# Part-time and Short-cycle studies in Serbia

## Proceedings of the final conference


Belgrade, 16 March 2019.

www.pt-sche.metropolitan.ac.rs

**PART TIME AND SCHORT-CYCLE STUDIES IN SERBIA**
**PROCEEDINGS OF FINAL CONFERENCE**

*Publisher*
UNIVERSITY OF KRAGUJEVAC

*Editor in chief*
Prof. dr Nenad Filipović

*Editors*
Prof. dr Nada Kovačević
Prof. dr Dragan Domazet
Prof. dr Danijela Milošević

*Technical design*
Bojana Trebinjac
Petar Cvetković

*Printed by*
GRAPHICAL CENTER OF TECHNICAL COLLEGE ČAČAK

*Copies*
200

ISBN 978-86-7776-232-2

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the
Erasmus+ Programme
of the European Union

***CONTENT***

## BASIC INFORMATION ABOUT THE PROJECT

**Project Name**
Introduction of part-time studies and short programs of higher education in Serbia
**Project designation**
Project No. 561868-EPP-1-2015-1-EE-EPPKA2-CBHE-SP
**Period of realization**
October 15, 2015 - April 14, 2019

The project was approved in 2015 under the ERAZMUS + program of the European Union, KA2 - Cooperation for innovation and the exchange of good practices - Capacity Building in the field of Higher Education.

### From the project application

"Development Strategy for the Republic of Serbia until 2020" recognized the need to introduce part-time (PT) and short programs "short cycle" (SC) in higher education in the Republic of Serbia. Appropriate action plans for the implementation of the Strategy have also been adopted. The project aims to elaborate these action plans and enable the implementation and establishment of PT and SC studies in Serbia, providing the necessary legislative frameworks. The results of the project should contribute to achieving the goals of the Strategy, such as extending access to higher education, and adapting higher education to the labor market.“

The consortium consists of four foreign institutions (University of Tallinn, University of Aberdeen, Open University in the Netherlands, University of Szeged), one European Higher Vocational School (Akademija doo, Maribor, Slovenia), four universities in Serbia (University of Kragujevac, University of Belgrade, University of Novi Sad, Metropolitan University Belgrade), one high school of vocational studies in Serbia (High School of Electrical Engineering and Computing of Vocational Studies), Ministry of Education, Science and Technological Development, National Council for Higher Education, Conference of University of Serbia, Belgrade Chamber of Commerce and company IRVAS doo.

### The project objectives

1. To define the legal framework supporting the development and implementation of part-time (PT) studies and short cycle (SCHE) studies in higher education in Serbia, as there is no legislation for PT studies nor studies at the EQF Level 5 in Serbia.
2. To adopt and develop online and face-to-face (F2F) learning methodologies and technologies for PT & SCHE, suitable for adults working students.
3.To set pilot implementations of five PT&SCHE online and face-to-face programs to test project outcomes. After one year of pilot implementation, an analysis of the effectiveness of the proposed legislation adopted pedagogical and technological solutions will be generated.

## ОСНОВНЕ ИНФОРМАЦИЈЕ О ПРОЈЕКТУ

**Назив пројекта**

Увођење програма продуженог студирања и кратких програма студија у високо образовање у Србији

**Ознака пројекта**

No. 561868-EPP-1-2015-1-EE-EPPKA2-CBHE-SP

**Период реализације пројекта**

Од 15. октобра 2015. год. до 14. априла 2019. год.

Пројекат се реализује у оквиру ERAZMUS + програма ЕУ, Кључна акција КА2 – Изградња капацитета у високом образовању.

**Из пријаве пројекта**

Стратегијом развоја образовања у Србији до 2020. године предвиђено је увођење програма продуженог студирања и кратких програма студија на високошколским установама у Србији. У ту сврху је разрађен и одговарајући Акциони план за имплементацију Стратегије у пракси. Овим пројектом се разрађује Акциони план и омогућава осавремењавање студија увођењем програма продуженог студирања и кратких програма студија обезбеђивањем неопходне законске регулативе. На овај начин ће се омогућити постизање неких од циљева Стратегије: повећање броја академски образованих лица и прилагођавање високошколског образовања у Србији потребама тржишта рада.

Конзорцијум пројекта од 15 институција чине четири иностранa универзитета (Универзитет у Талину, Универзитет у Абердину, Отворени универзитет у Херлену, Универзитет у Сегедину), иностранa висока школа струковних студија (Академија Марибор), четири универзитета из Србије (Универзитет у Крагујевцу, Универзитет у Београду, Универзитет у Новом Саду, Универзитет Метрополитан), Висока школа електротехнике и рачунарства струковних студија Београд, Министарство просвете, науке и технолошког развоја, Национални савет за високо образовање, Конференција универзитета Србије, Привредна комора Београда и предузеће IRVAS doo из Ниша.

**Циљеви пројекта**

1. Дефинисати законску регулативу за увођење продуженог студирања и кратких програма студија на високошколским установама у Србији. Тренутно нема регулисаних правила за ове студије нити је Националним оквиром квалификација предвиђен Ниво 5.

2. Прилагодити и развити нове методе класичне наставе и online наставе на даљину за потребе продуженог студирања и кратких програма за кандидате који студирају уз рад.

3. Спровести имплементацију пет пилот програма класичне наставе и online наставе на даљину за ове студије. Након једногодишње примене пилот програма урадити анализу ефикасности студија и законске регулативе са педагошког становишта и становишта примењених техничких решења.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# BRIEF ANALYSIS OF EU POLICIES AND LEGAL FRAMEWORKS FOR ESTABLISHING PART-TIME AND SHORT-CYCLE STUDIES

Bruce Scharlau[1]

b.scharlau@abdn.ac.uk

Rachel Shanks[2]

r.k.shanks@abdn.ac.uk

Nigel Beacham[3]

n.beacham@abdn.ac.uk

## INTRODUCTION

This document sets out the current state of affairs in European Union members and what is desired in Serbia for part-time degrees and short-cycle degrees in higher education. We first outline the basis of this report, then offer some background on higher education in Europe to put short cycle and part-time study in context of the three study cycles. Then we explore short cycle and part-time study in more detail.

This report draws upon two reports as well as a short survey done of partner members. The first useful report is "Short Cycle Higher Education in Europe Level 5: the Missing Link" written in 2011. This documents the status of short cycle education in EU member states at the time and how this relates to education in general as well as within the notion of lifelong learning. The second useful report is from the European Commission/EACEA/Eurydice entitled "The European Higher Education Area in 2015: Bologna Process Implementation Report" written in 2015. It reviews the state of higher education at all three cycles across a wider area, which includes Serbia, and offers some views on short cycle and part time learning too.

The different levels of the educational qualification framework vary across Europe as can be seen in the table below taken from 'Missing Link' report mentioned above.

[1] University of Aberdeen, School of Natural and Computing Sciences, Senior Lecturer

[2] University of Aberdeen, School of Education, Senior Lecturer

[3] University of Aberdeen, The School of Natural and Computing Sciences, Senior Lecturer

| EQF | QF EHEA | | ISCED | |
|---|---|---|---|---|
| 8 | Third cycle | Ph.D. | 6 | |
| 7 | Second cycle | Master | | |
| 6 | First cycle | Bachelor<br>professional bachelor | 5A | |
| | | | 5B | **Most blurred zone of qualifications** |
| 5<br>Higher education & vocational / professional qualifications | Short Cycle within the 1st cycle | Various titles, degrees | | |
| 4 | Some Higher Vocational qualifications organised by HEI | | 4<br>Post-secondary non-tertiary | |
| 3 | | | 3 | |
| 2 | | | 2 | |
| 1 | | | 1 | |

**Figure 1: Comparison between EQF– QF-EHEA- ISCED**

As can be seen above, level four leaves students at the end of secondary school, from which many can progress into level 6 when they start university. However, this jump isn't possible for all students so a path through level 5 is also necessary in order to ensure that all people can find a path to a suitable career now, or in the future as part of their lifelong learning. This is the other important role of level 5; that it provides a starting place for those who come to their career later, or who need to restart their career due to family issues, restructuring in their career, or other reasons.

This report will use the classification above so that a level 5 qualification, using the European Qualifications Framework (EQF), could become an intermediate stepping stone on the path to higher qualifications, but which would enable the person to enter the labour market at a suitable level of employability. This would be a 'short cycle' within the first cycle of education, of about 120 ECTS within the national context. All references, unless otherwise stated, refer to the EQF level of study.

This 'level 5' is what is found to be needed between secondary school and higher education at university level. It offers a path for many people; those who want to change direction, those who want a more vocational career, and those who have problems with more formal education. It lets students take their education step by step in a steady manner as suits their needs. In addition, many of the level 5 studies are especially useful for non-traditional and mature students.

To that end there are two different paths for level 5 studies. One as seen in Scotland, this is on the path to university education. This is in contrast to another path seen in Serbia and elsewhere, where qualifications for level 5 are more vocational, and therefore lead away from further academic study, but instead lead to higher vocational bachelors and masters degree level qualifications. This also ties in with staff on the vocational tracks also being seen to split their time

between academia and working in industry so that the education they offer is seen as relevant and contemporary.

In addition, 'level 5' studies are also on interest to industry who are being seen to help develop new programmes to suit the needs of their staff now and in the future. Helping to provide direction, industry can help to shape the curricula for these programmes in order to ensure that local employers have staff capable of fulfilling the roles needed.

## BACKGROUND OF HIGHER EDUCATION ACROSS EUROPE

There are about 37.2 million tertiary students in the EHEA (academic year 2011/12) with about 82% of these at level 6, and 15.6% in the more occupationally focused level 5, and about 2.7% in levels 7. In Serbia, this was total: 231,661, 178,789 in level 6, 47,322 in level 5 and 5500 in level 7. These represent 77.7% of students in level 6, 20.4% in level 5 and 2.4% in level 7 in Serbia. Across the EHEA counties level 8 students are less than 5% in most countries, but go up to 9% in a number of countries. (EC, 2015, 29-30) It should be noted that level 5 reported here is not short cycle, but merely something at that level of study.

Most EHEA countries use 180 or 240 ECTS for first cycle programmes with 58% and 37% using the former or the later respectfully. Five countries (Denmark, Finland, Germany, Hungary and Poland) add a 30 ECTS requirement for professional training or placements, which then makes for a 210 ECTS programme. (EC, 2015, 52-3)

65% of second cycle programmes mostly use the 120 ECTS model, 16% use 60-75 ECTS, and 13% use 90 ECTS. Unlike first cycle programmes, where the professional programme is longer, in second cycle, the professional programme is usually shorter. (EC, 2015, 53-4)

The use of a national qualification framework was agreed as part of the Bologna process, and the Framework for Qualifications of the EHEA was adopted, and then followed by the European Qualification Framework in 2008 as a translation tool between the two systems. By 2015 22 countries had completed all 10 implementation steps for this. The UK, Estonia, and others have completed this. Serbia is at step 9 with qualifications included in the NQF, and now awaits its self-certification in compatibility with the European Framework for Higher Education. (EC, 2015, 68)

The EHEA provides the basis for recognition of qualifications between its member states and is seen through the use of the ECTS, Diploma Supplement and national qualification frameworks used by its members. Some of this is also codified by national legislation. However, in practice this is mostly done by individual institutions, who base their decisions on commonly used materials from ENIC/NARIC. There is still more work to be done to ensure that recognition of national qualifications and higher education institutional degrees across borders is automatic. (EC, 2015, 79-83)

Fees for home students in the first cycle have been stable since 2012, with most students having to pay something in public higher education institutions. No fees are charged to home students in seven countries including Scotland, while in 16 countries students have to pay fees,

though this might only be a small administrative charge, as in the case of the Czech Republic. How these fees are paid, and who pays them, is more complex and the strain this might put on the student and their family varies widely depending upon the amount of student support available for fees, maintenance and other costs. (EC, 2015, 125-146. It should be noted that nothing is mentioned in this report about funding for short cycle fees.)

Employability, "the ability to gain meaningful employment, to become self-employed, to maintain employment, and to be able to move around within the labour market" (quoted in EC, 2015, 182) is not about having a job, per se, but being equipped with the skills to have a job. In Serbia, this can lead to counter-intuitive outcomes. For example, those with high, medium and low education (High is ISCED 5-6, medium ISCED 3-4 and low is ISCED 0-2) levels in 2013 for 20-34 year olds were 27.9% for high, 21.1% for medium and 25.2% for low education levels. In other words, the higher your education level, the more likely you were to be unemployed. (EC, 2015, 183)

This might be understood to suggest that students might have more success using short cycle programmes to gain the required skills for employment, instead of pursuing a first-cycle programme.

Employer engagement is important for a number of reasons, which is why they are involved in curriculum development and participate in higher education institution decision making bodies across the EHEA. Sometimes this is required, and other times is an option. Sometimes this optionality goes further and employers help to create degrees to meet their needs. (EC, 2015, 199-200)

Sometimes employer engagement is compulsory, such as in Romania where all first cycle degrees, and in Portugal where all short cycle programmes have practical training. This can also be influenced by public funding to support training and internship programmes, even when it is not compulsory. Similarly, dual degree programmes, such as occur in Germany and France, with their mix of theoretical and professional experience also benefit from such funding models. (EC, 2015, 201-202)

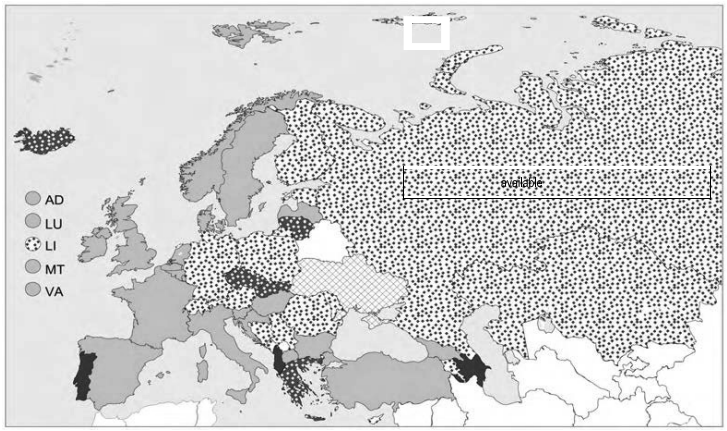
This mixed approach by continues aims to avoid problems later on as not all students can progress from one cycle to the next due to the difference between professional and vocational degrees. This has led to some countries making use of bridging degrees to enable this transition, and to also enable other pathways to higher education, such as recognition of prior learning so that qualifications, or credit might be exempted. (EC, 2015, 123)

## SHORT CYCLE PROGRAMMES IN EUROPE

Short cycle programmes account for fewer than 5% of all tertiary students. Short cycle programmes of less than three years cover less than half of the EHEA countries, and do not exist in half of the member countries either. There are now 26 countries that have short cycle

programmes. While most are tied to higher education, this is not always the case and many are aligned with Vocational Education and Training (VET). (EC, 2015, 51)

The issue of how countries class short cycle programmes is still confusing as can be seen in the following illustrations.

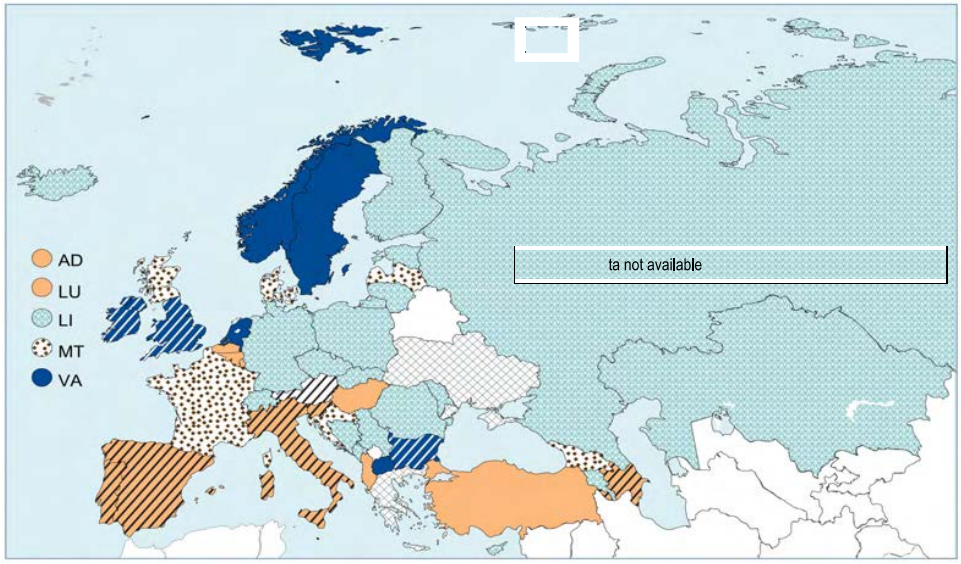



*Source:* BFUG questionnaire.

Source: EC, 2015, 59

This shows that some have no short cycle programmes as short cycle is part of VET and therefore does not lead to a first cycle degree. Others, like the UK, have various options for their short cycle programmes with different exit paths available to students. (EC, 2015, 58)

The length of short cycle programmes that might feed into a first cycle programme varies from 60 ECTS (one year) to 180 ECTS (three years), however the most common version is 120 ECTS (two years). Some of these lead to professional and/or academic qualifications. This means that not all short cycle programmes can be used as a stepping stone to a first cycle degree. (EC, 2015, 58) The map below indicates how short cycle programmes might contribute to first cycle programmes.




*Source:* BFUG questionnaire.

Source: EC, 2015, 60

Notice how now Scotland shows options available, and Serbia and Estonia are similar in approach, and how some countries like Ireland enable institutions to set up agreements to articulate from a short cycle programme to a first cycle degree.

In most countries the curriculum for short cycle programmes is a combination of practice and theory with some requiring a work placement due to the professional nature of the programme. Some countries such as the UK, might have different curricula for different institutions depending upon the degree. For example, a Foundation Degree is more likely to have work-based learning and placements than the HND programme. (Kirche, Beernaert, 44-45)

Where the short cycle programme is based around professional practice, then it is expected that the staff will have both academic and professional qualifications. In some countries there is even a minimum requirement for a set percentage of staff to have professional qualifications. Furthermore, many of these professionally trained staff combine their teaching role with professional practice too. (Kirsch, Beernaert, 62-3)

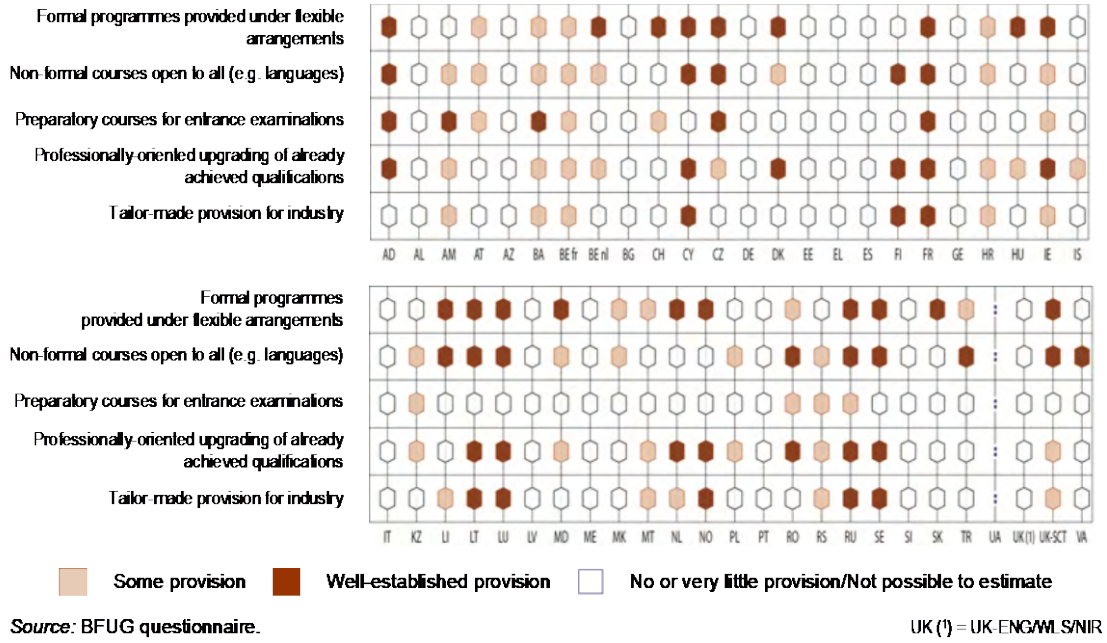
## PART-TIME STUDY IN EUROPE

Flexible delivery is seen as part of the approach to lifelong learning taken by a country. Some have enshrined the equal status of the on-campus and the distant learning student, or those who wish to study while working. In addition, it should be noted that there is no one meaning for 'part-time'. In some places it relates only to the notion of time spent learning, while elsewhere it might relate to funding arrangements. (EC, 2015, 152-3)

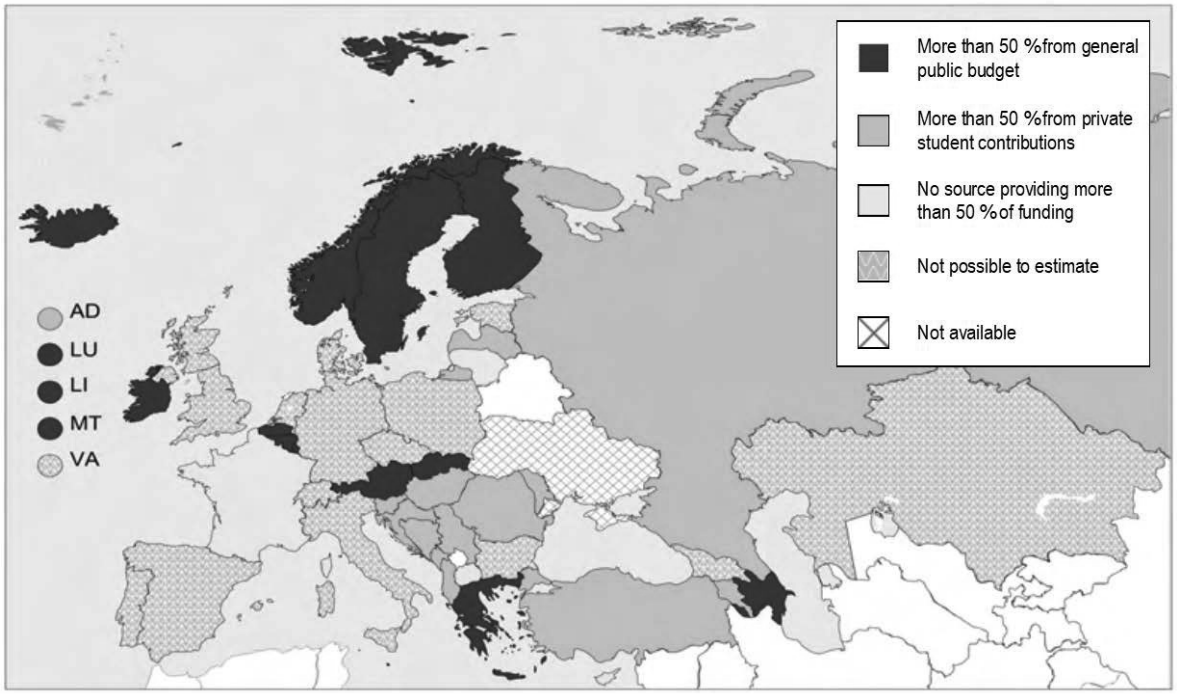
A common approach is to define 'part-time' by the number of credits, the time allowed for completing study, or the theoretical number of hours devoted to studying. Sometimes these are combined for a definition. However, this also means that different combinations end up with the same result. In addition, some countries have no fees for full-time students, but expect part-time students to contribute to their studies, and they might also receive less financial support. (EC, 2015, 153-4. This report has no data on part-time students in Serbia.)

Some part-time study is similar to short cycle in that it offers a variety of options depending upon student circumstances, and sometimes also provides specific options tailored to industry as can be seen in the diagram below. This shows a wide variety of options available in different countries. In particular, it should be noted how part time offerings can be a stepping stone to gaining qualifications for level 5 or level 6 as part of a career change, or for other reasons.

