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The Academic Profession in Europe: Changes and Challenges

Marko Turk

Department of Education,
Faculty of Humanities and Social Sciences,
University of Rijeka, Croatia

Abstract

In the past two decades, discussion about higher education issues, triggered by the changes in the higher education systems, have intensified in the wider public, as well as in scientific, professional and political circles. Issues of special focus are the increase of the number of students, strong internationalisation, examination of social and economic roles, strong pressure from the sector of industry, increased competition, changes in leadership and the influence of new technologies (Altbach, 2000, Kelly and Murphy, 2007). Mentioned changes have a strong influence on the transformation of members of the academic profession, their everyday tasks and activities. Boyer, Altbach and Whitelaw (1994) stress that academic profession is developing into a “profession under pressure”. Henkel (2007, 196) warns that the age we live in is “...the age of high insecurity of the academic profession”.

This paper will illustrate the results of qualitative research that aimed to establish how academics in Europe perceive changes in their work environment and analyse their connection with the redistribution of existing and the emergence of new tasks. The research was conducted in 8 European countries – Austria, Finland, Croatia, Ireland, Germany, Poland, Romania and Switzerland. The study included 497 participants.

Research results point to changes in the tasks of academics, as well as to the emergence of new tasks in the context of their everyday professional duties. This work will analyse the challenges of these new tasks that members of the academic community in Europe are facing.

Key Words: academic profession, changes in academic profession, challenges of academic profession

Introduction

In the past two decades, discussion about higher education issues, triggered by the changes in the higher education systems, have intensified in the wider public, as well as in scientific, professional and political circles. Issues of special focus are the increase of the number of students, strong internationalisation, examination of social and economic roles, strong pressure from the sector of industry, increased competition, changes in leadership and the influence of new technologies (Altbach, 2000, Kelly and Murphy, 2007). Mentioned changes have a strong influence on the transformation of members of the academic profession, their everyday tasks and activities. Boyer, Altbach and Whitelaw (1994) stress the idea that the academic profession is developing into a “profession under pressure”. Henkel (2007, 196) warns that the age we live in is “...the age of high insecurity of the academic profession”.

The effect of internationalisation and globalisation on universities and academic profession, as well as changes occurring in the area of higher education, have resulted in an initiative for conducting international (comparative) research of the academic profession. One of the most renowned researches on the academic profession that was conducted on an international level was carried out in the period between 1991 and 1993 with the support of *Carnegie Foundation for the Advancement of Teaching*, and it included fifteen countries (more precisely, fourteen countries and one “territory”).¹ As main results of this research, Boyer, Altbach and Whitelaw (1994) point out the fact that members of the academic profession feel the closest connection to their own scientific discipline, while the feeling of belonging to the university and the evaluation of their research work role in the entire scope of their activities significantly varies from one country to another. Low satisfaction level with the models of academic work evaluation and conditions of academic institutions management was also notable, while stronger differences in attitudes were expressed in the context of work conditions evaluation. Most examinees believe international cooperation and mobility are extremely important for the development of the academic profession, however, results demonstrate that mentioned activities significantly vary in different countries. Conclusion of the analysis is that “...there are three key questions/problems that will effect (in the future) the development and vitality of higher education in the world: opportunity to access higher education and the relationship between accession opportunities and excellence criteria, managing in higher education and the relationship between teaching work, research and working in the community” (Boyer, Altbach and Whitelaw, 1994, 21).

In the major publication of Carnegie study, Altbach and Lewis (1996) presented results of national reports stressing out that: “One cannot but be struck by the many similarities among the scholars and scientists in the diverse countries. It is with regard to those working conditions most affected by local political and cultural customs and policies that international differences are most apparent. Academics worldwide are committed to teaching and research, and in varying degree to service in the community... Academics are not especially supportive of senior administrators, yet they express remarkable loyalty to the profession and to other academics. They seem prepared to respond to the call that higher education contribute more tangibly to economic development and social well-being. They believe that they have an obligation to apply their knowledge to society’s problems.” (Altbach and Lewis, 1996, 47-48). Authors also point out that resiliency, determination, and a focus on the core functions of higher education characterise the academic profession in all fifteen countries. Given these and similar research results, authors conclude that the intellectual atmosphere is good, faculty do not regret their career choices and

are generally happy with their relationships with colleagues. They also point out that this depicts a strong, but somewhat unsettled profession. Nevertheless, they conclude “...Academics around the world are inspired by the intellectual ferment of the times. The intrinsic pleasures of academic life obviously endure. Academia is facing the future with concern but with “surprising optimism” (Altbach and Lewis, 1996, 48).

