the individual(s) concerned;
- The results of appraisal of higher-education teaching personnel are also taken into account when establishing the staffing of the institution and considering the renewal of employment; and
- Higher-education teaching personnel have the right to appeal to an impartial body against assessments which they deem to be unjustified. [4]

Conclusion on the research. Further development of the problem. So, the success of shifting to learning paradigm depends on how much academics take it into account in their practice. Motivation here is the key factor, as with students. In this respect the restoration of academic status and academic freedom appear crucial to make academicians more enthusiastic in developing this approach. Ukrainian education is object to a lot of controversies that have to be analysed taking into account international experience to be successfully solved. Further research of schemes of increase of professional motivation and enthusiasm is topical.

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ДВНЗ «Донецький національний технічний університет»

До питання професійного академічного розвитку у контексті навчання, що орієнтоване на студента

У статті надається огляд одного з аспектів Болонського процесу та відповідного переходу до навчальної парадигми – необхідності професійного розвитку викладачів. Стверджується, що впровадження Болонських принципів пов'язане з деякими складнощами, з якими стикаються як окремі викладачі, так і заклади. У статті надаються декілька точок зору на відповідальність за професійний розвиток – деякі вважають, що це обов'язок викладачів, інші, що це повинно організовуватися на рівні вищих навчальних закладів та міністерств. Також в контексті орієнтованого на студента навчання розглядається проблема академічної свободи.

Ключові слова: орієнтоване на студента навчання, професійний академічний розвиток, навчальна парадигма.

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К вопросу профессионального академического развития в контексте ориентированного на студента обучения.

В статье предлагается обзор одного из аспектов Болонского процесса и соответствующего перехода к парадигме обучения – необходимости профессионального развития преподавателей. Утверждается, что введение Болонских принципов связано с определенными трудностями, с которыми сталкиваются как отдельные преподаватели, так и учреждения. В статье сравниваются разные точки зрения на ответственность за профессиональное развитие – некоторые считают, что это обязанность преподавателей, другие, что процесс должен организовываться на уровне учебных заведений и министерств. Также в контексте ориентированного на студента обучения рассматривается проблема академической свободы.

Ключевые слова: ориентированное на студента обучение, профессиональное академическое развитие, учебная парадигма.