The funding for part time studies depends upon how the countries sees life-long learning. When this is seen part of the national approach to careers, then there is more public funding. Otherwise, as can be seen from the diagram below, funding is a mixture between public and private sources. Some of this private funding is from business, as in Serbia, while elsewhere it is from the students. However, it should be noted that the public funding is not always clear due to the nature of financing and that it only sometimes appears as a line-item in a budget. (EC, 2015, 151-2)



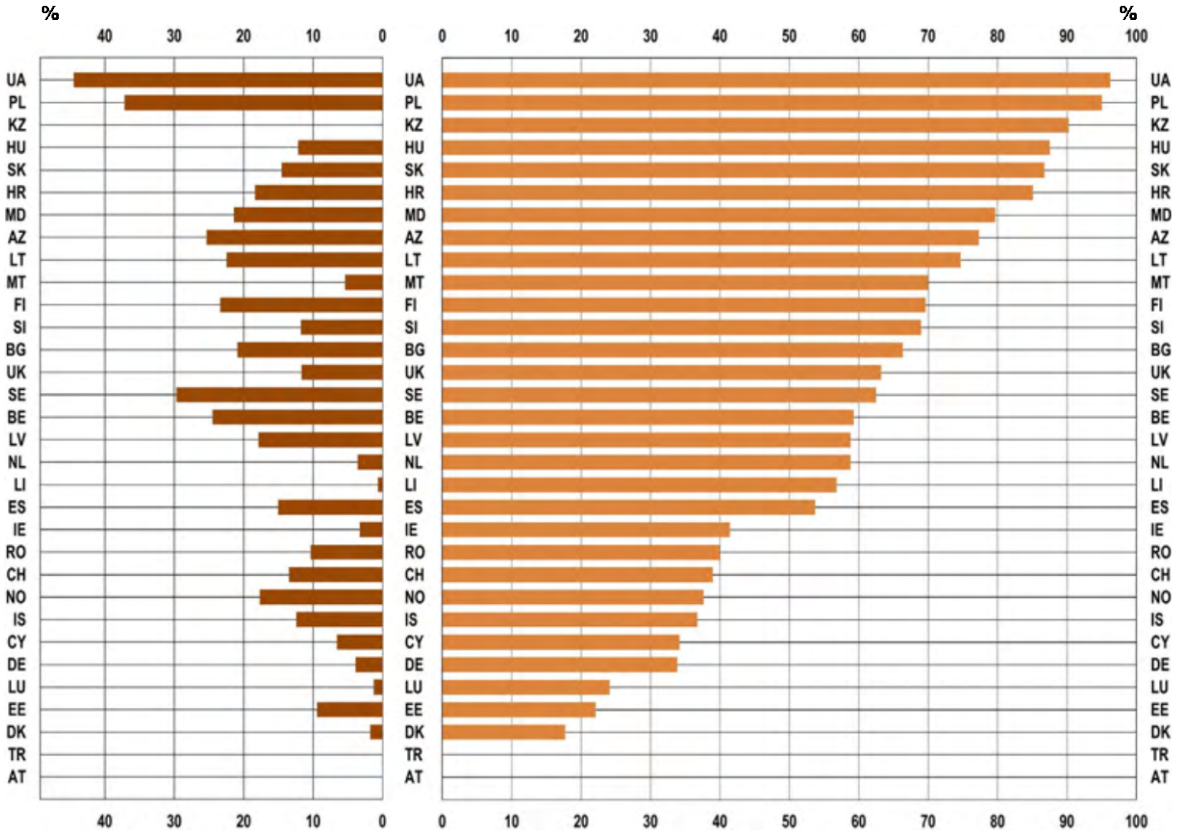

Source EC, 2015, 149.




Source: BFUG questionnaire.

Source: EC, 2015, 151

Part-time students tend to be older students. A number of them are there not long after their first cycle studies, while others might be there ten years later as part of a career change, or due to the need for higher qualifications. Whatever the case, as can be seen from the table below, these students might form a large percentage of students in these age bands. While Serbian data is missing, we can see that almost 70% of students aged 30-34 are part-time, and that only about 12% of the students 20-24 in age are part-time. This suggests, as noted, that different ages of students have different needs, which will need to be addressed accordingly.




| | UA | PL | KZ | HU | SK | HR | MD | AZ | LT | MT | FI | SI | BG | UK | SE | BE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20-24 years old | 44.5 | 37.2 | : | 12.2 | 14.6 | 18.4 | 21.4 | 25.3 | 22.4 | 5.4 | 23.4 | 11.7 | 20.9 | 11.7 | 29.7 | 24.5 |
| 30-34 years old | 96.3 | 95.0 | 90.3 | 87.5 | 86.8 | 85.1 | 79.7 | 77.3 | 74.7 | 70.0 | 69.6 | 69.0 | 66.3 | 63.2 | 62.5 | 59.3 |
| | LV | NL | LI | ES | IE | RO | CH | NO | IS | CY | DE | LU | EE | DK | TR | AT |
| 20-24 years old | 17.9 | 3.6 | 0.6 | 15.0 | 3.3 | 10.3 | 13.5 | 17.7 | 12.4 | 6.5 | 3.9 | 1.3 | 9.4 | 1.7 | 0.0 | 0.0 |
| 30-34 years old | 58.8 | 58.8 | 56.8 | 53.7 | 41.5 | 40.0 | 39.0 | 37.6 | 36.8 | 34.2 | 33.9 | 24.1 | 22.1 | 17.7 | 0.0 | 0.0 |

*Source:* Eurostat, UOE and additional collection for the other EHEA countries.

Source: EC, 2015, 158

## RECOMMENDATION

The recommendation of this report is for Serbia to offer short cycle programmes, which enables students a path between secondary and university with vocational qualifications on the way. This should enable students to stop and start their career and then come back to level 5 if they need to, or want to have a career change. To that end there should also be 'bridge programmes' so that students who have skills and qualifications in one area can also transition into another area as

easily as possible. In the meantime, however, the credits accumulated for different courses should be combined towards continuing education at university level as needed. Specific examples to explore further would be Estonia, Scotland, and Ireland.

In addition, short cycle and first cycle programmes from outside Serbia should also be recognised. This will widen the pool of options for students, as well as to enable others to study short cycle programmes in Serbia. This can best be done by accrediting programmes based on learning outcomes of the students.

With respect to part-time degrees, then legislation should enable students of any age to study part-time. In particular, this should be as flexible as possible for older students, who might have family work commitments, which constrain their options for study. Whether the time measures, or credit measures are used to determine how fast, or slow this happens is probably not important. The key factor would be that it can available to as many students as possible to enable them to move from their current qualifications to the ones they need for their new, or desired role.

**Bibliography**

Kirsch, Magda, Beernaert, Yves. *Short Cycle Higher Education in Europe Level 5: the Missing Link* Brussels, Eurashe, 2011. Available from (accessed 5 June, 2016)

http://www.eurashe.eu/library/l5_report_sche_in_europe_full_report_jan2011-pdf/

European Commission/EACEA/Eurydice, 2015. *The European Higher Education Area in 2015: Bologna Process Implementation Report.* Luxembourg: Publications Office of the European Union. Available from (assessed 13 June, 2016)

http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/182EN.pdf

http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/ANG/Organisation_and_Financing_of_Education_Act_Dec_2015.pdf

Extras

https://ec.europa.eu/ploteus/en/compare offers some comparisons of EQFs across Europe

# КРАТКА АНАЛИЗА ПОЛИТИКА ЕУ И ЗАКОНСКИХ ОКВИРА ЗА УСПОСТАВЉАЊЕ *PART-TIME* СТУДИРАЊА И КРАТКИХ ПРОГРАМА

Bruce Scharlau[1]

b.scharlau@abdn.ac.uk

Rachel Shanks[2]

r.k.shanks@abdn.ac.uk

Nigel Beacham[3]

n.beacham@abdn.ac.uk

## УВОД

У овом документу дат је преглед тренутног стања у земљама чланицама Европске уније и онога што се жели у Србији за успостављање продуженог студирања и кратких студијских програма у високом образовању. Најпре ћемо изложити основу овог извештаја, а затим понудити неке информације о високом образовању у Европи како бисмо ставили *part-time* студирање и кратке програме у контекст три циклуса студија. Затим детаљније истражујемо продужено студирање и кратке програме.

Овај извештај се ослања на два извештаја као и на кратку анкету о земљама чланицама ЕУ. Први користан извештај је „Кратки програми у високом образовању у Европи, ниво 5: карика која недостаје“ *(Short Cycle Higher Education in Europe Level 5: the Missing Link)*, написан 2011. године. Он документује статус кратких програма високог образовања у државама чланицама ЕУ у том тренутку и како се то односи на образовање уопште, као и у оквиру концепта целоживотног учења. Други користан извештај долази из Европске комисије / Извршне агенције Европске уније за образовање, аудио-визуелизацију и културу (EACEA) / Мреже о образовним системима и политикама у Европи (Eurydice) и написан је 2015. године под називом „Европски простор високог образовања у 2015.

[1] Универзитет у Абердину, Школа природних и рачунарских наука, виши предавач

[2] Универзитет у Абердину, Школа за образовање, виши предавач

[3] Универзитет у Абердину, Школа природних и рачунарских наука, виши предавач

години: Извештај о спровођењу болоњског процеса" *(The European Higher Education Area in 2015: Bologna Process Implementation Report)*. Он приказује стање високог образовања у сва три његова циклуса и на ширем подручју, што укључује и Србију, али такође нуди и одређене погледе на кратке програме и продужено студирање.

Различити нивои образовног квалификационог оквира разликују се широм Европе као што се може видети у табели испод, преузетој из горенаведеног извештаја „Карика која недостаје".

<table>
<tr><th>EQF</th><th colspan="2">QF EHEA</th><th>ISCED</th><th></th></tr>
<tr><td>8</td><td>ТРЕЋИ ЦИКЛУС</td><td>ДОКТОР НАУКЕ</td><td>6</td><td></td></tr>
<tr><td>7</td><td>ДРУГИ ЦИКЛУС</td><td>МАСТЕР</td><td></td><td></td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">ПРВИ ЦИКЛУС</td><td rowspan="2">ДИПЛОМИРАНИ</td><td>5A</td><td></td></tr>
<tr><td rowspan="2">5B</td><td rowspan="3">НАЈМАЊЕ ЈАСНА ЗОНА КВАЛИФИКАЦИЈА</td></tr>
<tr><td>5<br>ВИСОКО ОБРАЗОВАЊЕ ИЛИ СТРУКОВНЕ КВАЛИФИКАЦИЈЕ</td><td>КРАТКИ ПРОГРАМ У СКЛОПУ ПРВОГ ЦИКЛУСА</td><td>РАЗНА ЗВАЊА ИЛИ ДИПЛОМЕ</td></tr>
<tr><td>4</td><td>ОДРЕЂЕНЕ ВИШЕ СТРУКОВНЕ КВАЛИФИКАЦИЈЕ КОЈЕ ПРУЖА УСТАНОВА ВИСОКОГ ОБРАЗОВАЊА</td><td></td><td>4 НИВО ОБРАЗОВАЊА ПОСЛЕ СРЕДЊЕГ,А ПРЕ ВИСОКОГ ОБРАЗОВАЊА</td></tr>
<tr><td>3</td><td></td><td></td><td>3</td><td></td></tr>
<tr><td>2</td><td></td><td></td><td>2</td><td></td></tr>
<tr><td>1</td><td></td><td></td><td>1</td><td></td></tr>
</table>

Табела 1: Поређење између: Европског оквира квалификација (EQF), Квалификационог оквира Европског простора високог образовања (QF EHEA), Међународне стандардне класификације образовања (ISCED)

Као што се може видети на табели изнад, четврти ниво образовања се завршава са крајем средње школе, после чега многи ученици могу напредовати на шести ниво образовања када почну да студирају. Међутим, овај скок није могућ за све ученике тако да је такође неопходно проћи кроз пети ниво образовања како би се осигурало да све особе могу пронаћи пут до одговарајуће каријере у датом тренутку, или у будућности као део целоживотног учења. Друга важна улога петог нивоа јесте да пружи почетну тачку онима

који су касније изабрали каријеру, или оним особама којима је потребно да поново покрену каријеру због породичних проблема, реструктурисања каријере или других разлога.

Овај извештај ће користити горепоменуту класификацију, тако да користећи се Европским оквиром квалификација (EQF) квалификација петог нивоа може постати средњи корак на путу ка вишим квалификацијама, али и корак који ће омогућити особама да уђу на тржиште рада на одговарајућем нивоу запошљивости. То би био „кратки програм“ унутар првог циклуса образовања, од око 120 ЕСПБ у националном контексту. Све референце, осим ако није другачије наведено, односе се на нивое студија у склопу Европског оквира квалификација (EQF) .

Овај „ниво 5“ је оно што се сматра потребним између средње школе и високог образовања на универзитетском нивоу. Он нуди пут за многе људе – онима који желе да промене правац, онима који завршавају струковне школе, и онима који имају проблема са формалним образовањем. Овај ниво омогућава студентима да кроз образовање иду корак по корак и на стабилан начин који одговара њиховим потребама. Поред тога, многе студије на петом нивоу су од посебне користи за нетрадиционалне и старије студенте.

Из тог разлога постоје два различита пута којим студије петог нивоа могу тећи. Један можемо видети у образовном систему у Шкотској, и то је пут ка универзитетском образовању. Супротно томе, другачији пут је присутан у Србији и на другим местима, где су квалификације за пети ниво струковне, и стога удаљавају од даљих академских студија, али уместо тога воде ка вишим струковним нивоима квалификација. Ово је такође у уској вези са особљем у струковним школама чије је радно време подељено на рад у просвети и у индустрији тако да се образовање које они нуде сматра за релевантно и савремено.

Поред тога, студије петог нивоа су такође од значаја за индустрију која помаже у развијању нових програма који би одговарали потребама њиховог особља у датом тренутку и у будућности. Пружајући смернице, индустрија може помоћи у обликовању наставних планова и програма за ове образовне програме како би се осигурало да локални послодавци имају особље способно да попуни потребне улоге.

## ПОЗАДИНА ВИСОКОГ ОБРАЗОВАЊА ШИРОМ ЕВРОПЕ

На терцијарном нивоу у Европском простору високог образовања (у даљем тексту: EXEA) (у академској 2011-2012 години), има око 37,2 милиона студената са око 82% на шестом нивоу, и 15,6% на петом нивоу у већој мери окренутом професионалном и струковном оспособљавању, и око 2,7% на седмом нивоу. У Србији, укупан број студената је 231. 661 тј. 178.789 на шестом нивоу, 47.322 на петом нивоу и 5.500 на седмом нивоу,

односно, 77,7% студената је на шестом нивоу, 20,4% на петом нивоу и 2,4% на седмом нивоу. У већини земаља у ЕХЕА, мање од 5% студената је на осмом нивоу, али у великом броју земаља број студената на овом нивоу расте и до 9%. (ЕС, 2015, 29-30) Треба напоменути да овде наведени пети ниво није кратки програм, већ само програм на том нивоу студија.

Већина земаља у ЕХЕА користи модел од 180 или 240 ЕСПБ за програме првог циклуса са 58% оних који користе систем од 180 ЕСПБ и 37% земаља који спроводе модел од 240 ЕСПБ. Пет земаља (Данска, Финска, Немачка, Мађарска и Пољска) додају услов од 30 ЕСПБ за струковно оспособљавање или праксу, тако да се њихови студијски програми састоје од 210 ЕСПБ. (ЕС, 2015, 52-3)

65% програма другог циклуса студија углавном користи модел од 120 ЕСПБ, 16% њих користи модел од 60-75 ЕСПБ, а 13% користи модел од 90 ЕСПБ. За разлику од програма првог циклуса студија, где је струковни програм дужи, у другом циклусу студија струковни програм је обично краћи. (ЕС, 2015, 53-4)

Примена националног оквира квалификација (НОК) је договорена као део болоњског процеса и усвојен је оквир квалификација ЕХЕА, после чега је усвојен и Европски оквир квалификација 2008. године као алат за превођење са једног система квалификација на други. До 2015. године 22 земље су завршиле свих десет корака у процесу примене овог система. Велика Британија, Естонија и друге земље су тај процес у потпуности обавиле. Србија је на деветом кораку са квалификацијама укљученим у НОК, а сада чека на потврду у складу са Европским оквиром за високо образовање. (ЕС, 2015, 68)

ЕХЕА пружа основу за признавање квалификација између држава чланица кроз кориштење ЕСПБ, додатка дипломи и националних оквира квалификација које користе његове чланице. Неки од ових процеса такође су уређени националним законима. Међутим, у пракси то углавном одређују појединачне институције, које своје одлуке заснивају на често употребљаваним документима из Центра за информисање о признавању иностраних високошколских и средњошколских управа и признавање у сврху запошљавања (ENIC/NARIC). Преостаје још пуно посла како би се осигурало да се признавање националних квалификација и високошколских диплома преко граница врши аутоматски. (ЕС, 2015, 79-83)

Трошкови су стабилни од 2012. године за студенте првог циклуса студија који студирају на даљину, при чему већина студената у државним високошколским установама има неке трошкове које мора да покрије. Студентима који студирају на даљину се не наплаћује ниједна такса у укупно седам земаља, укључујући и Шкотску, док у 16 земаља

студенти морају плаћати таксе, иако то може бити само мала административна такса, као у случају Чешке. Начин на који се плаћају ове таксе и ко их плаћа је сложеније питање, а притисак који би то могло имати на студенте и њихове породице варира у великој мери у зависности од износа финансијске помоћи која је студентима на располагању за плаћање такси, надокнада и других трошкова. (EC, 2015, 125-146. Треба напоменути да се у овом извештају не спомиње финансирање кратких програма).

Запошљивост, "способност да се стекне смислено запослење, постане самозапослен, да се одржи запосленост, и да се може кретати унутар тржишта рада" (EC, 2015, 182) не значи неопходно имати посао, већ бити опремљен вештинама потребним за обављање посла. У Србији то може довести до контраинтуитивних резултата. На пример, они са високим, средњим и ниским нивоима образовања (према Међународној стандардној класификацији образовања, високо образовање је на нивоу 5 – 6, средњи ниво је 3 – 4, а ниски 0 – 2) у 2013 старосне доби од 20-34 године износили су 27,9% за високе нивое, 21,1% за средњи нивое и 25,2% за ниже нивое образовања. Другим речима, што је ваш ниво образовања виши, већа је вероватноћа да ћете бити незапослени. (EC, 2015, 183)

Ово се може схватити као сугестија да би студенти могли имати више успеха завршавајући кратке програме како би стекли потребне вештине за запошљавање, уместо да уписују програм првог циклуса студија.

Укљученост послодаваца је важна из више разлога и због тога они учествују у телима за доношење одлука при институцијама високог образовања широм EXEA, као и у развоју плана и програма наставе. Овакав приступ је понекад обавезан, а у другим случајевима је опционалан. Понекад ова опционалност иде јако далеко и послодавци помажу у стварању програма како би задовољили сопствене потребе. (EC, 2015, 199-200)

Понекад је укључивање послодаваца у овај процес обавезно, као што је случај у Румунији и Португалији. Сви програми првог циклуса у Румунији и сви кратки програми у Португалији имају практичну обуку. На то може утицати и финансирање из буџета за подршку програмима обуке и стажирања, чак и када то није обавезно. Слично томе, програми који омогућавају стицање две дипломе, као што су они у Немачкој и Француској, са својом комбиновањем теоријског знања и професионалног искуства такође имају користи од таквих модела финансирања. (EC, 2015, 201-202)

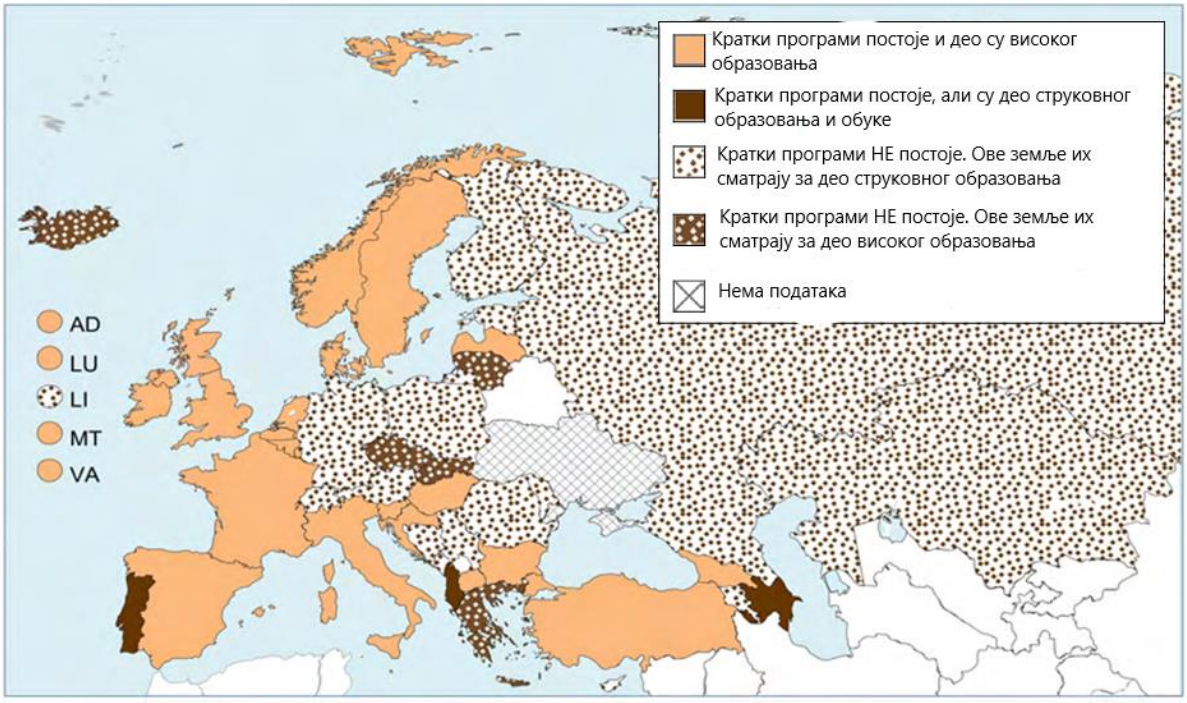
Овај мешовити приступ има за циљ да се избегну каснији проблеми због тога што сви студенти не могу напредовати из једног циклуса у други због разлике између различитих професионалних и струковних програма. То је довело до тога да неке земље користе степене образовања за премошћивање разлике како би омогућиле ову транзицију,

као и да омогуће друге путеве ка високом образовању, као што је признавање претходног учења како би квалификације или кредити могли бити изузети. (EC, 2015, 123)

## КРАТКИ ПРОГРАМИ У ЕВРОПИ

Студенти кратких програма чине мање од 5% свих студената на терцијарном нивоу студија. Кратки програми који трају мање од три године примењују се у мање од половине земаља EXEA, тачније, они не постоје ни у половини земаља чланица. Сада постоји 26 земаља које имају кратке студијске програме. Иако је већина везана за високо образовање, то није увек случај и многе су усклађене са струковним образовањем и обуком. (EC, 2015, 51)

Питање како земље класификују кратке програме и даље је нејасно, као што се види на следећим илустрацијама.

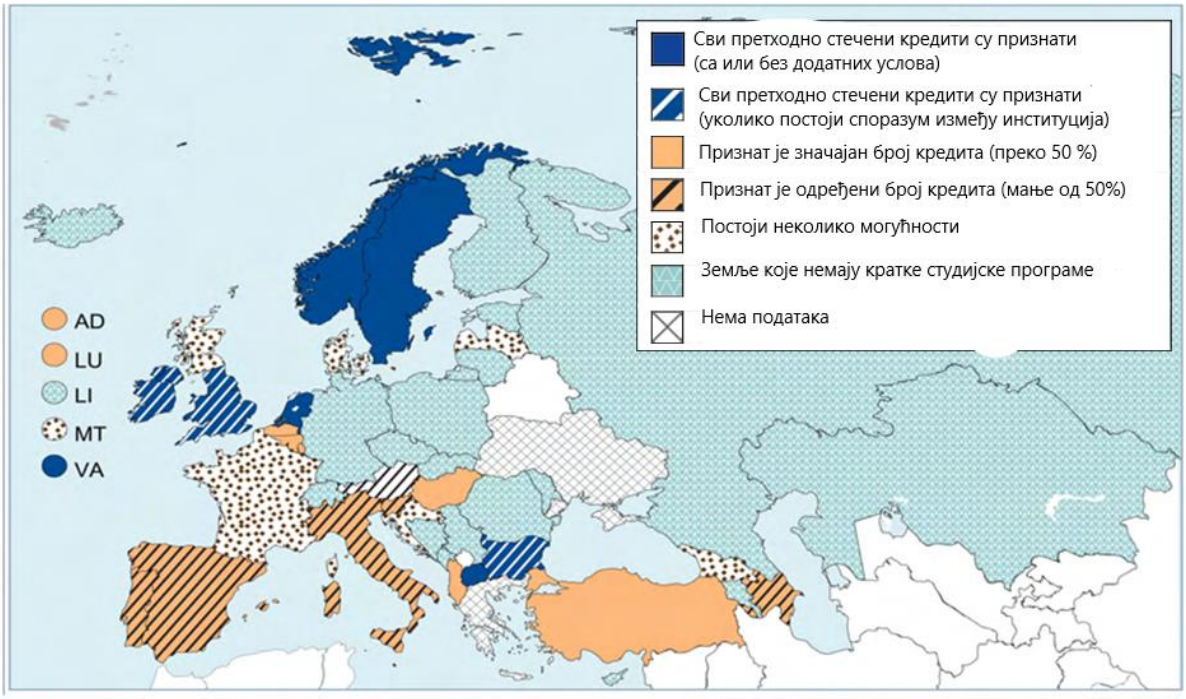



*Source:* BFUG questionnaire.