Apart from examining new movements and changes in the academic profession, Carnegie study also focused and identified some new research questions, such as - growth and importance of academic profession, internationalisation of the academic profession and changes in governance styles (Rončević and Rafajac, 2010); the relationship between teaching and research roles of academics; differences between junior and senior academics; increase of administrative responsibilities in the academic profession and the needs to connect research and wider social environment (Teichler, 1996).

Based on the perceived and defined research challenges, Carnegie study was continued in the project *The Changing Academic Profession (CAP)* that was conducted between 2005 and 2007.ⁱⁱ Bennion and Locke (2010) point out that CAP research results demonstrate that early academic career and employment conditions in seventeen countries are primarily under the influence of tradition, resources and specific governance systems, that preparation and education for higher education teachers is determined by the system, just as recruitment, rules and regulations for employment, work relations, forms and patterns of rewarding and the status and security of different aspects of the profession. Höhle and Teichler (2013) find surprising that CAP results show that examinees do not perceive the crisis of the academic profession and evaluate the availability of resources for academic work significantly higher in comparison to the results of the Carnegie study. Authors point to results that indicate an increase in the activities of academics’ work evaluation and to those that indicate an increase in requests for undertaking administrative and managerial roles. They also draw attention to an increase in the scope of teaching workload and to imbalance between teaching and research work, as well as to a finding that demonstrates stronger insistence on conducting socially relevant studies and on connecting academic community and wider social environment (industry, economy, civil society etc.). However, common forces in all countries are “... expansion, massification, internationalisation, globalisation and marketisation.” (Bennion and Locke, 2010). All this points to the appearance of new and wider scope of tasks, in addition to traditional work obligations of academic employees that members of the academic profession were not faced with until recently.

As a result of many changes, it is not surprising that some researchers anticipate uncertain future of the academic profession, which is “...more strongly than in the past exposed to substantial expectations and pressures...” (Höhle and Teichler, 2013, 35) that are placed before it and its’ employees by various subjects from within and outside of academic community; hence it is essential to particularly review attitudes of academic employees on changes in the academic profession.

Methodology and Research Results

Apart from the mentioned CAP research, significant contribution to researching the academic profession was made by an international collaborative project *Academic Profession in Europe: Responses to Societal Challenges (EUROAC)*. Qualitative research that was conducted as part of the EUROAC project, the results of which shall be presented in this work, was focused on examining what academics think about changes in the academic profession in Europe.

Empirical data were collected through interviews and the application of the interview protocol in the interviews with 497 research participants from eight countries - Austria, Finland, Croatia, Ireland, Germany, Poland, Romania and Switzerland. Research instrument of international comparative research consisted of three sets of thematically grouped questions – governance; management and evaluation; development and structure of academic careers; and professional differentiation in higher education, that were developed based on previously conducted studies, Carnegie study and CAP.

Gathered data were analysed using the method of constant comparison, which includes searching through data with an aim to define categories and themes related to raise research questions (Merriam, 1998). Research first examines and analyses and then, during interpretation, points to recognized challenges in the perception of changes as part of development of the academic profession in the contemporary context. For the purpose of this research, in the context of this work we shall analyse answers to the question: *Do you notice changes in the reassignment of tasks in the academic work in the past several years? Identify changes, give an example.*

The analysis of research results points to changes in the description of tasks performed by the academic employees, as well as to the appearance of new tasks in the context of their everyday professional duties. Answers of the research participants were grouped into 9 thematic categories of identified changed displayed in the table 1.