Извор: EC, 2015, 59

Ово показује да неке земље немају кратке програме, јер је кратки програм део струковног образовања и обуке и зато не води до првог циклуса студија. Друге земље, попут Велике Британије, пружају различите могућности за похађање кратких програма са разним опцијама доступним студентима по завршетку програма. (EC, 2015, 58)

Дужина кратких програма који се могу укључити у програм првог циклуса студија варира од 60 ЕСПБ (једна година) до 180 ЕСПБ (три године), међутим најчешћа верзија је 120 ЕСПБ (две године). Неки од њих воде ка струковним и/или академским квалификацијама. То значи да се сви кратки програми не могу користити као корак до студија првог циклуса. (EC, 2015, 58) Мапа испод показује како кратки програми могу допринети програмима првог циклуса.




Source: BFUG questionnaire

Извор: EC, 2015, 60

Обратите пажњу на то како сада Шкотска показује да могућности за увођење кратких програма постоје, слично Србији и Естонији, и на то како неке земље као што је Ирска омогућавају институцијама да успоставе споразуме за артикулацију преласка са кратког програма на први циклус студија.

У већини земаља, наставни план и програм за кратке програме је комбинација праксе и теорије са тим да неки од њих захтевају праксу на конкретном радном месту због стуковне природе програма. Неке земље, као што је Велика Британија, имају различите наставне планове и програме за различите институције у зависности од природе програма. На пример, већа је вероватноћа да програм који комбинује академско и струковно образовање укључује више учења директно везаног за посао и радно место него што је случај са програмима који више сличе академском образовању. (Kirche, Beernaert, 44-45)

Када се кратки програм заснива на професионалној пракси, онда се очекује да особље има и академске и професионалне квалификације. У неким земљама постоји чак и минимални услов за ангажовање одређеног процента особља који има професионалне квалификације. Штавише, велики део оваквог стручно обученог особља комбинује своју наставничку улогу са радом у струци. (Kirsch, Beernaert, 62-3)

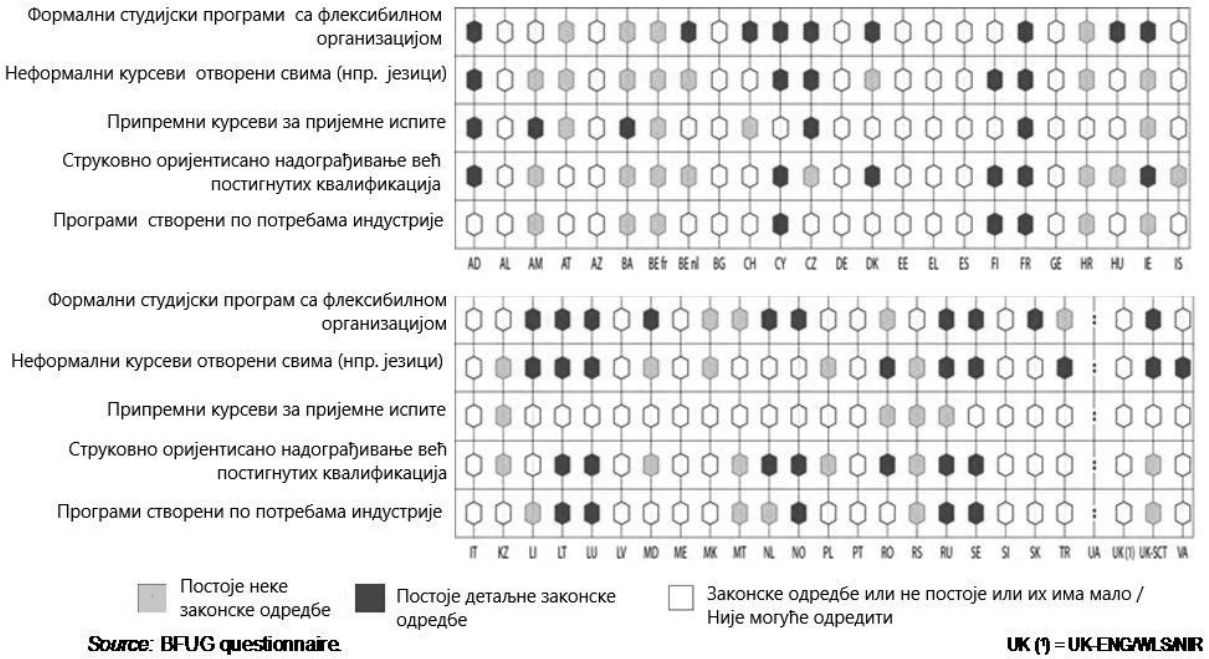
## *PART-TIME* СТУДИЈЕ У ЕВРОПИ

Флексибилно спровођење се сматра делом приступа целоживотном учењу које земља примењује. Неке од њих гарантују једнак статус студентима који долазе на наставу и студентима на даљину, или онима који желе да студирају док раде. Поред тога, треба напоменути да не постоји једно значење за термин *part-time* студирање. На неким местима то се односи само на појам времена проведеног студирајући, док се на другим местима може односити на финансирање студија. (EC, 2015, 152-3)

Уобичајени приступ да се овај термин дефинише јесте на основу броја кредита, времену дозвољеном за завршетак студија или теоријском броју сати посвећених учењу. Понекад се ови елементи комбинују у дефиницијама. Међутим, то такође значи да различите комбинације завршавају са истим резултатом. Поред тога, неке земље немају таксе за редовне студенте, али очекују да студенти који уписују *part-time* студије финансирају своје студије, који притом могу добијати и мању финансијску подршку. (EC, 2015, 153-4. Овај извештај нема података о студентима на продуженим студијама у Србији.)

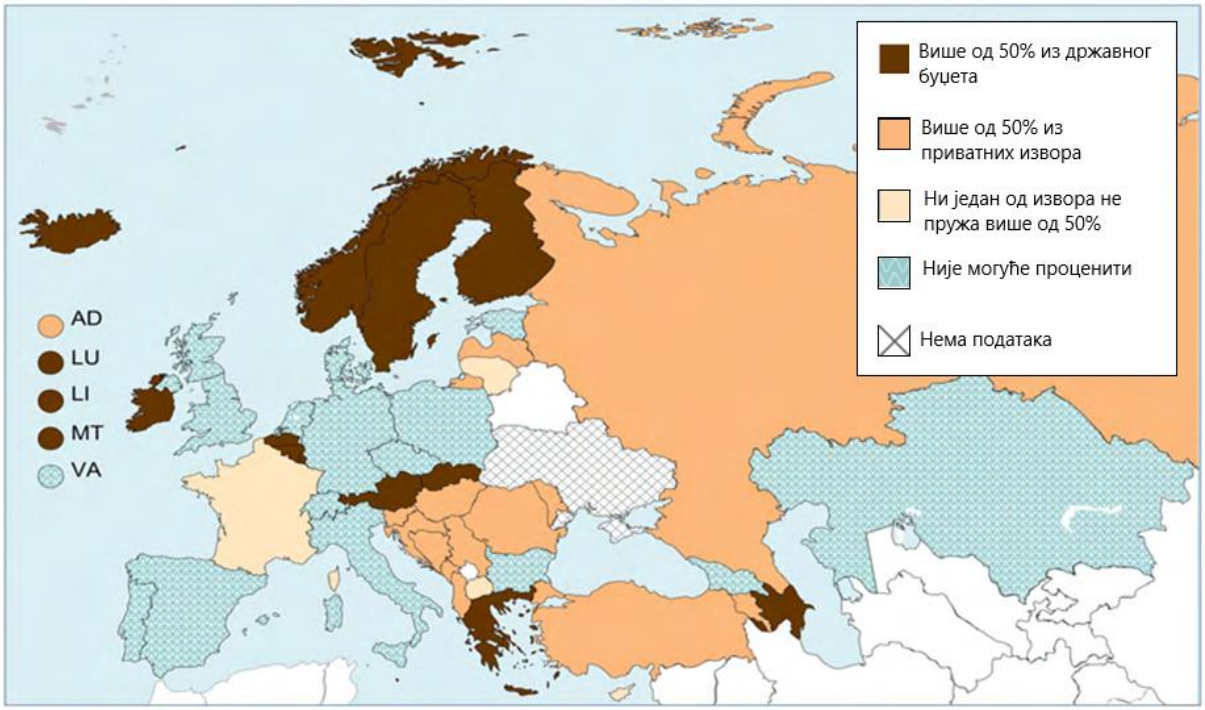
Неки програми *part-time* студија су слични кратким програмима по томе што нуде различите опције студирања у зависности од околности у којима се студент налази, а понекад нуде и специфичне програме прилагођене индустрији, као што се може видети на дијаграму испод. Ово показује широк спектар опција доступних у различитим земљама.

Конкретно, треба напоменути како оно што нуди продужено студирање може бити од великог значаја за стицање квалификација петог и шестог нивоа у склопу промене квалификације, или из других разлога.




Извор: EC, 2015, 149.

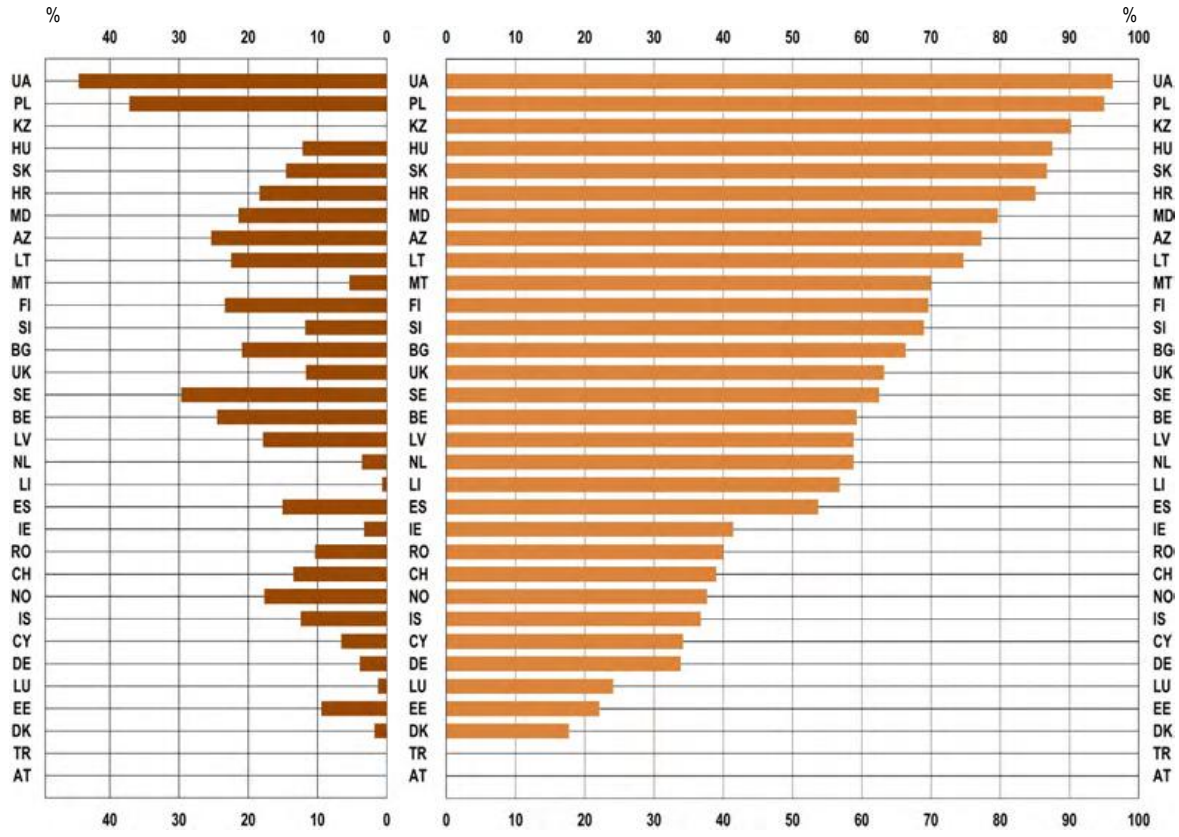
Финансирање *part-time* студирања зависи од тога какво виђење целоживотног учења има земља која га спроводи. Када се оно посматра као део националног приступа развоју каријере онда је у већој мери финансирано из државног буџета. У осталим случајевима, као што се може видети на дијаграму испод, финансирање је често комбинација између државног буџета и приватних извора. Део овог приватног финансирања обезбеђују бизниси, као у Србији, док је на другим местима то одговорност студената. Међутим, треба напоменути да финансирање из државног буџета није увек јасно због природе финансирања и да се само понекад појављује као ставка у буџету. (EC, 2015, 151-2)




Source: BFUG questionnaire.

Извор: EC, 2015, 151

Студенти *part-time* студија су углавном старији студенти. Један број њих се ту нађе недуго након завршетка студија првог циклуса, док се други ту могу наћи десет година касније као део промене професије, или због потребе за вишим квалификацијама. У сваком случају, као што се може видети из табеле у наставку, ови студенти могу чинити велики постотак студената у овим старосним групама. Иако подаци о Србији недостају, видимо да скоро 70% студената старости од 30 до 34 година похађа *part-time* студије, али и да их похађа само око 12% студената старости од 20 до 24 године. Ово указује, као што је напоменуто, да различите старосне групе студената имају различите потребе којима ће морати да се изађе у сусрет.




| | UA | PL | KZ | HU | SK | HR | MD | AZ | LT | MT | FI | SI | BG | UK | SE | BE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20-24 years old** | 44.5 | 37.2 | : | 12.2 | 14.6 | 18.4 | 21.4 | 25.3 | 22.4 | 5.4 | 23.4 | 11.7 | 20.9 | 11.7 | 29.7 | 24.5 |
| **30-34 years old** | 96.3 | 95.0 | 90.3 | 87.5 | 86.8 | 85.1 | 79.7 | 77.3 | 74.7 | 70.0 | 69.6 | 69.0 | 66.3 | 63.2 | 62.5 | 59.3 |
| | **LV** | **NL** | **LI** | **ES** | **IE** | **RO** | **CH** | **NO** | **IS** | **CY** | **DE** | **LU** | **EE** | **DK** | **TR** | **AT** |
| **20-24 years old** | 17.9 | 3.6 | 0.6 | 15.0 | 3.3 | 10.3 | 13.5 | 17.7 | 12.4 | 6.5 | 3.9 | 1.3 | 9.4 | 1.7 | 0.0 | 0.0 |
| **30-34 years old** | 58.8 | 58.8 | 56.8 | 53.7 | 41.5 | 40.0 | 39.0 | 37.6 | 36.8 | 34.2 | 33.9 | 24.1 | 22.1 | 17.7 | 0.0 | 0.0 |

*Source:* Eurostat, UOE and additional collection for the other EHEA countries.

Извор: EC, 2015, 158

## ПРЕПОРУКА

Препорука овог извештаја је да Србија уведе кратке програме, што студентима пружа путању на којој могу добити струковне квалификације између средњег образовања и универзитета. Ово би требало да омогући студентима да стопирају образовање и започну професионалну каријеру, а затим да се врате на пети ниво уколико им је то потребно, или уколико желе да промене професију. У ту сврху треба да постоје и програми „мостови“ између два области, тако да студенти који поседују вештине и квалификације у једној области такође могу што лакше прећи у другу област. У међувремену, требало би омогућити да се кредити акумулирани са различитих курсева могу комбиновани по потреби у циљу наставка образовања на универзитетском нивоу. Конкретни примери за даље истраживање били би Естонија, Шкотска и Ирска.

Поред тога, треба признати и кратке програме и програме првог циклуса изван Србије. То ће проширити опсег могућности за студенте, као и омогућити другима да похађају кратке програме у Србији. То се најбоље може спровести акредитовањем програма који се заснивају на исходима учења студената.

Што се тиче програма *part-time* студирања, законодавство би требало да омогући студентима било које старосне доби да похађају ове програме. Ово се нарочито односи на што већу флексибилност за старије студенте, који могу имати обавезе на послу или у породици, што ограничава њихове могућности за студирање. Да ли се брзина студирања односи на временски период студирања или на стечене кредите вероватно није важно. Кључни фактор би био да *part-time* студирање може бити доступно што већем броју студената како би им се омогућило да пређу са својих тренутних квалификација на оне које су им потребне за њихово ново или жељено радно место.

Библиографија:

Kirsch, Magda, Beernaert, Yves. *Short Cycle Higher Education in Europe Level 5: the Missing Link* Brussels, Eurashe, 2011. Available from (accessed 5 June, 2016) http://www.eurashe.eu/library/l5_report_sche_in_europe_full_report_jan2011-pdf/

European Commission/EACEA/Eurydice, 2015. *The European Higher Education Area in 2015: Bologna Process Implementation Report.* Luxembourg: Publications Office of the European Union. Available from (assessed 13 June, 2016) http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/182EN.pdf http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/ANG/Organisation_and_Financing_of_Education_Act_Dec_2015.pdf

Додатна библиографија:

https://ec.europa.eu/ploteus/en/compare нуди поређења Европског квалификационог оквира широм Европе

# SURVEY RESULTS ON EMPLOYER'S INTEREST FOR FLEXIBLE FORMS OF EDUCATION WITHIN THE PT&SCHE PROJECT

**Biljana Gajić**
biljana.gajic@pks.rs

**Ana Milićević**
anam@kombeg.org.rs

**Barbara Stanišić**
barbara@kombeg.org.rs

**Jelena Radić**
jelenar@kombeg.org.rs

**Irena Kaljevic Zimonja**
irena.kaljevic@pks.rs

**Emil Čukić**
emil.cukic@pks.rs

**Dragan Ristović**
dragan.ristovic@pks.rs

**Belgrade Chamber of Commerce**

## INTRODUCTION

One of the first activities of the project was to examine the situation on the labor market and the needs of employers offered through new forms of education. Accordingly, Belgrade Chamber of Commerce conducted a survey among its members. The main objectives of this study were:

- Identify the real needs of employers in terms of defined profiles and competencies of staff,
- The establishment of real need and interest of employers for flexible forms of education and training.

The research on the interest of employers for flexible forms of education was conducted from March to May 2016, as online survey which was completed by 212 companies. The survey instrument was a questionnaire specifically designed for that study, which was divided into five parts:

I General information
II Study and work (Part time study)
III Short cycle study (Short programs)
IV Development plan
V Specific competencies.

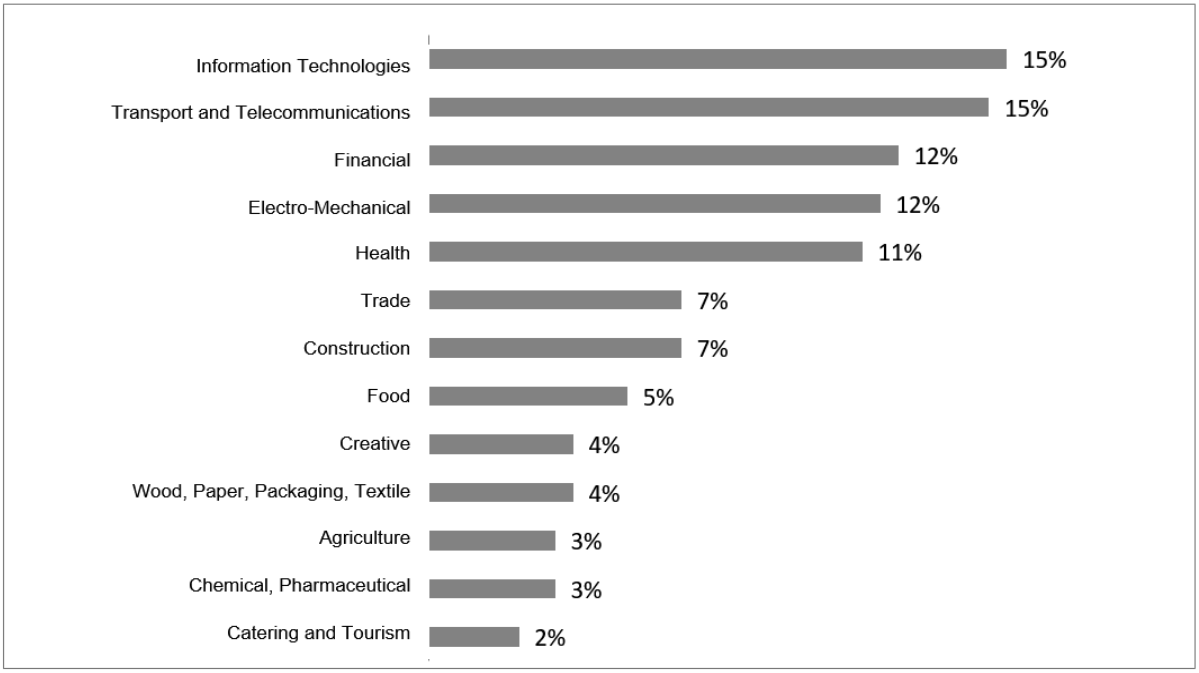
Data analysis was conducted by the project team of Belgrade Chamber of Commerce, in cooperation with the project team at the University of Novi Sad. The results are presented in tables and graphs. We performed the analysis obtained by crossing the answer depending on:

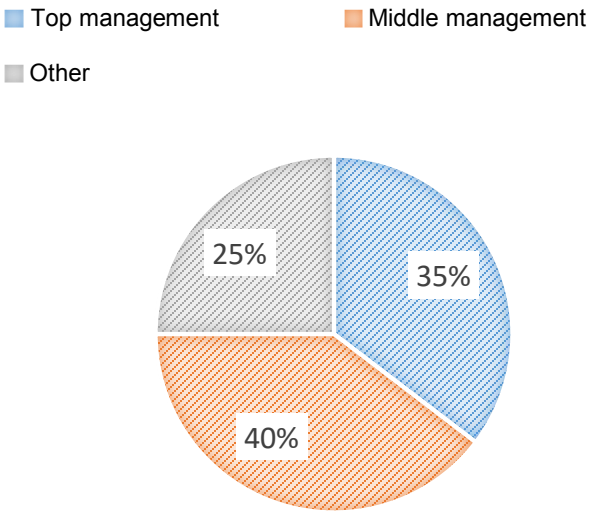
- sectors to whom company belongs (business is divided into three main sectors - the sectors of high technology, manufacturing and services);
- the size of the company (small, medium, large);
- job position of the participant in business organization (top management, middle management, other).

## 1. GENERAL INFORMATION

The answers to the first part of the questionnaire are presented graphically (charts 1-5) and tabular (Tables 1 and 2). The questions are designed to obtain basic information on the respondents, or on Companies representing.

**Graph 1. Which industry do you mainly represent?**






**Graph 3. The size of your company**

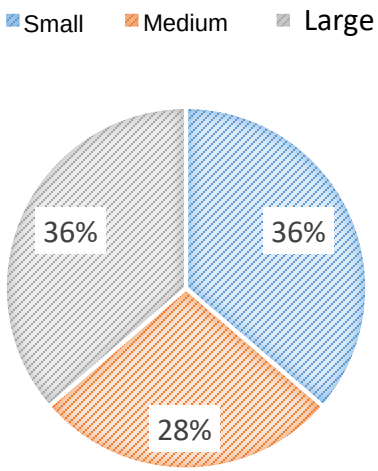
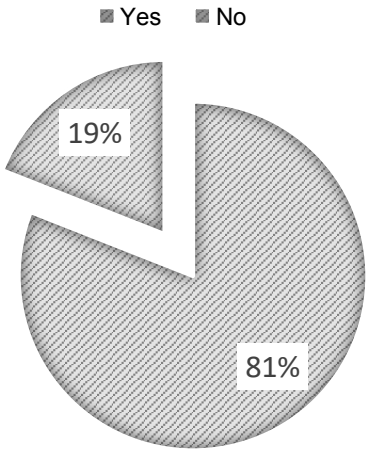


**Table 1. Cross tab – size of the company and job position**

| | | Level within the company | | | |
|---|---|---|---|---|---|
| | | Other | Top management | Middle management | Total |
| The size of the company | Small | 9 | 51 | 17 | 77 |
| | Medium | 16 | 8 | 34 | 58 |
| | Large | 28 | 16 | 33 | 77 |
| Total | | 53 | 75 | 84 | 212 |

**Graph 4. Does the labor market respond to all HR needs of your company?**




**Graph 5. Are there positions in your company that demand intermediate qualification level, i.e. a level between secondary and university education?**

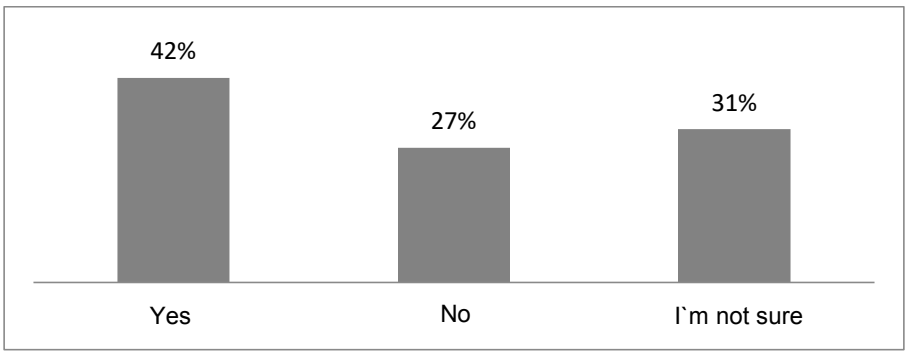


**Table 2. Is there a need for new work profile of employees according to activities of your company? Cross tab according to the size of a company**

| | | The size of the company | | | |
|---|---|---|---|---|---|
| | | Small | Medium | Large | Total |
| Is there a need for new work profile of employees according to activities of your company? | Yes | 37.7% | 27.6% | 31.2% | 32.5% |
| | No | 31.2% | 44.8% | 20.8% | 31.2% |
| | I`m not sure | 31.1% | 27.6% | 48.0% | 36.3% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

In relation to economic activity, which is core business in the company, the highest number of responses were obtained from the IT sector and transport and telecommunications, followed by the financial sector, the electro-mechanical industry and healthcare. Regarding the job position, most respondents belong to the middle level of management, followed by respondents from the highest levels of management, while the least responses were obtained from respondents who do not belong to the company's management system. The study equally represented commercial companies of all sizes (small, medium and large).

To the question "Does adequate personnel for all job positions in your business enterprise exist on the labor market?" 81% of respondents gave a negative answer. The survey results show that the greatest need for personnel was reported in economic profession as well as personnel from the IT sector. On the other hand, 42% of respondents said that there are working positions for which the necessary knowledge is on the level between secondary and higher education. This kind of positions is primarily for IT professionals, as well as certain professions in engineering and construction industries.

Almost equal distribution of answers was obtained on the question whether there is a need for new profiles. Depending on the size of the company, it can be noted that less than half of respondents (44.8%) from medium size companies gave a negative answer to this question. Also, almost half of respondents (48.0%) of large companies could not give a concrete answer to this question.

## 2. STUDY AND WORK (PART TIME STUDY)

The second part of the questionnaire was designed to provide answers of interest to "part time" studying or studying while working. At the beginning of the section a brief explanation was given

what this kind of study involves. Answers to this part of the questionnaire are also given in graphic (Charts 6 and 7) and tables (Tables 3-5).

**Graph 6. Do your employees with a high school degree perform tasks that require university degree?**

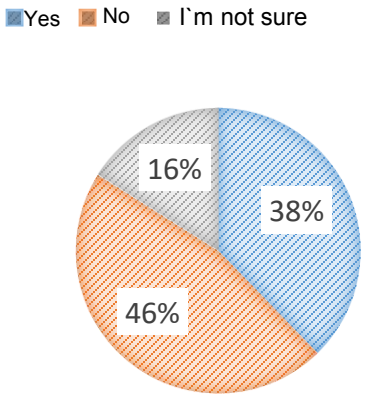



**Table 3. Cross tab according to the type of industry**

| | | Sector (type of industry) | | | |
|---|---|---|---|---|---|
| | | Hi-tech | Production | Service | Total |
| Do your employees with a high school degree perform tasks that require university degree? | Yes | 34.0% | 46.2% | 34.0% | 37.7% |
| | No | 36.2% | 38.5% | 56.0% | 46.2% |
| | I`m not sure | 29.8% | 15.4% | 10.0% | 16.0% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

**Graph 7. Would your company support employees to study alongside the work? In what way?**

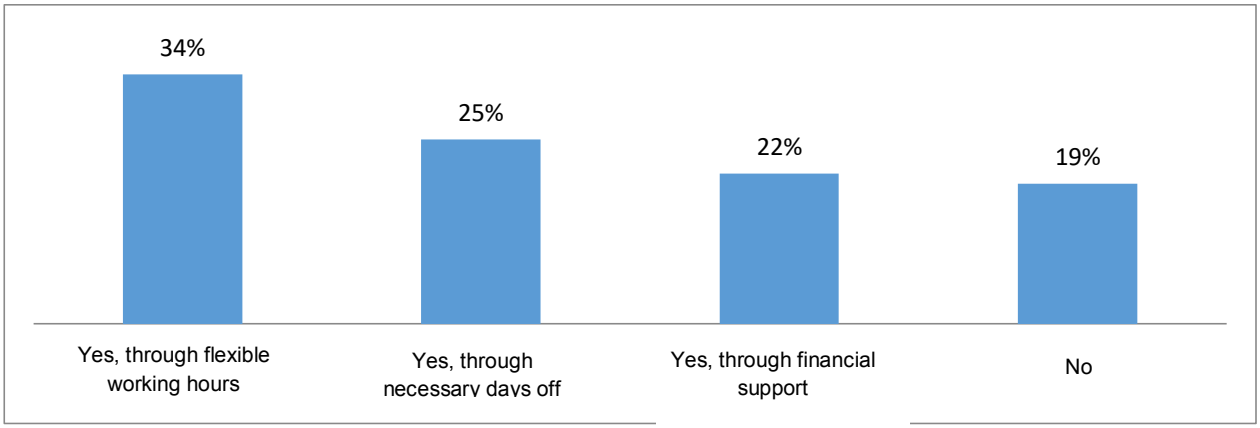


**Table 4. Cross tab based on the size of company**

| | The size of the company | | | Total |
|---|---|---|---|---|
| | Small | Medium | Large | |
| Yes, through flexible working hours | 53.2% | 29.3% | 19.5% | 34.4% |
| Yes, through necessary days off | 20.8% | 31.0% | 26.0% | 25.5% |
| Yes, through financial support | 11.7% | 17.2% | 32.5% | 20.8% |
| No | 14.3% | 22.4% | 22.1% | 19.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

**Table 5. Cross tab according to the employer position**

| | Level within the company | | | Total |
|---|---|---|---|---|
| | Other | Top management | Middle management | |
| Yes, through flexible working hours | 26.4% | 48.0% | 27.4% | 34.4% |
| Yes, through necessary days off | 26.4% | 21.3% | 28.6% | 25.5% |
| Yes, through financial support | 18.9% | 12.0% | 29.8% | 20.8% |
| No | 28.3% | 18.7% | 14.2% | 19.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

Nearly half of respondents (46%) believe that on the positions that require higher education diploma are placed people with adequate qualifications. A slightly smaller percentage (38%) has a different opinion - employees with secondary diploma perform tasks that require higher education diploma.

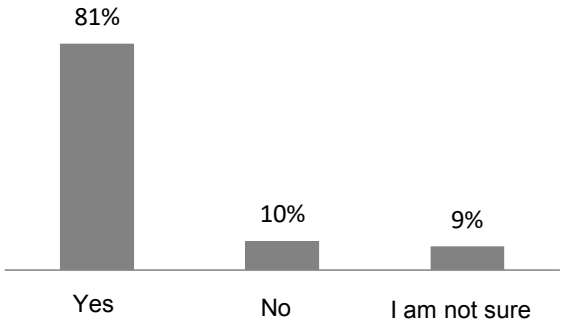
Further analysis revealed that almost equal percentage of affirmative answers was given according to the type of industry (slightly higher percentage in the manufacturing sector), while more than half of respondents (56%) in the services sector gave negative answer.

The majority of respondents (81%) believes that the company's management would support employer to study and work, through flexible working hours (34%) needed time off (25%), and even through the financial support (22%). Support for employer's learning through flexible working hours is most pronounced among small companies, as well as persons representing the highest level of management, while large companies are primarily willing to segregate some funding for such activities.

## 3. SHORT CYCLE STUDY (SHORT PROGRAMS)

At the beginning of this survey part, a brief explanation about the short cycles in education was given. Answers to questions are presented in graphs 8 and 9, and tables 6 and 7.

**Graph 8. Are there working profiles in your company which require specialization within a field of knowledge?**




**Graph 9. Would your company support short cycle studying?**

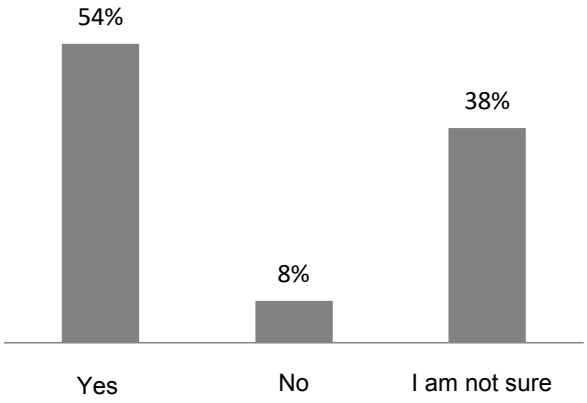



**Table 6. Cross tab based on the size of company**

| | | The size of the company | | | Total |
|---|---|---|---|---|---|
| | | Small | Medium | Large | |
| Would your company support short cycle studying? | **Yes** | **64.9%** | **48.3%** | **46.8%** | **53.8%** |
| | **No** | **3.9%** | **10.3%** | **9.1%** | **7.7%** |
| | **I am not sure** | **31.2%** | **41.4%** | **44.1%** | **38.5%** |
| **Total** | | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

**Table 7. Cross tab based on the job position of the respondents**

| | | Level within the company | | | |
|---|---|---|---|---|---|
| | | Other | Top management | Middle management | Total |
| Would your company support short cycle studying? | Yes | 35.8% | 68.0% | 52.4% | 53.8% |
| | No | 17.0% | 6.7% | 2.4% | 7.7% |
| | I am not sure | 47.2% | 25.3% | 45.2% | 38.5% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

Great need for highly specialized training is evident (81%). More than half of respondents (54%) believe that the acquisition of new knowledge through studying in short cycles would be supported by employers. The greatest need for highly specialized training is the areas of IT, finance, new technologies, and environmental protection. Further analysis revealed, that the most supporting enterprises for this kind of study were small businesses (64.9%), whereas the small (48.3%) and large enterprises (46.8%) have a similar approach to this issue. A large percentage of respondents belonging to the control system of companies, responded affirmatively to this question (the highest level of management 68.0%, middle level management 52.4%).

### 4. Development plan

This group of questions was designed to gain a better insight into the development capacities and plans of companies that participated in the survey. Answers to questions are presented graphically (Charts 10 and 11) and tabular (Tables 8-11).

**Graph 10. Does your company plan the expansion of existing business program or the introduction of new types of work?**

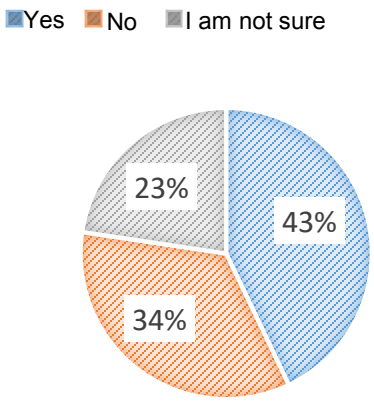


**Table 8. Cross tab based on the size of company**

| | | The size of the company | | | Total |
|---|---|---|---|---|---|
| | | Small | Medium | Large | |
| Does your company plan the expansion of existing business program or the introduction of new types of work? | Yes | 55.8% | 32.8% | 37.7% | 43.0% |
| | No | 36.4% | 34.5% | 32.5% | 34.4% |
| | I am not sure | 7.8% | 32.7% | 29.8% | 22.6% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

**Graph 11. Does your company plant to recruit new employees?**

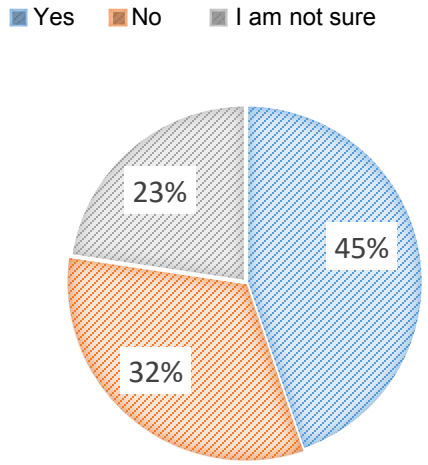



**Table 9. Cross tab based on type of industry**

| | | Sector (type of industry) | | | Total |
|---|---|---|---|---|---|
| | | Hi-tech | Production | Service | |
| Does your company plant to recruit new employees? | Yes | 51.0% | 44.6% | 42.0% | 44.8% |
| | No | 21.3% | 27.7% | 41.0% | 32.5% |
| | I am not sure | 27.7% | 27.7% | 17.0% | 22.7% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

**Table 10. Cross tab based on the size of company**

| | | The size of the company | | | |
|---|---|---|---|---|---|
| | | Small | Medium | Large | Total |
| Does your company plant to recruit new employees? | Yes | 55.8% | 41.4% | 36.4% | 44.8% |
| | No | 29.9% | 31.0% | 36.4% | 32.5% |
| | I am not sure | 14.3% | 27.6% | 27.2% | 22.7% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

**Table 11. Cross tab according to the job (level) position**

| | | Level within the company | | | |
|---|---|---|---|---|---|
| | | Other | Top management | Middle management | Total |
| Does your company plant to recruit new employees? | Yes | 34.0% | 58.7% | 39.3% | 44.8% |
| | No | 34.0% | 30.7% | 33.3% | 32.5% |
| | I am not sure | 32.0% | 10.6% | 27.4% | 22.7% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

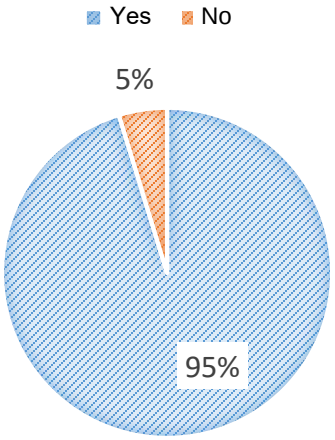
Almost half of respondents (43%) gave positive answer to the question about the existence of the plan of expanding the existing business program, as well as the introduction of new types of jobs, while less than a quarter of respondents (23%) gave negative answer. One-third of respondents (34%) do not know the company policy regarding this issue. A similar percentage of answers was obtained on the question of recruiting new employees, with slightly greater need for recruitment of new staff in the high tech sector and in small enterprises.

The need for business expansion is noticeable high in small enterprises, opposed to medium and large companies.

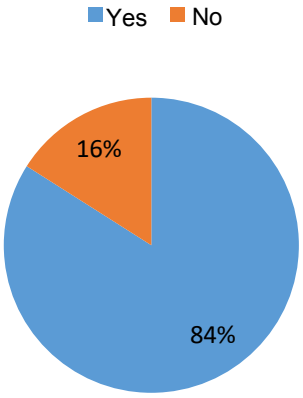
### 5. Specific competencies

The aim of this questionnaire part was to obtain information from the labor market on the needs for additional competencies of employees (foreign languages, computer competence, managerial and special skills). The answers are given in the graph (Charts 12-20) and tables (Table 12).

**Graph 12. In addition to formal and vocational education, do you think that there is a need for the acquisition of some of the following competencies?**




**Graph 13. Foreign language**




**Graph 14. Which foreign languages?**

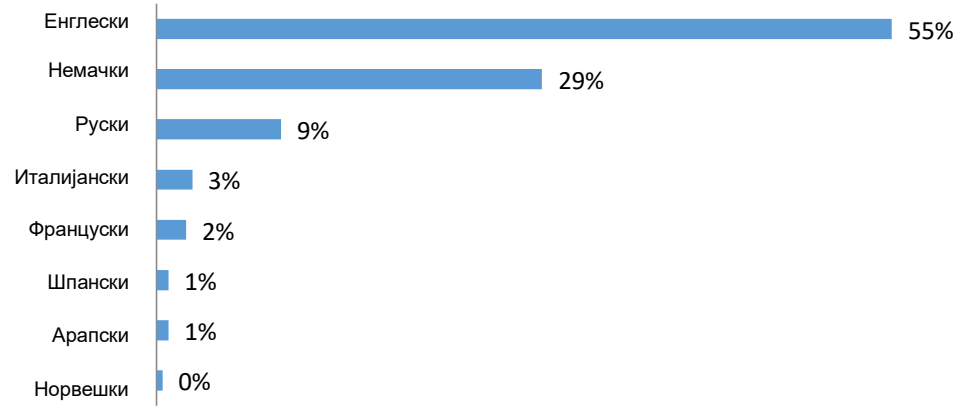
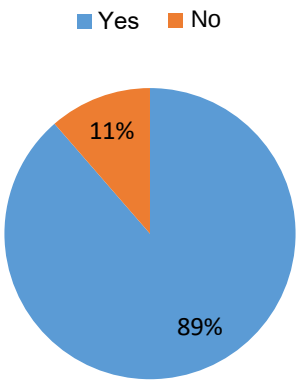


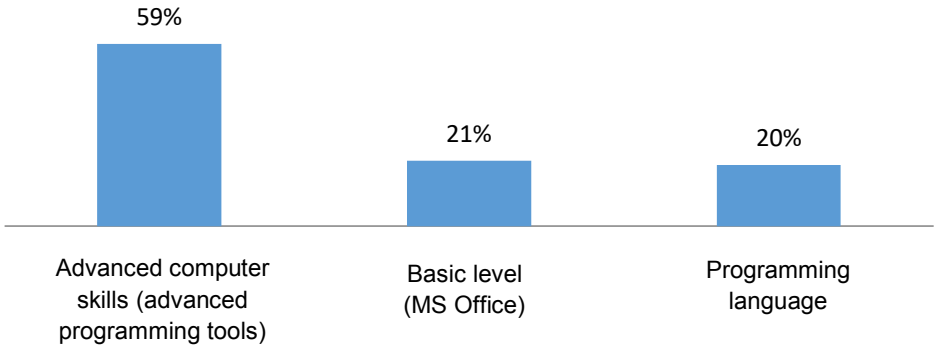
**Table 12. Cross tab according to the job (level) position**

| | | Level within the company | | | |
|---|---|---|---|---|---|
| | | Other | Top management | Middle management | Total |
| Is there a need for learning the foreign language? | Да | 90.2% | 88.9% | 75.3% | 84.0% |
| | Не | 9.8% | 11.1% | 24.7% | 16.0% |
| Total | | 100.0% | 100.0% | 100.0% | 100.0% |

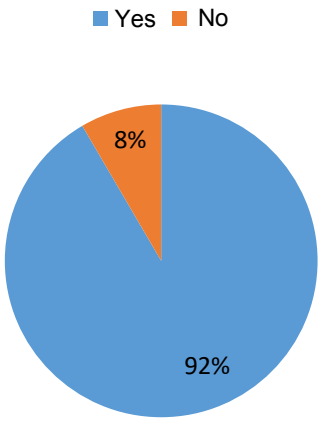
**Graph 15. Computer skills**



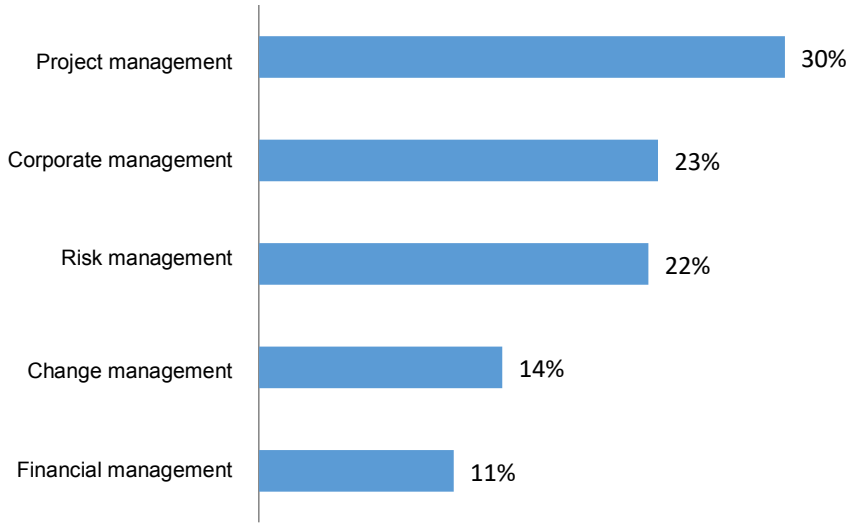

**Graph 16. Level of computer competencies**



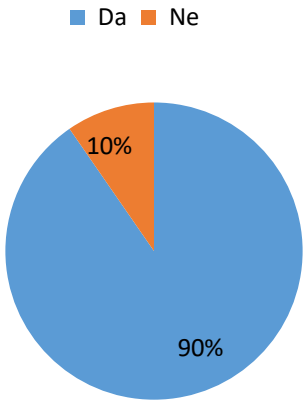
**Graph 17. Management skills**



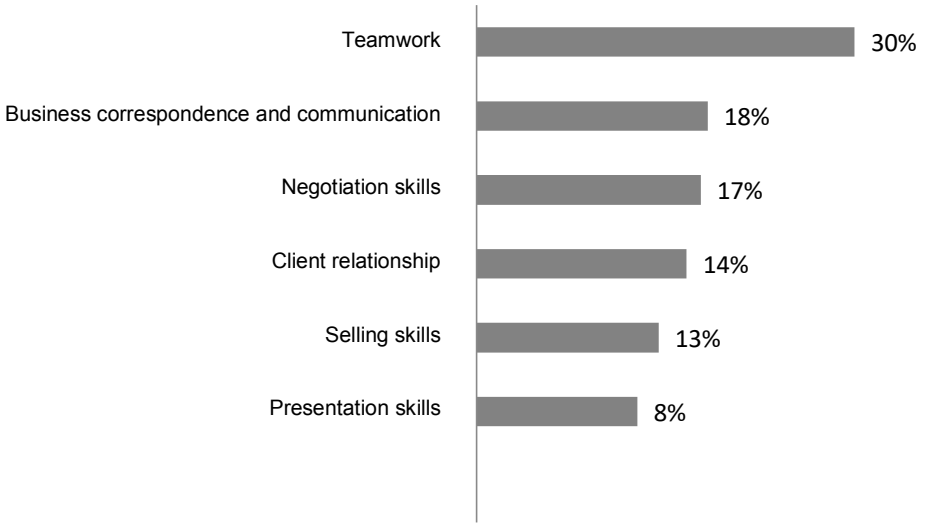

**Graph 18. Which managerial skills need to be improved?**




**Graph 19. Special skills**



**Graph 20. Which special skills need to be improved?**




## CONCLUSION

There is a clear need for additional training and/or retraining employees within the companies. Companies are ready to invest in the education of their employees and thus bridge the difference between classical education and the needs of the market. There are small differences in needs depending on the size of the company, as well as to the corporate sector. As an overall conclusion the economy is interested to the introduction of new studying models, and well to provide a support in various ways to encourage employees for further education.