Change	Country							
	Croatia	Austria	Finland	Ireland	Germany	Poland	Romania	Switzerland
Academic administration increase	•	•	•	•	•	•	•	•
(International) project development/ project cooperation	•	•	•	•	•	•		
Competitiveness among (young) scientists		•	•		•	•		•
Increase in the number of students and their demands			•	•	•			
Harmonisation and the increase of teachers' workload	•		•					
Decrease in investments in science and research				•				
Implementation of quality assurance system							•	
Emphasis on the research orientation of academic profession/university								•
Constant control of work			•					

Table 1 - Changes which academics perceive in their work

Based on the illustrated results, it can be seen that, apart from the category pertaining to the increase of academic administration that was mentioned by research participants from all eight countries, it is possible to extract several other common categories of changes, which, although they do not appear in all countries, can be collectively classified as (European) changes in higher education. Thus, as the most frequent changes perceived by most research participants the following are listed: increase in the number of students and teachers' workload; need to intensify project cooperation which is perceived in the context of international recognition and cooperation and in the context of acquiring additional financial resources; increased competitiveness among scientists with a special emphasis on younger scientists.

Academic administration: fundamental change and challenge in the (European) academic community?

Answers of research participants that point to an increase in academic administration can be grouped in three thematic units:

- 1) Research participants basically notice increase in academic administration, but such occurrences do not regard as problematic and don't consider them aggravating factors in their work – “We have an abundance of new administrative tasks in the field of teaching and research.” (CH_12-AC, Switzerland),ⁱⁱⁱ “Demands are increasing in relation to the process of teaching and there's an increase in administrative obligations.” (IE_15-ACA, Ireland), “We are constantly receiving new forms that we are required to fill in.” (IE_53-ACA, Ireland), “I notice an increase in work duties through new administrative and bureaucratic tasks.” (RO_5_AC, Romania), “Administrative tasks have increased. There used to be more administrative employees, but now their duties were reassigned to scientific and teaching staff.” (FI_LP_13, Finland).
- 2) Research participants who see the increase in the academic administration as a problem and point to the consequence of moving away from the fundamental academic activities – “The biggest change is that apart from their teaching and research duties, teachers are now required to perform a large body of administrative tasks. Administration is a big problem for the profession.” (PL_8, Poland), “Significant changes have occurred in the past several years. We are constantly required to respond to new requests – be responsible for managing various programs, managing courses on all levels, and in addition to all that, deal with a large quantity of administration that is literally suffocating me and its becoming a problem.” (RO_3_AC, Romania), “Significant, but problematic changes are occurring, and the result is that I do my administrative duties during working hours, and teaching related tasks and research I perform at home.” (FI_LP_4, Finland), „Administration is increasing, support is decreasing and there are more and more administrative duties which is bad, very bad.” (AT09_AC, Austria).
- 3) Research participants who consider perceived changes dangerous and in that context discuss the development of academic profession in future – “There are significant changes in job descriptions, administrative demands are ever more increasing due to various changes in the economy, there are no new job opening, etc. and that could be extremely dangerous for the development of the academic profession in the future.” (0118CC, Germany), “I'm afraid there's a tendency towards the increase of administration. A dangerous tendency of increase, everything is formalized, hundreds of decisions, nothing can be done without a decision and that slows down the work process and that is something that is becoming dominant.” (HR_8, Croatia).

Findings such as these confirm the results of previous studies that point to constant expansion of administrative duties expected from university teachers (Teichler, 1996), just as those results that indicate that university teachers are increasingly expected to undertake administrative roles (Höhle and Teichler, 2013). Drennan *et al.*, (2013) link the process of increase in the quantity of administrative duties with the influence of so called managerial approach to higher education, which is something that was also pointed out by some of the research participants, for example – “In the past several years managerial approach to university governance was adopted at a large number of renowned universities.” (IE_32-HEP, Ireland). It can be noticed that research participants view the question of academic administration increase as one of the major changes in the higher education on the European level. In that context it would be wise to consider possible administrative challenges that the (European) academic community is facing, but also various types of administrative demands that are placed before it.

Apart from already mentioned perception of academic administration increase, answers collected from the participants also point to three different aspects of the academic administration: teaching administration, project administration and general (academic administration).

Teaching administration is perceived by the majority of participants as a dominant change and they connect it with a greater number of students, constant evaluations of their work and various types of (statistical) data required by the college/university management, that were not required before – “... I must add that I mostly feel like an administrator, and not as an administrator in the professional sense of the word, and I spend most of my time on teaching and other administration.” (HR_11, Croatia), “We are constantly receiving new forms that we are required to fill in.” (IE_53-ACA, Ireland).