## ROUND TABLE HELD AT BELGRADE CHAMBER OF COMMERCE WITHIN THE PT&SCHE PROJECT

In addition to the survey, the Belgrade Chamber of Commerce has also organized round tables which aim was to, through talks and discussions with the relevant stakeholders, receive direct opinions from employers, or from the industry. Roundtables have enabled an insight into the real state of the economy needs in order to make programs and education strategy that will enable increased competitiveness of economic subjects and higher level of employment in the economy, as end-user of learning outcomes.

Suggestions and conclusions

**Availability of information about the possible educational profiles**. One of the conclusions was that during the project a web site should be formed that will give a detailed list of all courses that are "offered" with all the necessary information (where training takes place, who is offering training, what is the result of such training, what kind of certificate is acquired...). Market education exist and it should not be ignored and it is very important that there is a direct link between the service providers (educational institutions) and those who needed the service.

**Better communication of all relevant stakeholders**. It was concluded that there is insufficient correlation between the economy and education system. Mutual influence is necessary and strengthens the connection between the economy and business associations (chambers of commerce, employers' unions and other business and professional associations), education and training institutions and relevant ministries in order to harmonize educational programs with the needs of the economy. It is necessary to establish better communication between relevant ministries (Ministry of Education, Ministry of Finance, Ministry of Economy), higher education institutions and businesses. The economy must have a greater role in the development of curriculum.

**National Qualifications Framework (NQF)**. It is essential during the development of education programs to clearly define the inputs and outcomes of learning. The national qualifications framework should balance the need with what the education system provides. NQF should be defined so that its structure will be formed primarily on the basis of information submitted by industry representatives. It will also allow institutions of higher education systems to define curricula based on real demands of the labour market.
**Short courses**. It was concluded that the introduction of educational programs through short cycles could solve some of the most acute problems in Serbia, such as lack of jobs (both for those with higher diploma and with a high school degree) and the lack of two-subject teachers. Shorter learning programs would allow the introduction into the real job more efficient.

**Employers - opinions, experiences, problems**. There is a clear company need for additional training and/or retraining of their employees. They are ready to invest in the education of their employees and thus bridge the difference between classical education and the needs of the market. Companies are willing to set aside certain funds for it, but very important is that this training is outside working hours. The labour market places emphasis on real knowledge and abilities, rather than formal education. Therefore, it is necessary to break the conservatism in education, because companies need knowledge and competence. There is a clear need and a request for an increase in the volume of practical training and the ability to practice with the employers, which in Serbia is not a legal obligation. On the other hand, in order to prevent the outflow of the labour force, it is

necessary to devise a legal framework that would protect employers who invest financial resources or otherwise stimulates the further education of their employees (working hours, days off ...). Also, employers who are willing to provide their employees additional education and acquiring competences, should be given incentives through certain tax breaks.

**The state of education system in Serbia**. There is a need for additional education of teaching staff, and the compatibility of their knowledge and curriculum with the latest global trends in the certain field. Experience and good practices of other countries should be the basis for defining the necessary changes in the educational system of Serbia.
One of the problems of the education system in Serbia is the process of accreditation that can last for up to two or three years, which in the field of information technology is a major problem, as this is an area where changes occur almost on a daily basis. Because of all this, the main goal of the implementation of the results of this project is to establish a dynamic, flexible system that is not burdened by complicated accreditations and bureaucracy and to be guided by the needs of the market.

# РЕЗУЛТАТИ АНКЕТЕ О ЗАИНТЕРЕСОВАНОСТИ ПОСЛОДАВАЦА ЗА ФЛЕКСБИЛНЕ ВИДОВЕ ОБРАЗОВАЊА СПРОВЕДЕНЕ У ОКВИРУ ПРОЈЕКТА PT&SCHE

**Биљана Гајић**
biljana.gajic@pks.rs

**Ана Милићевић**
anam@kombeg.org.rs

**Барбара Станишић**
barbara@kombeg.org.rs

**Јелена Радић**
jelenar@kombeg.org.rs

**Ирена Каљевић Зимоња**
irena.kaljevic@pks.rs

**Емил Чукић**
emil.cukic@pks.rs

**Драган Ристовић**
dragan.ristovic@pks.rs

**Привредна комора Београда**

## УВОД

Једна од првих активности у оквиру пројекта било је испитивање стања на тржишту рада и потребе послодаваца за понуђеним новим видовима образовања. У складу са тим, Привредна комора Београда је спровела истраживање међу својим чланицама. Основни циљеви овог истраживања су били:

- препознавање стварне потребе послодаваца у погледу дефинисаних профила и компетенција запослених,
- утврђивање реалних потреба и заинтересованости послодаваца за флексибилним видовима образовања и усавршавања.

Истраживање заинтересованости послодаваца за флексибилним видовима образовања спроведено је у периоду март-мај 2016. године и оно је спроведено техником онлајн анкетирања у којој је учествовало 212 предузећа. Инструмент истраживања је био

посебно креиран анкетни упитник за наведено истраживање, који је био подељен на пет делова:

I Општи подаци о привредном друштву и запосленима
II Потреба за додатним формалним образовањем - Студирање уз рад
III Потреба за додатним квалификацијама и ускостручним знањем - Кратки циклуси студирања (Кратки програми)
IV План развоја
V Посебне компетенције

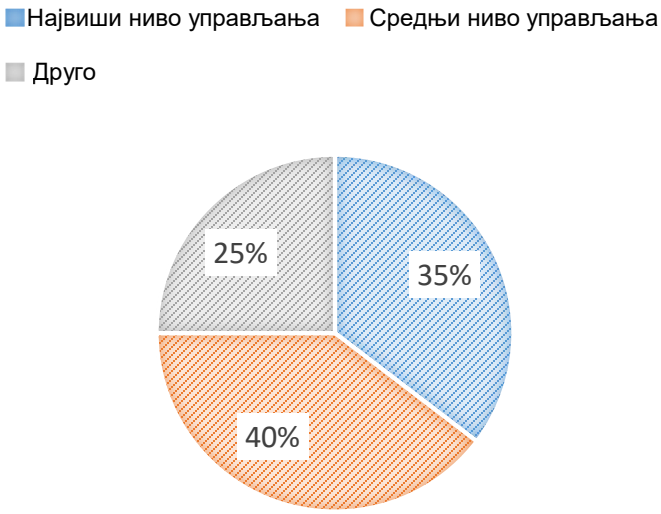
Обраду резултата анкете је спровео пројектни тим Привредне коморе Београда, уз сарадњу пројектног тима Универзитета у Новом Саду. Резултати су представљени табеларно и графички. Урађена је и анализа добијена укрштањем одговора у зависности од:
- сектора коме припада привредно друштво (привредна је подељена на три основна сектора - сектор високе технологије, производње и услуга),
- величине привредног друштва (мало, средње и велико),
- функција испитаника у привредном друштву (највиши ниво управљања, средњи ниво управљања, друго).

## 1. ОПШТИ ПОДАЦИ О ПРИВРЕДНОМ ДРУШТВУ И ЗАПОСЛЕНИМА

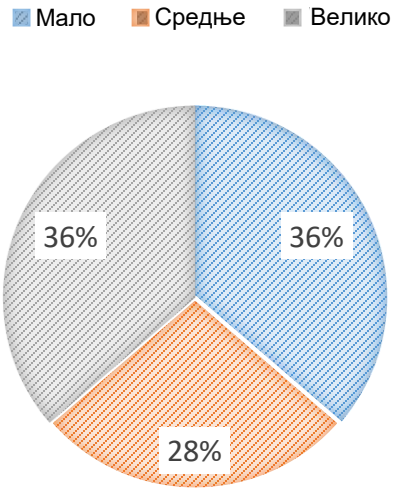
Одговори на први део упитника представљени су графички (графикони 1-5) и табеларно (табеле 1 и 2). Питања су конципирана да би се добиле основне информације о испитаницима, односно о привредним друштвима које представљају.

**Графикон 1. Претежна делатност / припадност привредној делатности /сектору**

**Графикон 2. Функција испитаника у привредном друштву**



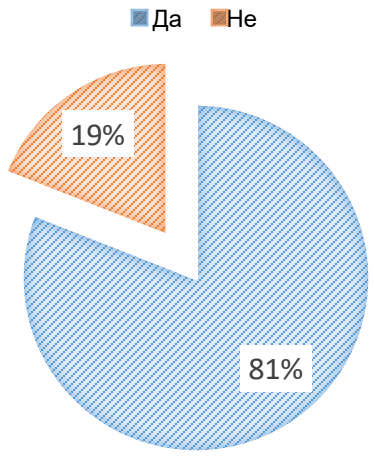

**Графикон 3. Величина привредног друштва**



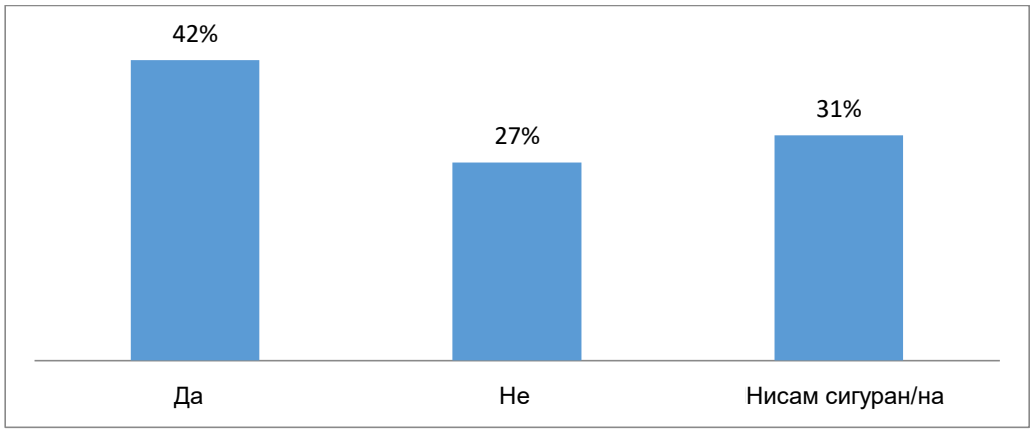
**Табела 1. Укрштање – величина привредних друштава/функција испитаника**

| | | Функција | | | Укупно |
|---|---|---|---|---|---|
| | | Друго | Највиши ниво управљања | Средњи ниво управљања | |
| Величина привредног друштва | Мало | 9 | 51 | 17 | 77 |
| | Средње | 16 | 8 | 34 | 58 |
| | Велико | 28 | 16 | 33 | 77 |
| Укупно | | 53 | 75 | 84 | 212 |

**Графикон 4. Да ли на тржишту рада постоје адекватни кадрови за сва радна места у Вашем привредном друштву?**




**Графикон 5. Да ли у Вашем привредном друштву постоје радне позиције за које су потребна знања на нивоу између средњег и високог образовања?**



**Табела 2. Укрштање података према величини привредног друштва**

| | | Величина привредног друштва | | | |
|---|---|---|---|---|---|
| | | Мало | Средње | Велико | Укупно |
| Да ли сходно делатности и специфичности посла, постоји потреба за новим профилима? | Да | 37.7% | 27.6% | 31.2% | 32.5% |
| | Не | 31.2% | 44.8% | 20.8% | 31.2% |
| | Нисам сигуран/а | 31.1% | 27.6% | 48.0% | 36.3% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

У односу на привредну делатност којом се претежно бави привредно друштво, највише одговора је добијено из ИТ сектора и саобраћаја и телекомуникација, затим следи сектор финансија, електро-машинска индустрија и здравство. Што се тиче функције, највише испитаника припада средњем нивоу управљања, затим следе испитаници који припадају највишем нивоу управљања, док је најмање одговора добијено од испитаника који не припадају управљачком систему привредних друштава. Скоро је равномерна заступљеност у истраживању привредних друштава свих величина (мала, средња и велика).

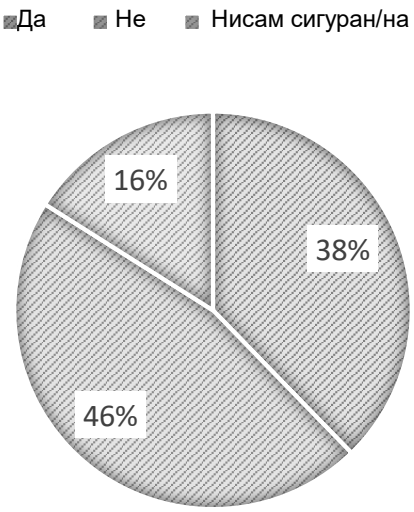
На питање „Да ли на тржишту рада постоје адекватни кадрови за сва радна места у Вашем привредном друштву?“ чак 81% испитаника је дало одричан одговор. Резултати анкете показују да су највеће потребе исказане за кадровима економске струке, као и кадровима из ИТ сектора. Са друге стране, скоро половина испитаника (42%) је одговорила да постоје радне позиције за које су потребна знања на нивоу између средњег и високог образовања. Позиције за такву врсту знања су превасходно за особе ИТ струке, као и одређена занимања инжењерског смера у машинској и грађевинској индустрији.

Скоро равномерна расподела одговора је добијена на питање да ли постоји потреба за новим профилима. Ако се анализирају одговори у зависности од величине привредног друштва, може се приметити да је скоро половина испитаника (44.8%) привредних друштава средње величине дало негативан одговор на ово питање. Такође скоро половина испитаника (48.0%) из великих привредних друштава није могла да да конкретан одговор на ово питање.

## 2. ПОТРЕБА ЗА ДОДАТНИМ ФОРМАЛНИМ ОБРАЗОВАЊЕМ - СТУДИРАЊЕ УЗ РАД („PART TIME“ СТУДИЈЕ)

Други део упитника је конципиран да би дао одговоре о заинтересованости о „part time“ студирању, односно студирању уз рад. На почетку је одељка је дато кратко објашњење шта овакав вид студирања подразумева. Одговори на овај део упитника су такође дати графички (графикони 6 и 7 ) и табеларно (табеле 3-5).

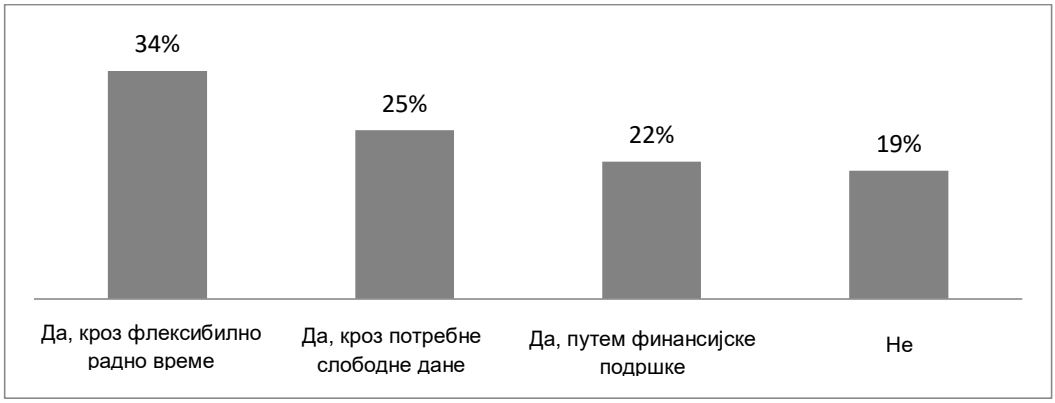
**Графикон 6. Да ли запослени са ССС обављају послове који захтевају ВСС?**




**Табела 3. Укрштање података по секторима привреде**

| | | Сектор | | | Укупно |
|---|---|---|---|---|---|
| | | Hi-tec | Производња | Услуге | |
| Да ли запослени са ССС обављају послове који захтевају ВСС? | Да | 34.0% | 46.2% | 34.0% | 37.7% |
| | Не | 36.2% | 38.5% | 56.0% | 46.2% |
| | Нисам сигуран/а | 29.8% | 15.4% | 10.0% | 16.0% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

**Графикон 7. Да ли би Ваше привредно друштво подржало запослене да студирају уз рад и на који начин?**



**Табела 4. Укрштање одговора на основу величине привредног друштва**

| | Величина привредног друштва | | | Укупно |
|---|---|---|---|---|
| | Мало | Средње | Велико | |
| Да, кроз флексибилно радно време | 53.2% | 29.3% | 19.5% | 34.4% |
| Да, кроз потребне слободне радне дане | 20.8% | 31.0% | 26.0% | 25.5% |
| Да, путем финансијске подршке | 11.7% | 17.2% | 32.5% | 20.8% |
| Не | 14.3% | 22.4% | 22.1% | 19.3% |
| Укупно | 100.0% | 100.0% | 100.0% | 100.0% |

**Табела 5. Укрштање одговора према функцији испитаника**

| | Функција | | | Укупно |
|---|---|---|---|---|
| | Друго | Највиши ниво управљања | Средњи ниво управљања | |
| Да, кроз флексибилно радно време | 26.4% | 48.0% | 27.4% | 34.4% |
| Да, кроз потребне слободне радне дане | 26.4% | 21.3% | 28.6% | 25.5% |
| Да, путем финансијске подршке | 18.9% | 12.0% | 29.8% | 20.8% |
| Не | 28.3% | 18.7% | 14.2% | 19.3% |
| Укупно | 100.0% | 100.0% | 100.0% | 100.0% |

Скоро половина истипаника (46%) сматра да на позицијама за које се захтева ВСС су распоређени људи са адекватном стручном спремом. Нешто мањи проценат (38%) је другачијег мишљења – запослени са ССС обављају послове који захтевају ВСС.

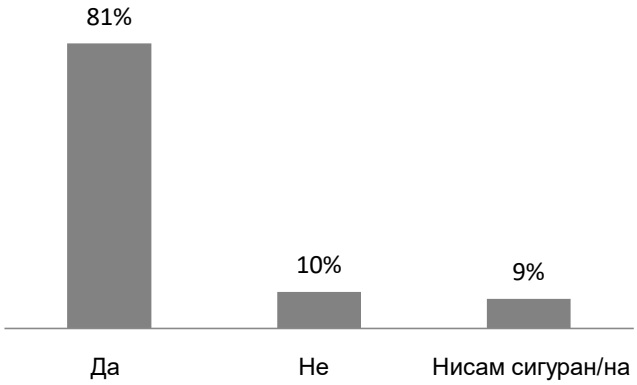
Даљом анализом вршено је укрштање података, тако што је привреда подељена на три сектора (висока технологија, производња и услуге). Постоји скоро равномерна расподела потврдних одговора на претходно питање (нешто је већи проценат у сектору производње), док је више од половине испитаника (56%) из сектора услуга дало одричан одговор.

Већина учесника анкете (81%) сматра да би менаџмент предузећа подржао запослене да студирају уз рад и то кроз флексибилно радно време (34%), потребне слободне дане (25%), па чак и путем финансијске подршке (22%). Подршка студирању запослених кроз флексибилно радно време најизраженија је код малих привредних друштава, као и код испитаника који представљају највиши ниво управљања, док су велика привредна друштва превасходно спремна да издовје одређена финансијска средства за такву врсту активности.

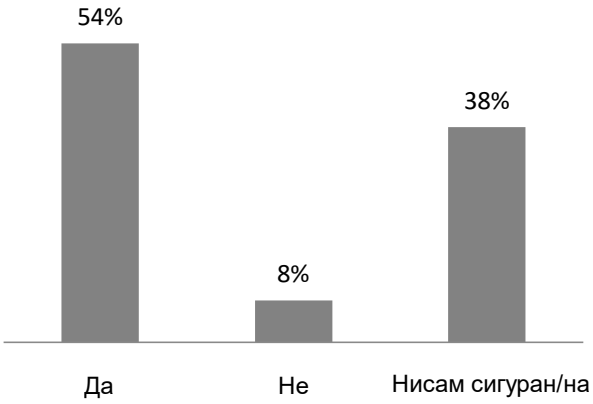
## 3. ПОТРЕБА ЗА ДОДАТНИМ КВАЛИФИКАЦИЈАМА И УСКОСТРУЧНИМ ЗНАЊЕМ – КРАТКИ ЦИКЛУСИ СТУДИРАЊА (КРАТКИ ПРОГРАМИ)

На почетку овог дела анкете, дато је кратко објашњење шта представљају кратки циклуси образовања. Одговори на питања из овог дела представљени су графиконима 8 и 9, као и табелама 6 и 7.

**Графикон 8. Да ли у Вашем привредном друштву постоје радни профили за која су потребна ускостручна знања?**




**Графикон 9. Да ли би у Вашем привредном друштву било подржано стицање ускостручних знања и додатно усавршавање кроз студирање у кратким циклусима?**



**Табела 6. Укрштање одговора на основу величине привредног друштва**

| | | Величина привредног друштва | | | Укупно |
|---|---|---|---|---|---|
| | | Мало | Средње | Велико | |
| Да ли би у Вашем привредном друштву било подржано стицање ускостручних знања и додатно усавршавање кроз студирање у кратким циклусима? | Да | 64.9% | 48.3% | 46.8% | 53.8% |
| | Не | 3.9% | 10.3% | 9.1% | 7.7% |
| | Нисам сигуран/а | 31.2% | 41.4% | 44.1% | 38.5% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

**Табела 7. Укрштање одговора према функцији испитаника**

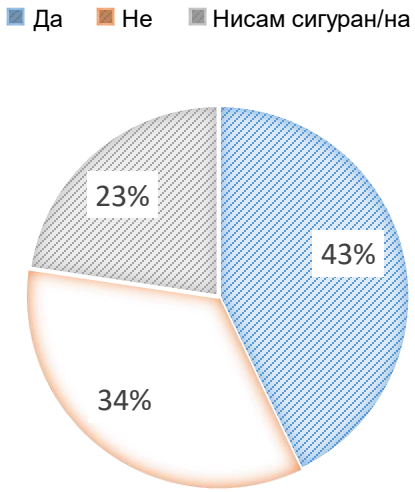
| | | Функција | | | Укупно |
|---|---|---|---|---|---|
| | | Друго | Највиши ниво управљања | Средњи ниво управљања | |
| Да ли би у Вашем привредном друштву било подржано стицање ускостручних знања и додатно усавршавање кроз студирање у кратким циклусима? | Да | 35.8% | 68.0% | 52.4% | 53.8% |
| | Не | 17.0% | 6.7% | 2.4% | 7.7% |
| | Нисам сигуран/а | 47.2% | 25.3% | 45.2% | 38.5% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

Очигледна је велика потреба за ускостручним усавршавањем (81%). Више од половине испитаника (54%) сматра да би стицање нових знања кроз студирање у кратким циклусима било подржано од стране послодаваца. Највећа потреба за ускостручним усавршавањем је у областима ИТ, финансија, нових технологија, као и заштите животне средине. Из даље анализе се може закључити да највећу подршку оваквом виду студирања имају запослени у малим предузећима (64.9%), док средња и велика предузећа имају сличан приступ овој проблематици. Велики проценат испитаника који припадају управљачком систему привредних друштава су потврдно одговорили на ово питање (највиши ниво управљања 68.0%, средњи ниво управљања 52.4%).

## 4. План развоја

Ова група питања осмишљена је да би се стекао бољи увид у развојне капацитете и планове привредних друштава која су учествовала у анкети. Одговори на питања дати су графички (графикони 10 и 11) и табеларно (табеле 8-11).