It is followed by project administration, which is most often connected with the scientific research work dominantly through project planning, project implementation and financial management – “...projects, programs, evaluations, plan this, plan that... those are the key words.” (HR_4, Croatia). In relation to this segment of administrative duties, academics most frequently emphasise that they are not educated enough or lack adequate support by their parent institutions – “all those requests are all right and are keeping up with the modern Europe, but we must be educated about it. We may be professors, but we don't know everything. How am I supposed to write a good project or manage finances; I need the support from the university, college to do that...” (RO_16_AC, Romania).

Third one is the general (academic) administration, which is, as they point out, “...certain amount of general administration always existed, but it is now increasing by the day.” (PL_23, Poland).

In discussing academic administration as a common change in all analysed systems, we must not ignore the fact that statements by the research participants point to a strong negative attitude about the academic administration increase which they view as an unnecessary burdening with additional tasks and obligations that are distracting research and teaching staff from their primary/fundamental academic roles – teaching and research. That can be indicative if we consider the findings of the research conducted in 2009 on a sample of examinees from Croatia (Rončević, 2009), which reveals that only 16.9% of academics in Croatia are satisfied or extremely satisfied with the administrative or logistic support in their work, and more than half of them (51.3%) claimed to be dissatisfied or extremely dissatisfied with this kind of support. Many

authors point to the fact that requests for an administrative, logistic and professional support are not an isolated case revealed in one national research and that such support in the European systems of higher education is not a novelty (Teichler, 2003; Klumpp and Teichler, 2008; Kehm 2006; Kehm, Merkator and Schneijderberg, 2010). Mentioned authors speak about the (new) group of academics that they call *higher education professionals* (HEPROs).^{iv} Schneijderberg and Merkator (2013) define them as a special group of highly educated professionals who are not primarily active in teaching and research, but who cooperate and are a constant administrative and professionals support to governmental bodies of the university, their constituents and to their research and teaching staff. Klumpp and Teichler (2008) say that basic characteristics of HEPROs are: high level of expert knowledge in fundamental academic activities – teaching and research, and well developed communication and presentation skills.

Authors point out (Klumpp and Teichler, 2008; Macfarlen, 2010) that typical positions for HEPROs in Germany, Great Britain, Norway and USA are positions such as: assistant dean or assistant chancellor, coordinator for science and international cooperation, coordinator for human resources development and the manager of department for quality assurance of teaching and student affairs.

In the light of such findings, universities should aspire to educate and form a body of highly educated staff in the field of academic support whose non-research and non-teaching roles will be separated from the research and teaching staff and who will be their constant professionals support.^v This professional form of academic support can serve as a possible answer to requests from the academics, revealed in their answers of research participants, to decrease the intensity of administrative duties placed before them.

Other changes in the (European) academic community

Since findings demonstrate that academic administration was seen as a change in all countries that participated in the research, discussion was extracted in the previous part, in order to avoid the repetition of the same category. For the remaining eight categories, interpretation was conducted in accordance with the country that participated in the research, that is, in accordance with the changes revealed by the research participants of a given country. Changes mentioned in the context of each country were classified into thematic groups and subgroups.

As dominant changes, academics from Finland point out the following:

- 1) Intensifying of pressure for the development of project cooperation the reasons for which, as in Germany, can be found in the need to acquire additional financial resources that parent institutions cannot provide and long-term international benefits that such cooperation can bring: „Gathering resources plays the central role today, and pressures to be financially efficient are constantly increasing.” (FI_LP_4, Finland), “More and more companies deal with projects and operate based on project financing and because of that universities are becoming more like those companies. Cooperation with industry is also becoming stronger.” (FI_LP_5, Finland).
- 2) Harmonisation and the increase of teacher’s workload is the result of an increased number of (foreign) students: “Demands for courses held in English language are

increasing, in addition to the need to adjust those courses because we are having foreign students from various cultural backgrounds.” (FI_LP_2, Finland).

- 3) Increased competitiveness among scientists – “It is necessary to invest more in gathering financial resources and competition is stronger.” (FI_LP_16, Finland), “Competition and demands for higher quality research are increasing.” (FI_LP_19, Finland).
- 4) Constant control of work: „Time management is becoming the main characteristic of academic employees. Apart from that, our working hours are becoming controlled, there’s no more freedom, and everything is controlled by an electronic system.” (FI_LP_2, Finland).