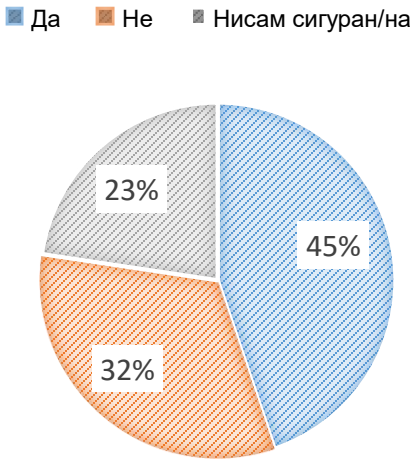
**Графикон 10. Да ли у Вашем привредном друштву постоји план проширења постојећег програма пословања или увођења нових врста послова?**




**Табела 8. Укрштање одговора на основу величине привредног друштва**

| | | Величина привредног друштва | | | Укупно |
|---|---|---|---|---|---|
| | | Мало | Средње | Велико | |
| Да ли у Вашем привредном друштву постоји план проширења постојећег програма пословања или увођења нових врста послова? | Да | 55.8% | 32.8% | 37.7% | 43.0% |
| | Не | 36.4% | 34.5% | 32.5% | 34.4% |
| | Нисам сигуран/а | 7.8% | 32.7% | 29.8% | 22.6% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

**Графикон 11. Да ли се планира запошљавање нових сарадника?**




**Табела 9. Укрштање података по секторима привреде**

| | | Сектор | | | Укупно |
|---|---|---|---|---|---|
| | | Hi-tec | Производња | Услуге | |
| Да ли се планира запошљавање нових сарадника? | Да | 51.0% | 44.6% | 42.0% | 44.8% |
| | Не | 21.3% | 27.7% | 41.0% | 32.5% |
| | Нисам упознат/а | 27.7% | 27.7% | 17.0% | 22.7% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

**Табела 10. Укрштање података по величини привредног друштва**

| | | Величина привредног друштва | | | Укупно |
|---|---|---|---|---|---|
| | | Мало | Средње | Велико | |
| Да ли се планира запошљавање нових сарадника? | Да | 55.8% | 41.4% | 36.4% | 44.8% |
| | Не | 29.9% | 31.0% | 36.4% | 32.5% |
| | Нисам упознат/а | 14.3% | 27.6% | 27.2% | 22.7% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

**Табела 11. Укрштање података према функцији испитаника**

| | | Функција | | | Укупно |
|---|---|---|---|---|---|
| | | Друго | Највиши ниво управљања | Средњи ниво управљања | |
| Да ли се планира запошљавање нових сарадника? | Да | 34.0% | 58.7% | 39.3% | 44.8% |
| | Не | 34.0% | 30.7% | 33.3% | 32.5% |
| | Нисам упознат/а | 32.0% | 10.6% | 27.4% | 22.7% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

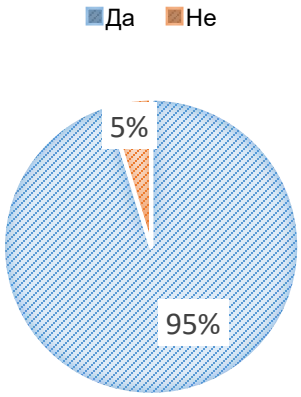
Скоро половина испитаника (43%) је потврдно одговорила на питање о постојању плана проширења постојећег програма пословања, као и увођења нових врста послова, док мање је од четвртине испитаника (23%) дало одричан одговор. Једна трећина испитаника (34%) не зна политику привредног друштва у коме је запослено у погледу овог питања. Сличан проценат одговора је добијен и на питање о запошљавању нових сарадника, при чему је нешто већа потреба за запошљавањем нових сарадника у сектору високих технологија и у малим предузећима.

Приметан је висок тренд потреба за проширењем пословања код малих предузећа, за разлику од средњих и великих привредних друштава.

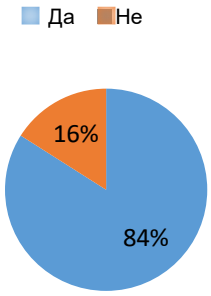
## 5. Посебне компетенције

Циљ овог дела упитника је да се добију информације са тржишта рада о потребама за додатним компетенцијама запослених (страни језик, компјутерске компетенције, управљачке, као и посебне вештине). Одговори су дати у графичком приказу (графикони 12-20) и табеларно (табела 12).

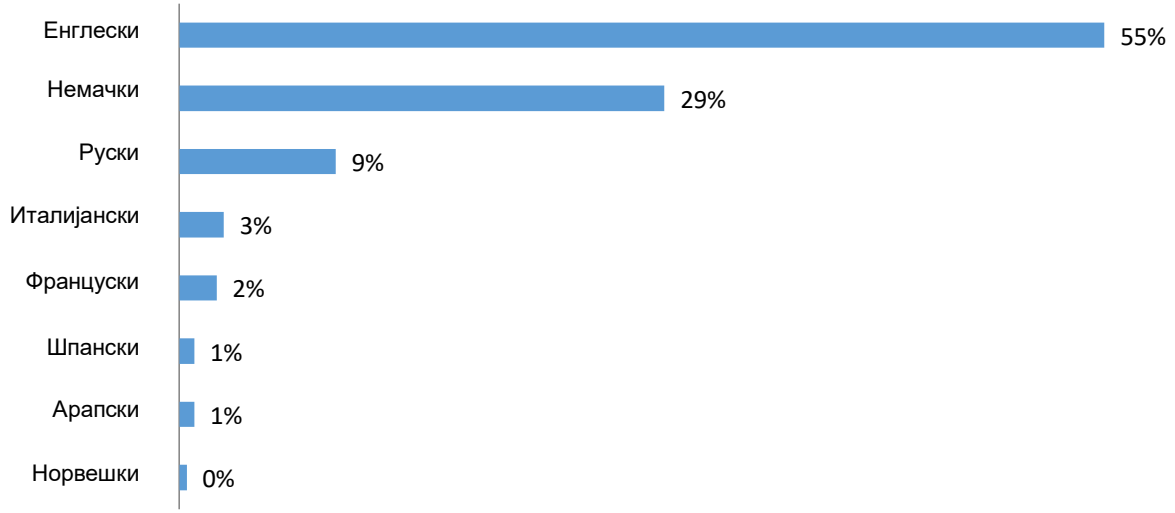
**Графикон 12. Да ли сматрате да поред формалног и ускостручног образовања постоји потреба за стицањем додатних компетенција?**




**Графикон 13. Страни језик**



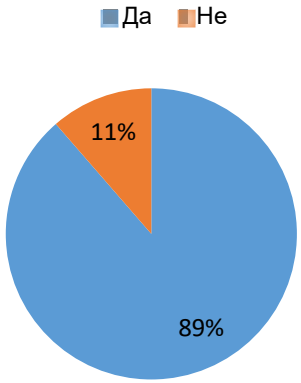
**Графикон 14. Који страни језици су потребни?**



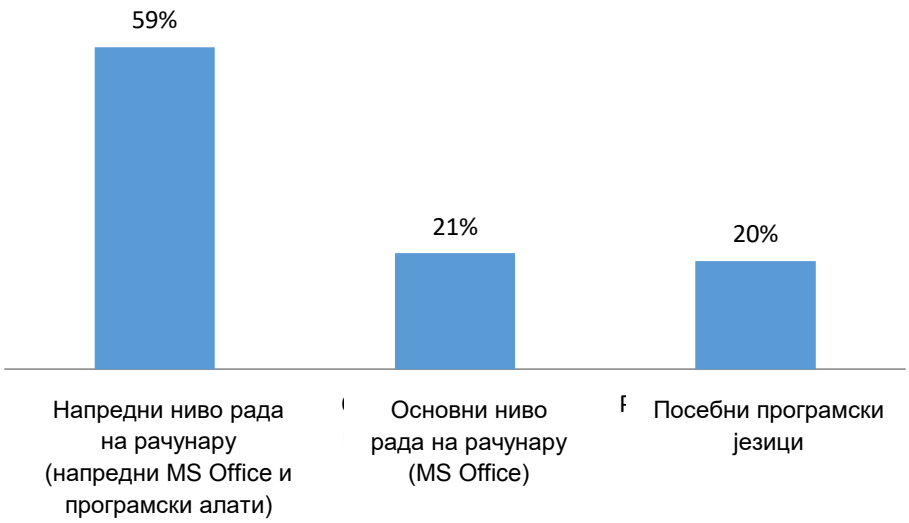

**Табела 12. Укрштање података према функцији испитаника**

| | | Функција | | | |
|---|---|---|---|---|---|
| | | Друго | Највиши ниво управљања | Средњи ниво управљања | Укупно |
| Да ли постоји потреба за усавршавањем страног језика? | Да | 90.2% | 88.9% | 75.3% | 84.0% |
| | Не | 9.8% | 11.1% | 24.7% | 16.0% |
| Укупно | | 100.0% | 100.0% | 100.0% | 100.0% |

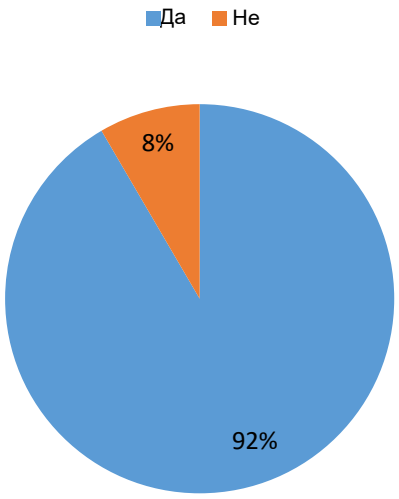
**Графикон 15. Компјутерске компетенције**



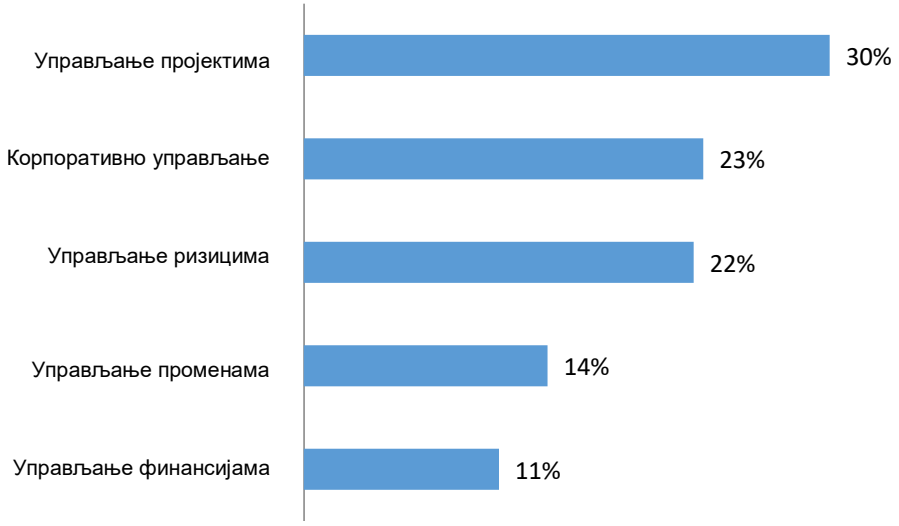
**Графикон 16. Ниво рада на рачунару**



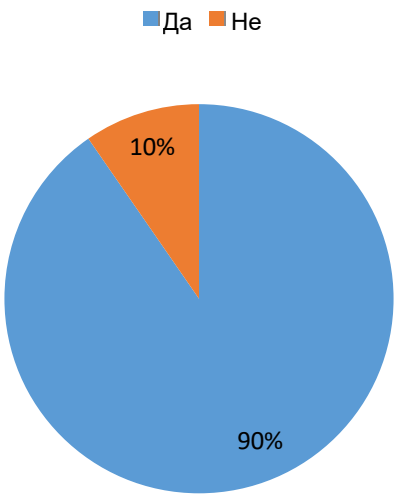

**Графикон 17. Управљачке вештине**



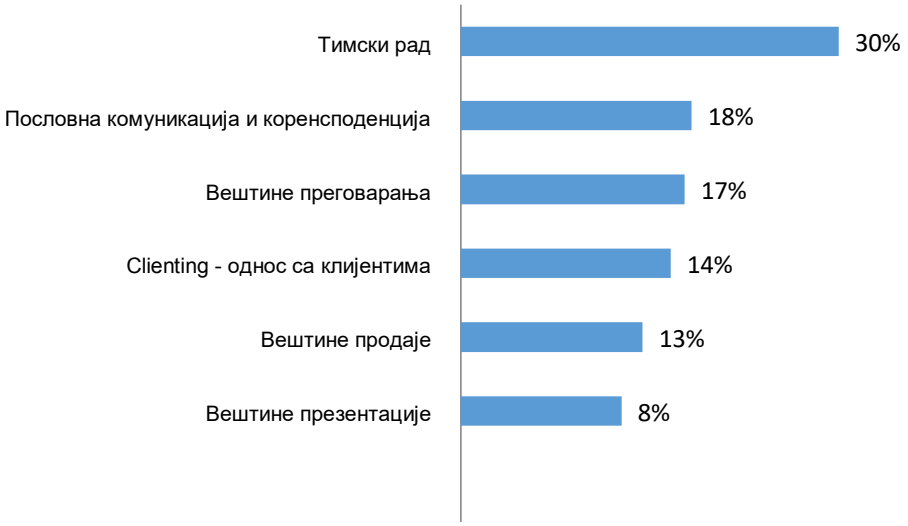
**Графикон 18. Које управљачке вештине је потребно усавршити?**




**Графикон 19. Посебне вештине**



**Графикон 20. Које посебне вештине је потребно усавршити?**




## ЗАКЉУЧАК

Постоји јасно изражена потреба компанија за доквалификацијом и/или преквалификацијом њихових запослених. Оне су спремне да улажу у образовање својих запослених и тиме премосте разлику између класичног образовања и потреба на тржишту. Постоје мале разлике у потребама у зависности од величине предузећа, као и од сектора привреде коме припада. Генерални закључак је да је привреда заинтересована за увођење нових модела студирања, као и да је привреда спремна да на различите начине подржи и стимулише запослене на додатно образовање.

## ОКРУГЛИ СТОЛОВИ ОДРЖАНИ У ПРИВРЕДНОЈ КОМОРИ БЕОГРАДА У ОКВИРУ ПРОЈЕКТА PT&SCHE

Поред анкете, Привредна комора Београда је организовала и округле столове чији је циљ био да се, кроз разговоре и дискусије са релевантним учесницима, добију директна мишљења од послодаваца, односно из привреде. Округли столови су омогућили стицање увида у право стање и потребе привреде у циљу доношења програма и стратегије образовања којима ће се омогућити већа конкурентност привредних субјеката и већи степен запослености у привреди, као крајњем кориснику исхода учења.

## ПРЕДЛОЗИ И ЗАКЉУЧЦИ

**Доступност информација о понудама образовних профила.** Један од закључака је да се у току пројекта формира сајт који ће дати детаљан списак свих курсева који су „у понуди“ са свим пратећим информацијама (где се врши обука, ко врши обуку, шта је резултат такве обуке, каква врста сертификата се стиче...). Тржиште образовања постоји и то се не сме занемарити и веома је битно да постоји директна веза између пружаоца услуга (образовних установа) и оних којима је та услуга потребна.

**Боља комуникација свих релевантних субјеката.** Констатовано је да не постоји довољна повезаност између привреде и образовног система. Неопходан је узајамни утицај и јача повезаност између привреде и привредних асоцијација (привредних комора, унија послодаваца и других привредних и стручних асоцијација), образовања и образовних институција и ресорних министарстава у циљу усклађивања образовних програма са потребама привреде. Потребно је успоставити бољу комуникацију између ресорних министарстава (Министарство просвете, Министарство финансија, Министарство привреде), високошколских установа и привредних субјеката. Привреда мора имати већу улогу у изради наставних програма.

**Национални оквир квалификација.** Неопходно је да се приликом израде програма образовања јасно дефинишу улази и излази учења. Национални оквир квалификација треба да усклади потребу са оним што нуди систем образовања. НОК треба да буде дефинисан тако да ће његова структура бити обликована у првом реду на основу информација добијених од стране представника привреде. То ће уједно омогућити институцијама система високог образовања да дефинишу наставне програме на основу реалних захтева са тржишта рада.

**Кратки циклуси студирања.** Закључено је да би увођењем програма образовања кроз кратке циклусе могли да се реше неки од највећих акутних проблема у Србији, као што су недостатак радних места (како за оне са високом, тако и са средњом стручном спремом) и недостатак двопредметних наставника. Краћи програми учења би процес увођења у реални посао учинили ефикаснијим.

**Послодавци – мишљења, искуства, проблеми.** Постоји јасно изражена потреба компанија за доквалификацијом и/или преквалификацијом њихових запослених. Оне су спремне да улажу у образовање својих запослених и тиме премосте разлику између класичног образовања и потреба на тржишту. Компаније су спремне да издвоје одређена финансијска средства за то, али им је такође веома важно да та обука буде ван радног времена. Тржиште рада акценат ставља на реално знање и способности, пре него на формално образовање. Стога је потребно разбити конзерватизам у образовању, јер су фирмама потребни знање и компетенције. Постоји јасна потреба и захтев за

повећањем обима практичне наставе као и могућност обављања праксе код послодаваца, што у Србији није законска обавеза. Са друге стране, у циљу спречавања одлива радне снаге, неопходно је осмислити правни оквир којим би се заштитили послодавци који улажу материјалне ресурсе или на неки други начин стимулишу додатно образовање својих запослених (радно време, слободни дани...). Такође, послодавцима који су спремни да својим запосленима омогуће додатно образовање и стицање компетенција, треба дати подстицај кроз одређене пореске олакшице.

**Стање образовног система у Србији.** Постоји потреба за додатним образовањем наставног кадра, односно усклађености њиховог знања и наставног програма са најновијим светским трендовима из области којима се баве. Искуство и примери добре праксе других земаља треба да буду основа за дефинисање неопходних промена у образовном систему Србије.

Један од проблема образовног система у Србији је процес акредитација које могу да трају и по две-три године, што у области информационих технологија представља велики проблем, пошто је то област где се промене дешавају готово на дневној основи. Због свега овога, главни циљ имплементације резултата овог пројекта је да се успостави један динамичан, флексибилан систем који није оптерећен компликованим акредитацијама и бирократијом и да буде вођен потребама тржишта.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# EXTRACTED PARTS FROM DOCUMENTS "POLICY OF INTRODUCTION OF EXTENDED STUDY (PART-TIME) AND SHORT PROGRAMS (SHORT CYCLE) TO HIGHER EDUCATION OF THE REPUBLIC OF SERBIA" AND THE LAW ON HIGHER EDUCATION OF THE REPUBLIC OF SERBIA

**Nada Kovačević**[1]
nada.kovacevic@rect.bg.ac.rs

**Ivan Obradović**[2]
ivan@rect.bg.ac.rs

**Dalibor Soldatić**[3]
soldatic@sbb.rs

**Ljiljana Damjanov**[4]
ljiljana.damjanov@rect.bg.ac.rs

***SUMMARY***

In the framework of Work Package 2 (Development of legal frameworks for implementation for PT & SCHE) of project "Introduction of part time and short cycle studies in Serbia – PT & SCHE", the document "Policy for the Introduction of Part-time and Short-cycle Programs in Higher Education of the Republic of Serbia" had been prepared. This document outlines the views that the project participants came to after reviewing the available data on the experiences of other countries and visiting partner institutions, understanding the needs of business entities and higher education institutions in our community, in accordance with the existing strategic documents on the development of higher education in the Republic of Serbia .

In summary, the results of the activities on the Project have led to the view that it is necessary to amend the Law on Higher Education and to enable persons in the Republic of Serbia who, due to their employment and any other situation, can not attend regular classes, can study and acquire qualifications in the field of higher education in accordance with their capabilities. Also, it is necessary to provide training through short study programs for quick acquisition of competencies for performing specific tasks, based on the stated needs of business entities.

[1] University of Belgrade

[2] University of Belgrade

[3] University of Belgrade

[4] University of Belgrade, Sector for Studies and Science

In this text, the views expressed by the consortium of the Project on Enhanced Study (Part-time, Study in Work) and short study programs are presented, presented the results of analyzes of the effects of the introduction of new forms of study and the quoted members of the new Law on Higher Education (Official Gazette No. 88/2017 ; 27/2018; 73/2018) to which they are regulated.

Work coordination in Work Package 2. had a University in Belgrade.

## 1. PART-TIME STUDY, „STUDY and WORK“, EXTENDED STUDY

### *1.1. Views of the Project Consortium*

It is necessary to enable all persons who can not attend classes regularly and regularly study (employees, mothers of small children, sick people, disabled people, active athletes, etc.) to be included in the higher education system and acquire appropriate competencies and qualifications through a teaching process that is in line with their abilities and needs. The Law on Higher Education should recognize this right and enable their education. The Project Consortium suggests that such a regime of study is called an **extended study (part-time study)**.

Extended study involves studying for a longer period of time in the same study program, acquiring the same learning outcomes and competencies, and obtaining the same diploma and the same title as well as when the study program is studied in a regular regimen.

In this sense, the proposal is to allow three modes of study:

A. **Regular study (Full-time)**. The student has the opportunity to devote 40 hours per week to the study (of which at least 50% in the form of contact instruction) and to achieve 60 ESPB per year.

B. **Extended study (Part-time)**. A student can not fulfill the requirements of regular study because he is employed or for other personal reasons; can dedicate to study for a maximum of 15 to 20 hours per week and to achieve less than 60, and most often 30 ESPBs.

C. **Accelerated study**. A student who wants, can complete studies in a shorter period of time compared to the predetermined duration of the study program; during higher years of study, can choose subjects in a total volume of more than 60 ESPB per year (eg up to 90 ESPBs), provided that during the first year of study they achieved planned and binding 60 ESPBs.

Extended (Part-time) study can be applied to study programs of both types and the first two levels of study (OAS, MAS, SAS, OSS, MSS, SSS).

As previously mentioned, a higher education institution may, but is not required to, offer more than one of the three study regimes for one study program in one academic year.

As a student’s circumstances may change during his/her studies, a higher education system should allow him/her to switch from one study regime to another. A higher education institution, in accordance with its general act, should anticipate transition conditions for each of the three study regimes, if they are stipulated in its statute.

The organization of extended study (Part-time) should be tailored to the specific and limited time capabilities of students who have chosen this mode, but that the quality of the teaching process

is preserved. An extended study is achieved by applying one of three ways of organizing the teaching process:

A. **Face-to-face teaching.** A student takes part in the planned curriculum in its entirety on the premises of a higher education institution based on the teaching curriculum which has been prepared in accordance with students' abilities. This teaching plan should be available to students at the beginning of an academic year. The schedule should be organized so that every student can choose a combination of subjects that allow him to achieve 30 ECTS credits. Lectures are organized in the evenings, on weekends or as instruction blocks, and they are of the same content and scope as the teaching of the subjects within the full-time studies regime.

B. **Online teaching.** A student uses a higher education institution's e-learning system, he/she has the access and ability to choose teaching materials with the obligation to use interactive communication with the teacher or associate teacher of each subject, as well as other students.

C. **Blended learning.** A student completes one part of his/her study program through online teaching, and the other part through face-to-face teaching on the premises of a higher education institution. Teaching on the premises of a higher education institution is usually organized for the purposes of the teaching units for which a high degree of interaction between a student and a teaching associate and other students is expected, and when the use of special equipment that students cannot own at home is necessary.

A study program is equal regardless of the study regime (full-time, part-time, accelerated studies) and the method of teaching organization (face-to-face teaching, online teaching, blended learning). Accreditation standards should stipulate the conditions that ensure the necessary quality of the teaching process for each of the teaching methods. In accordance with the standards, the number of students who can enroll in the first year of a study program every academic year is determined. In accordance with its stipulations and in the enrollment competition, a higher education institution states the number of students for full-time and part-time studies (a higher education institution can in its legal acts determine another way for the allocation of students for each study regime within the accredited quotas for a study program), as well as for study programs which are organized only via online teaching.

Regardless of the pace of studies, if they study the same study program, students must achieve the same learning outcomes and earn the same competencies, the same knowledge and skills and the same professional and academic title. One study program can be realized in one, two or three study regimes, and regardless of the study regime, a diploma must guarantee the same level of competence of all students who complete the same study program.

### *1.2. Analysis of the effects of introducing extended study ("study and work"; part-time studies) (analysis by the team of the University of Novi Sad)*

**What problems are being solved by introducing "study and work" (part-time studies)?**

The need for continuous improvement and acquisition of new knowledge is a prerequisite for success in every area of work. We are increasingly being faced with the demand of employed persons to attend full-time studies regardless of their age. Furthermore, there is a significant number of young people who are employed because they need to financially support themselves. Based on the current offer of study programs, these students do not have an opportunity to simultaneously study and work. Regardless of their great desire to harmonize work and study obligations, that is almost impossible because full-time studies require a 40-hour week. By introducing a new study regime, employed students would be able to simultaneously fulfill both their work and study obligations.

Serbia faces a very unfavorable demographic situation. It has experienced negative population growth for many years. However, there are still no proper measures to at least slow down this negative trend. Young parents who are students do not have the opportunity to devote themselves to their studies to the necessary extent for the successful mastering of a program. Instead of receiving support, they are very often forced to plead for help and understanding. The introduction of part-time studies would provide young parents with the opportunity to successfully study and be parents.

The same conclusions can be reached for the situation students with disabilities face. Part-time studies would allow this category of students to choose the study regime appropriate for their abilities.

Finally, there are cases in which students, for various reasons, find themselves in situations where they cannot meet full-time study requirements. At present, in those cases students are forced to drop out, which is very unfavourable for them personally and for the whole society.