Apart from to the increase of academic administration, academics from Ireland also notice:

- 1) An increase in the number of students and their demands – “Students today expect all materials to be delivered to them in the form of simplified entries and notes, they no longer read books, textbooks and books for further study. They expect everything to happen by pressing one button” (IE_33-ACA, Ireland), “...students today have greater expectations, you can’t refer them to further study material as before and tell them to read and research, today you need to give them detailed instructions for everything and they and their demands, which are sometimes extremely unrealistic, require much more time. (IE_35-ACA, Ireland).
- 2) Decrease in investments in science and research - „The main problem is the lack of resources. There is a limited amount of resources that we have for attending conferences and publishing works, it all costs money. It is automatically expected of you to make money through your research and projects and to finance yourself.” (IE_40-ACA, Ireland), “...in the past you were able to attend a conference without presenting a scientific work, today that is no longer possible, since there’s no money for such “scientific excursions.” (IE_15-ACA, Ireland).

Academics from Germany noticed similar changes as the research participants from Ireland, and those are the following:

- 1) Increase in the number of students whose demands are becoming greater and more complex – “Students’ expectations have changed the requirements regarding the teaching preparation. However, teachers haven’t changed and that is where collision occurs. Pressures to maintain the high quality of teaching as opposed to students’ demands are becoming ever stronger.” (0113DT_AC, Germany), “A number of students with formal and informal demands is increasing.” (0203VS_AC, Germany).
- 2) Intensive pressure to develop project cooperation which they see as a result of two reasons – due to the need to obtain additional financial resources that institutions cannot provide (*fundraising*) and the development of international cooperation that individuals and institutions can benefit from in the long run.

Apart from these mentioned ones, German academics notice another category of changes and that is:

- 3) Strongly pronounced competitiveness, especially among younger scientists which is connected to jobs uncertainty and working conditions – “...young scientists are far more globally oriented and are more mobile and less committed to the institution that before. However, that resulted in higher uncertainty and more pronounced competitiveness.” (0118BK, Germany).

Answers of academics from Croatia can be grouped into two sets:

- 1) Harmonisation and the increase of teachers’ workload – “I think that the main change is that we have transformed, I would say, from the factory of knowledge into the factory of engineers. I believe that is the biggest change in the last 10 to 15 years. We work with too many students and automatically have double work schedule.” (HR_51, Croatia).
- 2) Project development/ project cooperation - „I think that the main change is that teachers are expected to actively search for sources of financing for their own work through projects (usually international), for example, they are expected to actively reflect on how their work fits into one wider framework, but not only scientific, but also a more general social framework. To some that is more or less a problem. To them change is what they see as purely physical submission of projects, administration.” (HR_21, Croatia).

Research participants from Austria and Poland, apart from academic administration, also point to already mentioned – competitiveness among scientists - “There is a great competition for permanent positions. The number of such positions is limited and insufficient.” (AT27_HE, Austria), “Procedure for acquiring doctoral position is extremely competitive and requires a great amount of effort.” (AT30_AC, Austria), “Competition is, especially among young scientists.” (PL_21, Poland). They also point to the development of project cooperation – “There’s a strong emphasis on big collaborative international projects and insistence upon them.” (AT03_AC, Austria), “When I was interviewed for the job, the first thing my mentor asked me was: ‘Can you write projects?’” (PL_25, Poland); need for international recognition – “...there is significant progress towards internationalisation and international recognition of research, but it seems to me that this segments is still overlooked in social sciences.” (AT30_AC, Austria), “...an important aspect of academic career is international cooperation with other foreign universities or scientific institutes. That’s how academies build their reputation and respect and how social capital and networks are created globally.” (PL_25, Poland), “...for example, when being promoted to a higher position, one needs to submit internationally recognizable publications.” (AT35_AC, Austria), “New generation of scientists who are internationally oriented to a greater extent, knows that scientific feudalism is the thing of the past.” (PL_50, Poland) and to an increased number of administrative employees – “Administrative support at universities is hopeless. How can they be of use to us if they don’t notice, for example, that application forms for EU programs have changed six months ago.” (PL_3, Poland), “People who work in academic support and administration are exceptionally nice and kind, but their organisation and

management is extremely bad and wrong.” (AT43_AC, Austria), “...people from academic administration usually strongly oppose to changes.” (AT49_AC, Austria).