**What are the objectives achieved by introducing "study and work" (part-time studies)?**

There are two equally important objectives. The first objective is increased availability and fairness of higher education, which entails that young people who are employed, or are parents, or for any other reason are unable to dedicate 40 hours per week to a study program, can access higher education and earn the same qualification as full-time students, but in a study regime that involves longer study timeframe (part-time study). The second objective is enhancing lifelong learning, that is, employed persons with work experience who want to earn a new or additional qualification because of their future work will be able to do so within the accredited study programs.

**Have the options of resolving the problem without the introduction of "study and work" (part-time studies) programs been considered?**

The Republic of Serbia is part of the European education area, and the harmonization of, above all, higher education with examples of good practice in the European countries is one of the instruments for achieving better results in the field of education. Part-time studies are available in almost all EHEA countries, but, unlike full-time studies, the method of introducing and implementing part-time studies is very diverse. This has enabled different modalities to be considered, based on different experience, and the model that best suits Serbian education system to be chosen.

**Why is the introduction of "study and work" (part-time studies) the best solution to the problem?**

Part-time studies will provide, as already mentioned, greater availability and fairness of higher education. Higher education institutions have the opportunity to systematically solve the problems of the students who are not able to study full-time for various reasons. Introducing part-time studies will ensure that this category of students also has the same scope and quality of studies as full-time students, but through a customized way of a study program realization.

**Who will the proposed solutions most likely affect and in what way?**

| Affected parties | Expected effect | Possible risk |
|---|---|---|
| citizens | Quality study program is made available to citizens who cannot dedicate 40 hours a week to their study obligations; | Insufficient understanding of part-time studies and misuse of these study programs in cases when there are no justified reasons, only the conviction that it is an easier way of studying; |
| society | Increase in the number of citizens with higher education;<br>Reduced number of dropout students; | No significant risks |
| higher education institution | Introduction of part-time studies will make quality realization | Introduction of part-time studies, along with the existing full-time studies, will double study |

| | | |
|---|---|---|
| | of a study program available to all categories of students; | program obligations which can be a problem if there is a shortage of quality teaching staff;<br>Different understanding of part-time studies; |

**What costs will the introduction of "study and work" (part-time studies) incur to all citizens and the economy (especially to small and medium-sized enterprises)?**

**Do positive effects of the introduction of "study and work" (part-time studies) justify the costs they will incur?**

It is expected that mostly students bear the expenses of part-time studies, which increases their investment in their own education, but it is certainly an investment that should boost their income in the future.

Part-time studies are expected to reduce the number of dropout students, hence protecting either the country's or individuals' investment in higher education which, in case of dropping out of studies, would be an unprofitable investment.

**What measures and actions will be taken while introducing "study and work" (part-time studies) in order to achieve what is intended by the passing of the Law?**

| Measures and actions | Executors |
|---|---|
| Passing a legal framework for part-time studies | Ministry of Education, Science and Technological Development |
| Amending the statute of a higher education institution | higher education institution |
| Adopting a rulebook on part-time studies at a higher education institution | higher education institution |
| Starting the implementation of a part-time studies model | higher education institution |
| Informing the public about part-time studies | This project; Ministry of Education, Science and Technological Development; Serbian Chamber of Commerce |

*1.3. Law on Higher Education (Official Gazette No. 88/2017; 27/2018; 73/2018)*

Below are the articles of the Law referring directly to the term "Study and Work". Namely, the legislator did not accept the proposal and the name of the extended study or the English version of the part-time study, but used the term "Study and Work". A more detailed organization of this method of study should envisage higher education institutions by its acts.

**Organization of studies**
**Article 96**

The obligations of the higher education institution regarding the way of organizing and the time of the maintenance of the form of studies are regulated by the general act of the higher education institution, as well as the obligation to provide conditions for students with disabilities in accordance with their capabilities.

The higher education institution is obliged to organize lectures and other forms of teaching for all students, except for the realization of a distance study program. Teaching is organized and conducted at the headquarters of the higher education institution, that is, in the facilities listed in the work permit.

A higher education institution may organize a part of teaching outside of the headquarters, if it is a teaching from the subject whose character is required, in accordance with accreditation. Within basic and master studies, a higher education institution can organize student practice, as part of a study program or through extracurricular activities.

**A higher education institution may organize "study and work" for students who are employed or who for some other reason are not able to regularly attend classes.**
The detailed conditions and methods for the realization of the distance study program are regulated by the general act of the higher education institution.

Higher education institution is obliged, in accordance with its general act, to adequately, accurately and timely inform students about the manner, time and place of teaching, objectives, methods and contents of teaching, contents, methods, criteria and test criteria, manner of securing to the public on the exam and how to gain insight into the results, as well as other issues of relevance to students.

**Rules of study**
**Article 102**

When enrolling each school year, a student chooses to study in the course of study programs.
The study program prescribes which courses are required for a particular year of study. A student financed from the budget, when enrolling for the corresponding year of study, is defined for as many subjects as is necessary to achieve at least 60 ESPB points, unless he has less than 60 ESPB points by the end of the study program.

A self-financed student, upon enrollment in the corresponding year of study, is determined, according to the study program, for as many courses as necessary to achieve at least 37 ESPB points, unless less than 37 ESPB points remain until the end of the study program.

**A student who "study and work", enrolling the corresponding year of studies is determined, according to the study program, for as many subjects as it takes to earn at least 30 ESPB points, unless he has less than 30 ESPB points by the end of the study program.**

**Higher education institution by general act determines the conditions for enrollment in the next year of study.**

Student from st. 4 and 5 of this article, which is itself financed, shall pay part of the tuition calculated in proportion to the number of ESPB points for the cases for which it has been determined.
By taking the exam student receives a certain number of ESPB points in accordance with the study program.
Student who does not pass the exam from the compulsory subject until the beginning of the next school year, enrolls the same subject.

A student who does not pass an elective course can re-enroll it or opt for another elective subject.
The study program may be conditioned to determine the student for a particular subject by previously passing the exams from one or more subjects determined by the study program. The rules of the studies are more closely regulated by the general act of the higher education institution.

**Cessation of student status**
**Article 109**

Student status ceases in the case of:

1) printing from studies;

2) completion of studies;

3) non-attendance of the school year;

4) when he / she does not complete the study until the expiry of the deadline determined in the double number of school years required for the realization of the study program, except in the case of studies at work;

5) imposing a disciplinary measure of exclusion from studies at a higher education institution.

A student who **"study and work"**, a student with a disability, a student who is enrolled in affirmative studies, and a student who has the status of a categorized top athlete retains the status of a student until the expiration of the deadline determined in the triple number of school years required for the realization of the study program.

The student can, on a personal request, extend the deadline for completing the studies, in accordance with the general act of the higher education institution.

## *2.* SHORT PROGRAMS OF STUDIES

### ***2.1.*** *Views of the Project Consortium*

For the purpose of vocational training of a student for inclusion in the work process, short programs of study (below the text named SP) are carried out, which has a clearly defined structure, purpose, outcomes of the school and for which the (national) certificate of completed short program with a description of the job for which it is trained student and acquired competencies.

The goal of introducing SP into the educational system of the Republic of Serbia is to enable, in a short period of time, effective and efficient education and training of experts for concrete work based on the expressed needs of employers.

The SP, which according to type, level and scope of knowledge and skills for which students are trained correspond to higher education, are short study programs.

The SP is designed with a set of subjects and practices that aim to ensure the acquisition of closely and functionally related knowledge and skills in order to train a student to perform a specific job that corresponds to higher education level and level of competence and complexity.

The SP may be adopted and implemented by an accredited higher education institution (below the text named HEI) in a scientific-educational or artistic area where one study program has been accredited.

As a rule, SP is in line with labor market requirements.

The HEI can only bring and execute the SP only if it has the support of the employer, which is documented by the contract on the expressed need, by the employer's statement on the positive evaluation of the draft curriculum and / or by the statement of readiness of at least one employer to enroll their employees at SP or, after additional testing and of the election, engage persons who have obtained a certificate of completion of the SP.

The SP is not subject to the accreditation process that is foreseen for study programs.

The HEI can perform SP after its introduction into the register / register in accordance with the Law

Depending on the educational task, the scope and the character of the knowledge and skills to be provided to the student and the complexity of the job for which he is preparing, KP can be organized within the academic or professional type of higher education within the first or second level.

The SP has a teaching process range of 300 to 600 (900) hours of active teaching, and can last from 3 to 12 (18) months. The extent of SP can be reported in ESPB; The range of 300 to 600 (900) hours of active teaching corresponds to 30 to 60 (90) ESPB.

For the organization of the SP, the general rules adopted for higher education apply: the student's workload during the working week amounts to a maximum of 40 hours, of which 20-30 contact hours.

Active teaching includes theoretical lectures and practical exercises in the range of 20-30 hours per week (ie integrated lectures and exercises) and additional workplace practice / training in the range of 10-30% of active school hours.

The teaching process applied for the implementation of SP has to be harmonized with the general principles of work of accredited HEIs.

Teaching at SP can be organized in three ways: classical in the high school premises in which she runs and accredited study programs (F2F), as online classes and combining these two ways.

Teaching at SP takes place independently of teaching in academic or vocational studies.

The HEI defines the method and the procedure for adoption, the number of participants, the dynamics of realization, the respect of the appropriate working standards (organization of work

and methodological aspects of studies), quality control, continuous improvement of the quality of studies, keeping records on the implementation of SP.

The HEI may determine its actions in relation to the recognition of cases / parts of objects by national certificate holders who enter the study program.

Once adopted, the SP can be realized for the needs of other employers, by dynamics that does not jeopardize the quality of the teaching process and do not interfere with the regular implementation of accredited study programs.

The number of students enrolled in the SP is in line with the requirements stated in the contract with the employer / employer, or determined according to the number of staff, space and organizational capabilities of the HEI that provide the necessary quality of the teaching process and do not interfere with the regular implementation of accredited study programs.

The curriculum of the SP contains a list of compulsory and elective subjects, their schedule by semesters / blocks, number of hours, scope and interdependence. In the preparation of the curriculum, HEIs must take into account the uniform burden of the student. The SP may have optional subjects when needed and justified for better preparation of students. The subjects that make up SP are smaller and have more concrete and combined (multidisciplinary) content and organization in relation to courses in study programs, academic and vocational education.

By their scope and structure, SP subjects represent a unique combination of theoretical and practical knowledge and skills (from different scientific / professional / artistic fields) and practices / training for their specific application to solve a specific problem / work / operation within a specific job who is dedicated to SP.

The teaching of SP can be organized through a block system, that is, as a concentrated teaching of only one subject with a check of the acquired knowledge and skills, immediately after the completion of the course.

The student's success in mastering one subject is continuously monitored during classes and expressed by points. The maximum number of points is 100 for each item.

The student acquires points on the subject through work in teaching and fulfilling pre-examination obligations and taking the exam. The maximum number of points that a student can obtain through pre-examination obligations during active teaching and practice is 70.

Assessment of knowledge and acquired skills, as well as the student's training at the end of the course in one subject, is carried out through an examination that can be organized in a way that best enables the examination of learning outcomes and training. The way of checking the outcomes of learning and training is an integral part of the data that the HEI lists in the documentation that tracks each subject.

A teacher who participates in the realization of teaching at SP can be a person in the profession: lecturer, professor of vocational studies, assistant professor, associate professor and full professor.

Due to the specific purpose of the SP, to ensure the acquisition of closely and functionally related knowledge and skills in order to train a student for performing a specific job, the HEI with its general act defines the form and conditions of engaging additional teachers and associates (employment, additional employment, engagement contract for performance teaching without establishing a working relationship).

The National Council for Higher Education should provide detailed guidelines on the organization, implementation, checking of the appropriate certificates, keeping records and controlling the realization of the SP.

### *2.2. Analysis of the effects of introducing short programs of study (analysis by the team of the University of Novi Sad)*

**What problems are solved by the introduction of short programs of study?**

We live in a time when there is a constant need for new knowledge and skills, which indicates that once acquired formal qualifications are not enough for one's entire work life. There is also a number of occupations which are no longer needed in the labor market. For these reasons we can notice a double loss – on the one hand, employers cannot find sufficiently qualified workforce, and, on the other hand, our formal education system spends financial means on professions with no clear perspective. Of course, the greatest loss is felt either by young people who cannot find a suitable job or persons who have substantial work experience but there has emerged a need for additional knowledge and skills for their job positions. For years, in the Republic of Serbia, various trainings or courses have been organized by a large number of institutions or organizations which have been trying to solve the obvious problem. However, this type of approach very often does not give appropriate results.

**What objectives are achieved by the introduction of short programs of study?**

The basic goal achieved by the introduction of short programs of study is reflected in the efficient connection between the labor market and higher education established through, on the one hand, clearly defined market needs, and on the other, well, rapidly and competently organized and implemented short programs of study which meet the defined needs.

**Have any options for solving the problem without the introduction of short programs of study been considered?**

The Republic of Serbia is a part of the European Higher Education Area and harmonizing primarily higher education with the examples of good practice of European countries is one of the means for achieving better results in the field of education. However, there is a great diversity in

the field of short programs of study in the EHEA member countries, which has enabled us to, based on various types of experience, consider different possibilities and opt for the model most suitable for Serbian education system

As mentioned previously, there are training programs which are implemented, but which mostly refer to professional qualifications below higher education level.

**Why is the introduction of short programs of study the best solution to the problem?**

Short programs of study will enable accredited higher education institutions, in close connection with employers, to take part of the responsibility for economic development. The introduction of the national certificate will systematically and transparently regulate the system of short programs of study.

**Who will the proposed solutions most likely affect and in what way?**

| Affected parties | Expected effect | Possible risks |
|---|---|---|
| citizens | Opening up a possibility for efficient acquisition of new competencies, that is, knowledge and skills; | Lack of understanding of short programs of study (insufficiently informed public) or too high expectations; |
| employers (economy) | Fast and efficient gaining of qualified workforce in accordance with their needs; | Lack of interest in formal cooperation with a higher education institution;<br>insufficiently informed public; |
| Higher education institution | Stronger connection with the economy and more efficient way of adapting the program to the labour market needs; | Insufficient understanding of employers' needs;<br>Using short programs of study for unsuccessful students; |

**What costs will the introduction of short programs of study incur to all citizens and the economy (especially to small and medium-sized enterprises)?**

**Do positive effects of the introduction of short programs of study justify the costs they will incur?**

The costs of short programs of study will be borne by students themselves or employers, depending on their interest. Even though at first sight it seems as if the costs are covered by students and employers while a higher education institution makes a profit, in the long term short programs of study should increase gradute students' income and boost the profit of companies through the use of acquired knowledge and skills.

**What measures and actions will be taken while introducing short programs of study in order to achieve what is intended by the passing of the Law?**

| Measures and actions | Executors |
|---|---|
| Passing a legal framework for short programs of study | Ministry of Education, Science and Technological Development |
| Adopting a rulebook on short programs of study | National Council for Higher Education; Ministry of Education, Science and Technological Development |
| Establishing short programs of study register | National Council for Higher Education; Commission for Accreditation and Quality Assurance; Ministry of Education, Science and Technological Development |
| Amending the rulebook on public documents | Ministry of Education, Science and Technological Development |
| Adopting a rulebook on short programs of study at a higher education institution | higher education institution |

| | |
|---|---|
| Starting the implementation of short programs of study | higher education institution |
| Informing the public about short programs of study | This project; Ministry of Education, Science and Technological Development; Serbian Chamber of Commerce |

***2.3.*** *Law on Higher Education (Official Gazette No. 88/2017; 27/2018; 73/2018)*

Below are the articles of the Law referring directly to the term "Short Program of Study". As stated earlier, the National Council for Higher Education should provide detailed guidelines on the organization, implementation, checking of the appropriate certificates, keeping records and controlling the realization of the SP. After that, HEIs in their acts must in detail determine the procedures for the adoption, recording and realization of the SP.

**Competence of the National Council**
**Article 12**

National Council:
1) monitor the development of higher education and its compliance with European and international standards;

2) propose to the ministry responsible for higher education (hereinafter: the Ministry) measures for the improvement of the higher education system;
3) gives opinion on the policy of enrollment in higher education institutions;
4) give opinion in the procedure of passing regulations regulating issues of importance for the activity of higher education;
5) propose to the Government norms and standards of work of higher education institutions, as well as the material resources for their realization, according to the opinion of the University Conference and the Conference of Academies and Higher Schools;
6) decide in the second instance on appeals in the accreditation procedure, on the basis of the proposal of the Appeals Commission, which it establishes for each individual appeal;
7) **determine the guidelines regarding the organization, implementation of the short program of study and issuing the appropriate certificate;**

**Types of studies**
**Article 34**

The activities of higher education are realized through academic and professional studies based on accredited study programs for higher education.

In academic studies an academic study program is being conducted, which enables students to develop and apply scientific, artistic and professional achievements.

Vocational studies are carried out by a vocational study program, which enables students to apply and develop the professional knowledge and skills necessary for inclusion in the work process.

**For the purpose of vocational training of persons with acquired secondary education for inclusion in the work process, a short program of studies with a clearly defined structure, purpose and learning outcomes is carried out, and for which a certificate of completion of the short study program and acquired competencies is issued**

**Scope of study**
**Article 39**

Each subject from a study program or a short study program is indicated by the number of ESPBs corresponding to the program, and the scope of the program is expressed by a set of ESPB points.

A total of 60 ECTS points corresponds to the average total student engagement within the 40-hour working week during a school year.

The total student engagement consists of active teaching (lectures, exercises, practicals, seminars, etc.), independent work, colloquiums, exams, final work, student practice, volunteer work in the local community and other forms of engagement.

Voluntary work is the work of a student free of charge, organized by a higher education institution on projects of importance for the local community that is valued in the higher education system.

The conditions, the way of organizing and evaluating voluntary work are regulated by a higher education institution by their general act.

The total number of hours of active teaching can not be less than 600 hours during the school year.

Basic academic studies have between 180 and 240 ESPB points.

Basic vocational studies have 180 ESPB points.

Specialist vocational studies have at least 60 ESPB points.

Specialist academic studies have at least 60 ESPB points when they have previously completed Master Academic Studies.

Master academic studies have:

1) at least 60 ESPB points, when the scope of basic academic studies of 240 ESPB points has been previously achieved;

2) at least 120 ESPB points when the previous scope of basic academic studies of 180 ECTS points.

Master's professional studies have at least 120 ESPB points when the first level of the study has reached at least 180 ESPB points.

Study programs of academic studies can be organized in the framework of basic and master academic studies.

Doctoral studies have at least 180 ESPB points, with a previously completed study scope of at least 300 ESPB points in basic academic and master academic studies, or integrated academic studies.

Study programs of academic studies in medical sciences can be organized in the framework of basic and master academic studies, with a total volume of up to 360 ESPB points.

**A short program of study can be conducted in the range of 30 to 60 ESPB points.**

**Records maintained by a higher education institution**
**Article 113**

The higher education institution keeps: the student register, records of diplomas issued and diplomas supplement, records of employees, records of recognized foreign higher education documents for continuation of schooling and record of passing the exam.

**Higher education institutions and records of students and certificates of completion of the short program of study**.

The records referred to in paragraph 1 of this Article shall be kept in Serbian, Cyrillic script, in printed form, and may be kept electronically.

When instruction is exercised in the language of the national minority, the records referred to in paragraph 1 of this Article shall be kept in Serbian in Cyrillic script and in the language and script of the national minority.

The data entered in the records of the higher education institution shall be submitted to the Ministry for the performance of legally determined tasks, in accordance with this Law.

More detailed requirements regarding the keeping, collection, entry, updating, availability of the records kept, as well as other issues of relevance for keeping records, shall be prescribed by the Minister.

**Data in the register of accredited institutions**
**Article 116**

The register of accredited higher education institutions is a set of general data that is determined: the legal status of a higher education institution, the status of a higher education institution in the higher education system; data on study programs implemented by the higher education institution; **data on realized short programs of study and issued certificates**; tuition fee; weekly fund hours per study program for each year for lectures and exercises; the language in which the study program is conducted; number of budget and self-financing students per study program and per year; data on objects (number of buildings and squares, number of laboratories, number of library units); information on the acts and bodies of the higher education institution; data on the accreditation of the higher education institution and the results of the external evaluation of the higher education institution; data on own revenues and their spending.

**Data in student records**
**Article 118**

Data on students that the higher education institution keeps in the records referred to in Article 113, paragraph 1, are a set of personal data defining their identity, educational and social status and the necessary educational, social and health support.

Personal data about students is collected by a higher education institution through a form that is prescribed by the Minister and completed in paper form when enrolling the year of study.

The following data are collected for determining the student's identity: first name, first name, single parent's name, gender identity, citizenship number, passport number and issuer for foreign nationals, date of birth, place of birth, country and address of permanent residence, nationality in accordance with the law, marital status, citizenship, address, contact telephone, photographs and other data in accordance with this Law.

For determining the educational status of students, the data on previously completed education, the language in which the primary and secondary education has been acquired, the study program, the type of study, the year of study and the year of the first enrollment in the study program, participation in international mobility programs, the year of completion of the study program , the language in which the study program is being conducted, data on ESPB points achieved, data on awards and compliments received during the course of study and issued public documents.

For the determination of the social status of students, data on the method of financing the studies, the way of support during the studies, the address of the dwelling during study, the type of accommodation during study, the working status of the student during the course of studies, the dependents, the educational plan of both parents, the working status of the parent (sender) parent or supporter.

In order to determine the health status of students, data on the needs for providing additional support are collected for performing daily activities at a higher education institution.

**Higher education institution, pursuant to the provisions of par. 3 and 4 of this Article, keeps records of the enrolled students on short study programs and issued certificates.**

Personnel data management referred to in par. 3-7. This Article is a higher education institution.

## CONLUSION

The work on the project "Introduction of part time and short cycle studies in Serbia - PT & SCHE" lasted from October 2015 to April 2019. The main activities on the project were in the function of realization of certain parts of the "Strategy of development of education in the Republic of Serbia until 2020 " and proposals for the introduction of new forms of higher education in the Republic of Serbia.

During the implementation of the Project, a new Law on Higher Education was adopted (October 2017, amended September 2018). The new Law has provided opportunities for studying at work as well as for education through short programs that enable significantly faster and more efficient training for current jobs belonging to higher education qualifications and for which there is an interest and need in the labor market.

The higher education institutions, business entities and students have the possibility and responsibility to realize and use the new forms of study in the best way. As always, only the quality in realization will benefit all participants in this process: to provide qualifications that are in line with the needs of the labor market and enable better quality and business development; enable individuals to gain higher professional competencies and greater competitiveness, better income, higher standard and quality of life.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# ИЗВОДИ ИЗ ДОКУМЕНАТА „ПОЛИТИКА УВОЂЕЊА ПРОДУЖЕНОГ СТУДИРАЊА (Part-time) И КРАТКИХ ПРОГРАМА (Short cycle) У ВИСОКОГ ОБРАЗОВАЊА РЕПУБЛИКЕ СРБИЈЕ“ и ЗАКОНА О ВИСОКОМ ОБРАЗОВАЊУ РЕПУБЛИКЕ СРБИЈЕ

**Нада Ковачевић**[1]
nada.kovacevic@rect.bg.ac.rs

**Иван Обрадовић**[2]
ivan@rect.bg.ac.rs

**Далибор Солдатић**[3]
soldatic@sbb.rs

**Љиљана Дамјанов**[4]
ljiljana.damjanov@rect.bg.ac.rs

## *САЖЕТАК*

У оквиру Радног пакета 2 (Development of legal frameworks for implementation for PT&SCHE) пројекта “Introduction of part time and short cycle studies in Serbia”, развијен је документ „Политика увођења продуженог студирања **(**Part-time) и кратких програма **(**Short cycle) у високо образовање Републике Србије“. У овом документу су изнети ставови до којих су учесници пројекта дошли после сагледавања доступних података о искуствима других земаља и посети партнерским институцијама, сагледавања потреба привредних субјеката и високошколских установа у нашој средини, а у складу са постојећим стратешким документима о развоју високог образовања у Републици Србији.

Укратко, резултати активности на Пројекту довели су до става да је потребно извршити измене Закона о високом образовању и омогућити да и у Републици Србији лица, које због радног односа и сваке друге ситуације, не могу да редовно похађају наставу, могу да студирају и стичу квалификације у области високог образовања у складу са њиховим могућностима. Такође, да је потребно омогућити обуку кроз кратке програме студија за брзо стицање компетенција за обављање конкретних послова, а на основу исказане потребе привредних субјеката.