Answers of academics from Switzerland point to two thematic categories of answers:

- 1) Increased competitiveness among younger researchers - “Competition among scientists begins during doctoral studies. Young scientists compete for publication of their work in acclaimed scientific journals, participation in better projects and for work with more respectable scientists.” (CH_22-AC, Switzerland), “I am very upset with this strong competition. It seems to me that in the future it will be more important how well you present yourself than how professional you are.” (CH_23-AC, Switzerland).
- 2) Strong emphasis on the research orientation of university. This perceived change relates especially to international research and those being conducted in cooperation with the sector of industry/economy due to acquiring additional financial resources. Research participants from Switzerland thus point out: “What is most important is to acquire or to conduct a research that have a financial contribution to the institution, but also provide acquiring new competences and new knowledge. Research is the most important segment of our work.” (CH_2-AC, Switzerland), “Research activities of our university are strongly connected with industry and that is their ultimate purpose.” (CH_6-AC, Switzerland), “It’s normal that scientists cooperate with industry. Cooperation with industry means that you are capable of doing your job efficiently.” (CH_11-AC, Switzerland), “I believe that my primary job is research.” (CH_26-MAN, Switzerland).

Apart from increased administration demands, academic employees in Romania point to the implementation of quality assurance system as an additional change in their (working) environment. Implementation of the quality assurance system, according to the research participants’ answers, has resulted in the occurrence of new duties, such as various kinds of examinations, checks and evaluations – “University began implementing quality assurance system and quality management is becoming the main condition. Demands of the National Quality Assurance Agency are increasing which, in turn, increases the pressure on the academic employees.” (RO_3_AC, Romania), “...for example, there are constant demands for changes of syllabuses and curriculums, accreditations of new study programmes, implementation of quality assurance system... All that can be done only through the contribution of academic employees.” (RO_21_AC, Romania).

Discussion

Such findings point to a trend of changes in the academic profession in the recent thirty years. Neave (1983), more than thirty years ago, spoke of significant increase of students in Europe and said that: “...there’s a significant interest in higher education and the number of students in the biggest European countries is constantly growing.” (Neave, 1983, 223), while Neave and Rhodes (1987) point to a constant expansion of the number of students on the European territory of higher education. Something that especially contributed to the growing number of students was a strong need to internationalise higher education. Kerr (1994) mentions four main aspects of university internationalisation: flow of new information, university teachers,

students and curriculums. In a discussion about the process of higher education internationalisation, Altbach and Teichler (2001, 6) speak of “...growing global academic market of teachers and students whose number is constantly increasing.” Apart from the process of internationalisation, Bouillet and Gvozdanović (2008) emphasise that the growing number of students is one of the most perceptible consequences of the Bologna Process that was adopted by all countries that participated in the research. The findings of the CAP study also speak of the expansion of students as one of the most significant new processes that are changing the system of higher education (Bennion and Locke, 2010).

Unlike the growing number of students, which is perceived as a change in the system of higher education for a significantly longer time, the need to intensify project cooperation, especially the one advocated in the documents of national educational policies and strategies of universities and institutions of higher education, and which is promoted and encouraged by university administrations, can be regarded as a new segment of academic activities. Additional argument in favour of this claim is that such cooperation is seen in the context of acquiring additional financial resources for project teams and institutions, as illustrated by the results of this part of the research. The segment of project activities as a means of acquiring additional financial resources, apart from being observed in the context of already mentioned introduction of managerial approach to higher education, can also be observed in the context of adjustments of universities and academic community to the market concept of operation, that is, to the cooperation between universities and the economy.^{vi} Although market or, as some authors call it, economic segment of university operation (Kogan and Hanney, 2000) was always an important part of educational policy, today that role is considered primary and is expressed through public policies and strategic documents. For example, the British White Paper from 1987 states: “Higher education should serve economic sector more efficiently... develop close connections with industry, market and promote entrepreneurship.” (Kogan i Honney, 2000, 60). Orientation on acquiring additional financial resources can also be perceived in the context of the idea that contemporary universities must become oriented toward entrepreneurship and must be relevant in terms of market (Geiger, 2004; Altbach, 2008). In that context, Altbach (2008) point out that aspiration towards market oriented university of the 21st century and increasingly advocated corporative mission, are the reason for concern over fundamental academic activities and the influence that contemporary changes have on the development of universities in the future. By intending to provide money through (new) project cooperation, academic employees face with new challenges, standards and values of university life. However, Regini (2011) points out that universities and companies n no longer ignore each other, as they did in the past, but are forced to cooperate for the purpose of economic prosperity of national and European society. Regini (2011, 81) also claims: “...universities must not wash their hands of the question of employability of their students... care over students’ transfer from the academic world into the world of labour must become one of the fundamental missions of modern universities.” Such transfer enables integration of students into developmental and research projects with economy and local community, so in addition to providing them with an opportunity to acquire additional professional competences, that form of indirect learning is seen as an ideal transfer of theoretical knowledge into practice.

One of possible new challenges for the academic employees can be seen in the third group of perceived changes in the academic profession which relates to the increased competitiveness among scientists, especially younger ones. Under the influence of changes that the academic

community is exposed to, young scientists are under a constant pressure of competition, testing and evaluation. In such conditions it can be expected that there will be pronounced (unhealthy) competitiveness, especially if basic existential issues are in question – job, regular income or change of residence – as some of the research participants assert. However, from a futuristic perspective, it seems that this trend will not cease in the future. According to the research results (Kehm and Kreckl, 2008), percentage of PhD degree holders in Europe, many of which will search for work in the academic community, is on the increase. For example, in the period between 1998 and 2006, the number of PhD degree holders in OECD countries increased by 40 % (Auriol, 2010), and in 2004, Europe had two times more PhD degree holders than the United States and six times more than Japan (Meri, 2007). Janson, Schomburg and Teichler (2006) also draw attention to the trend of long waiting and high employment uncertainty from the time of acquiring PhD degree until the moment of obtaining permanent position in the academic community.^{vii} Recotillet (2007) says that PhD is financially less lucrative and attractive at universities in comparison to the salary for a PhD degree holder in the private sector. In that context, it is not surprising that indicators revealed by Surssock and Smidt (2010) in the publication *Trends 2010: A decade of change in European higher Education* point to the fact that in 2010 around 50% of PhD degree holders in Europe were employed outside the academic community, in the public or private sector. In accordance with those indicators, it can be expected that dissatisfaction of young scientist at universities will continue. That same trend was pointed out as one for concern in some other earlier research (for example, Enders and Teichler, 1997), which caused by small and uncertain advancement perspective and the lack of employment security (Teichler, 1996). Therefore, a more significant brain drain of (young) PhD degree holders in public or private sector, economy and industry, can be expected, which can be considered a significant challenge for the development of higher education in the future.

Conclusion

Obviously there are many studies that point to changes happening in the academic environment (Boyer, Altbach and Whitelaw, 1994; Altbach, 1996; Altbach and Lewis, 1996; Bennion and Locke, 2010; Rončević and Rafajac, 2010; Höhle and Teichler, 2013), which can be recognized and analysed in more detail on international and individual national levels. Studies reveal that in most countries academic career is under a strong influence of tradition, resources and specific governance systems which determine the way higher education teachers are prepared and educated, the rules of their employment and promotions, work relations and forms and patterns of rewards. Also, as a common element of changes, mentioned studies point to a low degree of satisfaction with the models for academic work evaluation, conditions for academic institutions governance, dissatisfaction with working conditions, greater number of students and resulting greater teacher's workload, as well as with the imbalance between teaching and research work. The conclusion is that all that strongly effects the development and positioning of the academic profession, primarily in the academic, but also in the wider social context.

Detailed analysis of research results presented in this work, points to nine thematic categories of determined changes in the European academic environment. The first and primary one is an increase in the amount of academic administration which is followed by the need to develop (international) projects and project cooperation, extreme competitiveness among (young) scientists, increase in the number of students and their demands, harmonisation and the

increase of teachers' workload, constant control of work, decrease in investments in science and research, implementation of quality assurance system and the stronger emphasis on the research orientation of the academic profession. At the same time, we mustn't ignore data that point to strong negative attitudes about the academic administration increase which they view as an unnecessary burdening with additional tasks and obligations that are distracting research and teaching staff from their primary/fundamental academic roles – teaching and research.

Apart from academic administration being a common category in all countries that participated in the research, other revealed changes can be grouped based on the country participants come from. Thus, the development of (international) projects/project cooperation was perceived as a change by participants from Croatia, Austria, Finland, Ireland, Germany and Poland. Strong competitiveness, especially among young scientists, was noticed by academics in Austria, Germany, Finland and Switzerland. As a perceived change, academics from Finland, Ireland, and Germany also mentioned increase in the number of students and their demands, while academic from Finland and Croatia pointed to the increase of teachers' workload. Academics from Finland also mentioned constant control of work, academics from Ireland were concerned about the decrease in investments in science and research and those from Romania mentioned implementation of quality assurance system on a national level. Academics from Switzerland also mentioned to stronger emphasis on the research orientation of the academic profession.

Presented research results have confirmed the findings of some earlier studies and revealed several current challenges in higher education. Those primarily relate to strongly emphasised administrative dimension of the new roles required of academics, that research participants justly question or even strongly reject believing it to be a role imposed to academics that prevents them in doing their teaching and research work adequately. Furthermore, research results also reveal the focus on the development of (international) project cooperation in the framework of which research participants perceive a personal or institutional recognition within the European territory of higher education, as well as the possibility of obtaining additional funds. It is also important to mention the existence of strong competitiveness, especially among young scientists, which, as a perceived change, supports the findings of those who speak about future expectations and pressures on the academic community (Höhle and Teichler, 2013).

These research results point to numerous challenges to the development and transformation of academic profession in the future, both on European and wider international territories. Apart from that, this research revealed many new research questions that remain to be raised, studied and analysed. In that context, especially challenging in terms of research are current themes, such as competitiveness of (young) scientists, questions of academic liberties or stronger emphasis on the research roles of universities.

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ⁱ Research included the following countries – Australia, Brazil, Chile, Egypt, Hong Kong, Israel, Japan, Mexico, Netherlands, Republic of Korea, Russia, United States of America, Sweden and United Kingdom.

ⁱⁱ Project tried to gather as many countries and possible that participated in the Carnegie study in order to research and examine the objective of the study – *changes* in the academic profession. Of the countries that participated in the Carnegie study, CAP was conducted in Australia, Brazil, Hong Kong, Japan, Mexico, Netherlands (research conducted in 2010), Germany, Republic of Korea, United States of America and United Kingdom, a nine new countries joined: Argentina, Finland, Italy, South African Republic, Canada, China, Malaysia, Norway and Portugal.

ⁱⁱⁱ In the part of the qualitative research, after the quotes from the gathered empirical material, interview code from EUROAC research data base shall be displayed in the brackets, as well as the country of the participant. All data bases of partners in the research, with codes and participants data are available to all national research teams. Due to ethical reasons, it was agreed upon that works and publications shall use exclusively originally defined codes of participants and when necessary defined independent variables of the country, scientific field, scientific, teaching and/or associate position and/or gender of participants.

^{iv} HEPROs represent a special group of highly educated professionals who are not primarily active in teaching and research, but who cooperate and are a constant administrative and professionals support to governmental bodies of

the university, their constituents and to their research and teaching staff (Teichler, 2003; 2008; Klumpp and Teichler, 2008; Khem 2006; Kehm, Merkator and Schneiderberg, 2010; Schneiderberg and Merkator, 2013).

^v Conducted research also reveals examples of good practice that point to positive developments in that direction in countries where such systems didn't exist before. Based on the answer of one participant from Finland, it is possible to determine a trend towards the development of educated academic support professionals – “In the past, we used to have administrative duties too, but we had no adequate professional support. Professors performed all their administrative duties on their own. Today, however, there's more administrative support performed by employees who are professionals at what they do.” (FI_LP_3, Finland).

^{vi} Kogan and Hanney (2000) believe that adjustment of universities to the market concept of operation began during the oil crises in the early 1970s of the 20th century. That was the first time that the oil crisis had a significant impact on the financing principle of higher education. Although the decrease of state investments can be explained by the real economic crisis that dominated at that time, withdrawal of financial resources were also occurring later in the periods of economic development and growth. When governments understood the values that education and applied research can have on economic development and growth, they clearly promoted the view in accordance with which they expected the market to finance what it will benefit from tomorrow.

^{vii} Same authors point out that in Germany that period can last up to six years.