[1] Универзитет у Београду

[2] Универзитет у Београду

[3] Универзитет у Београду

[4] Универзитет у Београду, Сектор за студије и науку

У овом тексту изнети су ставови конзорцијума Пројекта о продуженом студирању (Part-time, студирање уз рад) и кратким програмима студија, представљени резултати анализа ефеката увођења нових облика студирања и цитирани чланови новог Закона о високом образовању (Сл. Гласник Бр. 88/2017; 27/2018; 73/2018) којима су они регулисани.

Координацију рада у оквиру Радног пакета 2. имао је Универзитет у Београду.

## *1.* PART-TIME СТУДИРАЊЕ, СТУДИРАЊЕ УЗ РАД, ПРОДУЖЕНО СТУДИРАЊЕ

1.1. *Ставови конзорцијума Пројекта*

Потребно је омогући свим лицима која не могу да редовно похађају наставу и да студирају редовно (запослени, мајке мале деце, болесне особе, особе са инвалидитетом, активни спортисти и др.) да буду укључена у систем високог образовања и стекну одговарајуће компетенције и квалификације кроз наставни процес који је усклађен са њиховим могућностима и потребама. Закон о високом образовању треба да препозна ово право и омогући њихово школовање. Конзорцијум Пројекта, предлаже да се овакав режим студирања назове **продужено студирање**.

Продужено студирање подразумева студирање у дужем временском периоду истог студијског програма, за стицање истих исхода учења и компетенција и за добијање исте дипломе и истог звања као и када се студијски програм студира у редовном режиму.

У том смислу, предлог је да треба омогућити три режима студирања:

А. **Редовно студирање.** Студент има могућност да студирању посвети 40 сати недељно (од тога најмање 50% у виду контактне наставе) и да оствари 60 ЕСПБ годишње.

Б. **Продужено студирање.** Студент не може да испуни захтеве редовног студирања пошто је у радном односу или због других личних разлога; може да посвети студирању највише 15 до 20 сати недељно и да оствари мање од 60, а најчешће 30 ЕСПБ.

В. **Убрзано студирање.** Студент који жели, може да заврши студије у краћем временском периоду у односу на предвиђену дужину трајања студијског програма; током виших година студирања, може да изабере предмете у укупном обиму већем од 60 ЕСПБ годишње (нпр. до 90 ЕСПБ), под условом да је током прве године студирања остварио планираних и обавезујућих 60 ЕСПБ.

Продужено студирање може бити примењено на студијске програме обе врсте и прва два нивоа студија (ОАС, МАС, САС, ОСС, МСС, ССС).

Став конзорцијума Пројекта је да није неопходно да свака акредитована високошколска установа (ВШУ), за сваки студијски програм који реализује (односно сваке школске године) организује продужено студирање; то зависи од стратегије установе, процене оправданости и расположивог капацитета и ресурса.

Како је већ речено, ВШУ може, али није обавезна, да нуди више од једног од наведена три режима студирања за један студијски програм у једној школској години.

Како се околности код неког студента могу мењати током студирања, систем високог образовања треба да омогући његов прелазак из једног у други режим студирања. ВШУ

својим општим актом треба да предвиди услове преласка за сваки од три режима студирања, ако су предвиђени њеним статутом.

Организација наставе за продужено студирање треба да буде прилагођена специфичним и ограниченим временским могућностима студената који су се определили за овај режим, али да квалитет наставног процеса буде очуван. Продужено студирање се остварује применом једног од три начина организације наставног процеса и то:

А. **Класична настава (енгл., face-to-face, F2F).** Студент остварује планирани програм наставе у целости у просторијама ВШУ на основу плана извођења наставе који је припремљен у складу са могућностима студената. Овај план извођења наставе треба да буде доступан студентима на почетку школске године. Распоред предмета треба да буде организован тако да сваки студент може да изабере комбинацију предмета која му омогућава да оствари 30 ЕСПБ. Настава се организује у вечерњим часовима, викендом или у облику блок наставе, има исти садржај и обим као и настава истих предмета у режиму редовног студирања.

Б **Онлајн настава.** Студент користи систем за електронско учење ВШУ, има приступ и могућност одабира наставних материјала уз обавезу коришћење интерактивне комуникације са наставником и сарадником одређеним за сваки предмет, као и са другим студентима.

В. **Комбинована настава (енгл., blended learning).** Студент остварује део наставе у виду онлајн наставе, а други део је у облику класичног процеса у просторијама ВШУ. Настава у просторијама ВШУ се обично реализује у делу у коме се очекује висок степен интерактивности студента са сарадником и осталим студентима и када је неопходно коришћење посебне опреме које студент не може да поседује код куће.

Студијски програм је јединствен без обзира на режим студирања (редован, продужен, убрзан) и начин организације наставног процеса (класичан, онлине, комбиновани). Стандарди акредитације треба да предвиде услове који обезбеђују потребан квалитет наставног процеса за сваки од наведених начина организације наставе. У складу са стандардима, одређује се број студената који може уписати прву годину студијског програма сваке школске године. У конкурсу за упис, високошколска установа, у складу са својим опредељењем, оглашава број студената за редовно студирање и за продужено студирање (ВШУ својим актима може и на други начин решити расподељивање студената по режиму студирања, а у оквиру акредитованих квота за студијски програм), односно за студијски програм који је организује само применом онлајн начина студирања.

Без обзира на режим студирања, ако студирају исти студијски програм, студенти морају да остваре исте исходе учења и стекну исте компетенције, иста знања и вештине и исти стручни или академски назив. Без обзира на режим студирања, диплома мора да гарантује исти ниво компетенција свих студената који заврше исти студијски програм.

*1.2. Анализа ефеката увођења продуженог студирања (анализу урадио тим Универзитета у Новом Саду)*

**Који проблеми се решавају увођењем продуженог студирања?**

Потреба сталног усавршавања и стицања нових знања је предуслов за успех у свакој области рада. Све чешће се сређемо са захтевом запослених особа да похађају редовне студије без обзира на животну доб. Такође постоји значајан број младих људи који су запослени јер на тај начин обезбеђују себи егзистенцију. Они на основу тренутне понуде студијских програма немају могућност да паралелно студирају и раде. Без обзира на велику жељу да ускладе радне обавезе и обавезе на студијама то је готово немогуће јер је за редовно студирање потребна 40-сатна недеља. Увођењем новог начина студирања запослени би били у могућности да паралелно испуњавају своје радне обавезе, ако и обавезе захтеване на студијском програму.

Србија се сређе са веома неповољном демографском ситуацијом. Наталитет је дуги низ година негативан. Међутим, још увек не постоје праве мере које би овај негативни тренд бар успориле. Млади родитељи који су студенти немају могућност да се посвете студијама у обиму у којем је то неопходно за успешно савладавање програма. Уместо да добију подршку, врло често су приморани да моле за помоћ и разумевање. Увођење продуженог студирања обезбедило би младим родитељима да успешно студирају и буду родитељи.

Потпуно исти закључци, као за младе родитеље, могу да се изведу и за студенте са хендикепом. Продужено студирање омогућило би овој категорији студената да прилагоде режим студирања својим могућностима.

Коначно, постоје случајеви када се студент, из различитих разлога, нађе у ситуацији да не може да одговори свим захтевима редовног студирања. Тренутно у таквој ситуацији студент је принуђен да одустане од студија што је веома неповољно и за њега лично, и за цело друштво.

**Који се циљеви постижу увођењем продуженог студирања?**

Издвајају се два подједнако важна циља. Први циљ је већа доступност и праведност високог образовања, што подразумева да и млади људи коју су запослени, или су родитељи, или из било ког разлога нису у могућности да се посвете обавеза на студијском програму у обиму од 40 сати недељно, могу приступити високом образовању и стећи исту квалификацију као редовни студенти, али у режиму студија који подразумева дуже студирање. Други циљ је јачање целоживотног учења, односно обезбеђивање запосленим особама које имају радно искуство, али желе да стекну нову или додатну квалификацију због будућег свог рада да то постигну на акредитованим студијским програмима.

**Да ли су разматране могућности да се проблем реши и без увођења кратких програма?**

Република Србија је део Европског образовног простора и усклађивање, пре свега, високог образовања, са примерима добре праксе европских земаља јесте један од инструмената за достизање бољих резултата у области образовања. Продужено студирање је присутно у готово свим земљама ЕХЕА, али је, за разлику од редовног студирања, начин увођења и реализације продуженог студирања веома шаролико. То је омогућило да се кроз

различита искуства сагледају различите модалитети и одабере модел који највише одговара образовном систему у Србији.

**Зашто је увођење продуженог студирања најбоље решење за решавање проблема?**

Продужено студирање омогући ће, како је већ напоменуто, већу доступност и праведност високог образовања. Високошколске установе добијају могућност да системски реше проблеме студента који из различитих разлога нису у могућности да редовно студирају. Увођењем продуженог студирања обезбеђује се да и ова категорија студената добије потпуно исти обим и квалитет студија као и редовни студенти, али кроз прилагођен начин реализације студијског програма.

**На кога ће и како ће највероватније утицати предложено решења?**

| Актери | Очекиван утицај | Могући ризик |
|---|---|---|
| грађани | обезбеђује се доступност квалитетног студијског програма грађанима који нису у могућности да одвоје 40 сати недељно за обавезе студирања; | недовољно разумевање продуженог студирања и коришћење у случајевима када не постоје оправдани разлози уз уверење да је лакше; |
| друштво | повећава се број грађана са високим образовањем;<br>смањује се број студенета који напушта студије (dropout); | не постоји значај ризик |
| ВШУ | увођењем новог режима студија обезбедиће се доступност квалитетне реализације студијског програма за све категорије студената; | увођењем продуженог студирања, поред редовог студирања, удвостручују се обавезе на студијском програму што може бити проблем ако не постоји довољно квалитетног наставног кадра;<br>различито разумевање продуженог студирања; |

**Какве трошкове ће увођење продуженог студирања створити грађанима и привреди (нарочито малим и средњим предузећима)?**

**Да ли су позитивне последице увођење продуженог студирања такве да оправдавају трошкове које ће створити?**

Очекује се да, у великој мери, трошкове продуженог студирања сносе студенти што повећава њихово улагање у сопствено образовање, али је ово свакако инвестиција која би требало да им донесе веће приходе у будућности.

Кроз продужено студирање очекује се да се смањи број студената који напуштају студије (dropout). На овај начин би се сачувало улагање које су или држава или појединци уложили у високо образовање, а које је у случају одустајање од студија представљало неисплативу инвестицију.

**Које ће мере и активности бити предузете током увођења продуженог студирања да би се остварило оно што се доношењем закона намерава?**

| Мере и активности | Носилац |
|---|---|
| доношење законског оквира за ПС | МПНТР |
| промене статута ВШУ | ВШУ |
| доношење правилника о ПС на ВШУ | ВШУ |
| почетак примене модела продуженог студирања | ВШУ |
| упознавање јавности о ПС | пројекат, МПНТР, ПКС |

*1.3. Закон о високом образовању (Сл. Гласник Бр. 88/2017; 27/2018; 73/2018)*

У наставку текста су директно преузети и цитирани чланови Закона у којима се помиње појам „Студирање уз рад“. Наиме, законодавац није прихватио предлог и назив "продужено студирање" ни енглеску верзију "парт-тиме студије", него је користио појам "студирање уз рад".

**Организација студија**
**Члан 96**.

Обавезе високошколске установе у погледу начина организовања и времена одржавања облика студија уређују се општим актом високошколске установе, као и обавеза да у складу са својим могућностима високошколска установа обезбеди услове за студенте са инвалидитетом.

Високошколска установа дужна је да организује предавања и друге облике наставе за све студенте, изузев код остваривања студијског програма на даљину.

Настава се организује и изводи у седишту високошколске установе, односно у објектима наведеним у дозволи за рад.

Високошколска установа може да организује део наставе и ван седишта, ако се ради о настави из предмета чији карактер то захтева, а у складу са акредитацијом.

У оквиру основних и мастер студија високошколска установа може организовати студентску праксу, као део студијског програма или кроз ваннаставне активности.

**Високошколска установа може да организује студије уз рад за студенте који су запослени или који из другог разлога нису у могућности да редовно прате наставу.**

Ближи услови и начини остваривања студијског програма на даљину уређују се општим актом високошколске установе.

Високошколска установа је дужна да у складу са својим општим актом, на одговарајући начин, тачно и благовремено информише студенте о начину, времену и месту одржавања наставе, циљевима, методама и садржајима наставе, о садржајима, методама, критеријумима и мерилима испитивања, о начину обезбеђивања јавности на испиту и начину остваривања увида у резултате, као и о другим питањима од значаја за студенте.

**Правила студија**
**Члан 102.**

При упису сваке школске године студент се опредељује за предмете из студијског програма.

Студијским програмом се прописује који су предмети обавезни за одређену годину студија.

Студент који се финансира из буџета, при упису одговарајуће године студија, опредељује се за онолико предмета колико је потребно да се оствари најмање 60 ЕСПБ бодова, осим ако му је до краја студијског програма остало мање од 60 ЕСПБ бодова.

Студент који се сам финансира, при упису одговарајуће године студија, опредељује се, у складу са студијским програмом, за онолико предмета колико је потребно да се оствари најмање 37 ЕСПБ бодова, осим ако му је до краја студијског програма остало мање од 37 ЕСПБ бодова.

**Студент који студира уз рад при упису одговарајуће године студија опредељује се, у складу са студијским програмом, за онолико предмета колико је потребно да се оствари најмање 30 ЕСПБ бодова, осим ако му је до краја студијског програма остало мање од 30 ЕСПБ бодова.**

**Високошколска установа општим актом утврђује услове за упис наредне године студија.**

Студент из ст. 4. и 5. овог члана који се сам финансира, плаћа део школарине обрачунат сразмерно броју ЕСПБ бодова за предмете за које се определио.

Полагањем испита студент стиче одређени број ЕСПБ бодова у складу са студијским програмом.

Студент који не положи испит из обавезног предмета до почетка наредне школске године, уписује исти предмет.

Студент који не положи изборни предмет, може поново уписати исти или се определити за други изборни предмет.

Студијским програмом може се условити опредељивање студента за одређени предмет претходно положеним испитима из једног или више предмета утврђених студијским програмом.

Правила студија ближе се уређују општим актом високошколске установе.

**Престанак статуса студента**
**Члан 109.**

Статус студента престаје у случају:

1) исписивања са студија;

2) завршетка студија;

3) неуписивања школске године;

4) кад не заврши студије до истека рока који се одређује у двоструком броју школских година потребних за реализацију студијског програма, осим у случају студија уз рад;

5) изрицања дисциплинске мере искључења са студија на високошколској установи.

**Студент који студира уз рад,** студент са инвалидитетом, студент који је уписан на студије по афирмативној мери и студент који има статус категорисаног врхунског спортисте **задржава статус студента до истека рока који се одређује у троструком броју школских година потребних за реализацију студијског програма**.

Студенту се, на лични захтев, може продужити рок за завршетак студија, у складу са општим актом високошколске установе.

## *2.* КРАТКИ ПРОГРАМИ СТУДИЈА

*2.1.*Ставови конзорцијума Пројекта

Ради стручног оспособљавања студента за укључивање у радни процес, изводе се **кратки програми студија** (у наставку текста КП) који има јасно дефинисану структуру, сврху, исходе учења и за који се издаје (национални) сертификат о завршеном кратком програму са описом посла за који оспособљава студента и стеченим компетенцијама.

Циљ увођења КП у образовни систем Републике Србије, јесте да се омогући, у кратком временском периоду, ефектно и ефикасно образовање и обука стручњака за конкретан посао на основу исказане потребе послодаваца.

КП који по врсти, нивоу и обиму знања и вештима за које обучавају студенте одговарају високом образовању, јесу кратки програми студија.

КП чини осмишљени скуп предмета и праксе/обуке који за циљ имају да обезбеде стицање ужих и функционално повезаних знања и вештина, ради оспособљавања студента за обављање конкретног посла који по врсти и нивоу компетенција и сложености одговара високом образовању.

КП може да донесе и реализује акредитована високошколска установа (у даљем тексту ВШУ) из научно-образовне или уметничке области у којој има акредитован најмање један студијски програм.

КП је, по правилу, усклађен са захтевима тржишта рада.

ВШУ може донети и изводити КП само ако има подршку послодаваца што се документује уговором о исказаној потреби, изјавом послодавца о позитивном вредновању предлога курикулума и/или изјавом о спремности бар једног послодавца да ће своје запослене уписати на КП или да ће, после додатног тестирања и избора, ангажовати лица која су стекла сертификат о завршеном КП.

КП не подлежу процесу акредитације који је предвиђен за студијске програме.

ВШУ може изводити КП након увођења у евиденцију/регистар у складу са Законом

У зависности од образовног задатка, обима и карактера знања и вештина које треба да обезбеди студенту и сложености посла за који га припрема, КП може бити организован у оквиру академске или струковне врсте високог образовања у оквиру првог или другог нивоа.

КП има обим наставног процеса од 300 до 600 (900) часова активне наставе, и може трајати од 3 до 12 (18) месеци. Обим КП може бити исказан у ЕСПБ; обим од 300 до 600 (900) часова активне наставе одговара од 30 до 60 (90) ЕСПБ.

За организацију КП важе општа правила усвојена за високо образовање и то: оптерећење студента током радне недеље износи максимално 40 сати, од тога 20-30 контактне наставе.

Активна настава обухвата теоријска предавања и практичне вежбе у обиму од 20-30 часова недељно (односно интегрисана предавања и вежбе) и додатну праксу/обуку на радном месту у обиму од 10-30 % од часова активне наставе.

Наставни процес примењен за реализацији КП мора бити усаглашен са општим принципима рада акредитованих ВШУ.

Настава на КП може бити организована на три начина и то: класично у просторијама ВШУ у којима она изводи и акредитоване студијске програме (Ф2Ф), као онлине настава и комбиновањем ова два начина.

Настава на КП одвија се независно од наставне на академским или струковним студијама.

ВШУ својим актима дефинише начин и поступак доношење, број полазника, динамику реализације, поштовање одговарајућих радних стандарда (организација рада и методички аспекти студија), контролу квалитета, континуирано унапређивање квалитета студија, вођење евиденције о реализацији КП.

ВШУ може својим актима да одреди поступања везано за признавање предмета/делова предмета имаоцима националног сертификата, које се упишу на студијски програм.

Једном донет КП може бити реализован за потребе и других послодаваца, по динамици која не угрожава квалитет наставног процеса и не ометају редовно извођење акредитованих студијских програма.

Број студената који су уписани на КП усклађен је са потребама које су исказане у уговору са послодавцем/послодавцима, односно одређен у складу са кадровским, просторним и организационим могућностима ВШУ које обезбеђују потребан квалитет наставног процеса и не ометају редовно извођење акредитованих студијских програма.

Курикулум КП садржи списак обавезних и изборних предмета, њихов распоред по семестрима/блоковима, број часова, обим и међусобну условљеност. У припреми курикулума, ВШУ мора водити рачуна о равномерном оптерећењу студента. КП може имати изборне предмете када је то потребно и оправдано за бољу припрему студената. Предмети који чине КП мањег су обима и имају конкретнији и комбиновани (мултидисциплинаран) садржај и организацију у односу на предмете на студијским програмима, академског и струковног образовања.

По свом обиму и структури предмети у оквиру кратких програма представљају јединствену комбинацију теоријских и практичних знања и вештина (из различитих научних/стручних/уметничких области) и праксе/обуке за њихову конкретну примену за решавање одређеног проблема/радног задатка/операције у оквиру конкретног посла коме је посвећен КП.

Настава КП може бити организована кроз блок систем, односно као концентрисана настава само једног предмета са провером стечених знања и вештина, непосредно по завршетку наставе предмета.

Успешност студента у савлађивању једног предмета, континуирано се прати током наставе и изражава поенима. Максималан број поена износи 100 по сваком предмету.

Студент стиче поене на предмету кроз рад у настави и испуњавању предиспитних обавеза и полагање испита. Максималан број поена које студент може да стекне кроз предиспитне обавезе током активне наставе и праксе износи 70.

Провера знања и стечених вештина, као и обученост студента по завршетку наставе из једног предмета врши се кроз испит који може бити организован на начин који најбоље омогућава сагледавање исхода учења и обуке. Начин провере исхода учења и обуке, саставни је део података које ВШУ наводи у документацији која прати сваки предмет.

Наставник који учествује у реализацији наставе на КП може бити лице у звању: предавач, професор струковних студија, доцент, ванредни професор и редовни професор.

Због специфичне намене КП, да обезбеде стицање ужих и функционално повезаних знања и вештина ради оспособљавања студента за обављање конкретног посла, ВШУ својим општим актом дефинисати облик и услове ангажовање додатних наставника и сарадника (заснивање радног односа, допунски радни однос, уговор о ангажовању за извођење наставе без заснивања радног односа).

Национални савет за високо образовање треба да донесе детаљне смернице о организацији, спровођењу, иидавању одговарајућих сертификата, вођењу евиденције и контроли реализације КП.

*2.2. Анализа ефеката увођења кртаких програма студија (анализу урадио тим Универзитета у Новом Саду)*

**Који проблеми се решавају увођењем кратких програма?**

Живимо у времену када се сваки дан појављују потребе за новим знањима и вештинама, што указује да једном стечена формална квалификација није довољна за цео радни век. Постоји и један број занимања која више нису потребна на тржишту рада. Из ових разлога се уочава двоструки губитак, са једне стране послодавци не могу да обезбеде довољно квалификовану радну снагу, а са друге стране у формалном образовању потрошена су средства на занимања без јасне перспективе. Наравно, највећи губитак осећају или млади људи који не могу да нађу одговарајући посао, или особе које су стекле значајно радно искуство али су се појавиле потребе за додатним знањима и вештинама за радно место. Годинама се у Републици Србији организују различити обуке или курсеви од стране великог броја институција или организација који покушавају да реше евидентан проблем. Ипак, такав приступ, врло често, не даје одговарајуће резултате.

**Који се циљеви постижу увођењем кратких програма?**

Основни циљ који се постиже увођењем кратких програма огледа се у ефикасној вези између тржишта рада и високог образовања кроз јасно дефинисане потребе тржишта, са једне стране, и квалитетно, брзо и компетентно организоване и спроведене кратке програме који задовољавају дефинисане потребе, са друге стране.

**Да ли су разматране могућности да се проблем реши и без увођења кратких програма?**

Република Србија је део Европског образовног простора и усклађивање, пре свега, високог образовања, са примерима добре праксе европских земаља јесте један од инструмената за достизање бољих резултата у области образовања. Међутим, баш у области кратких програма постоји велика шароликост у земљама ЕХЕА, што је омогућило да се кроз различита искуства сагледају различите могућности и одабере модел који највише одговарао образовном систему у Републици Србији.

Како је већ напоменуто, постоје програми обуке који се реализују, али који се у највећој мери односе на квалификације испод високог образовања.

**Зашто је увођење кратких програма најбоље решење за решавање проблема?**

Кратки програми омогући ће да акредитоване високошколске установе преузму део одговорности за развој привреде, а у тесној вези са послодавцима. Кроз увођење националног сертификата системски и транспарентно се уређује систем кратких програма

**На кога ће и како ће највероватније утицати предложено решења?**

| Актери | Очекиван утицај | Могући ризик |
|---|---|---|
| грађани | отвара се могућност за ефикасно стицање нових компетенција, односно знања и вештина; | неразумевање кратких програма (недовољна информисаност) или превелика очекивање; |
| послодавци (привреда) | брзо и ефикасно добијају обучену радна снага у складу са својим потребама; | незаинтересованост за формалну сарадњу са ВШУ;<br>недовољна информисаност; |
| ВШУ | јача веза са привредом и ефикаснији начин прилагођавања програма потребама тржишта рада; | недовољно разумевање потребе послодаваца;<br>коришћење КП за неуспешне студенте; |
| | | |

**Какве трошкове ће увођење кратких програма створити грађанима и привреди (нарочито малим и средњим предузећима)?**

**Да ли су позитивне последице увођење кратких програма такве да оправдавају трошкове које ће створити?**

Трошкове на кратким програмима сносе сами студенти или послодавци у зависности од заинтересованости. Иако на први поглед делује да на овај начин постоје трошкови за студенте и послодавце, а приход за ВШУ, дугорочно, кроз стечена нова знања и вештине, кратки програми би требало да донесу већа примања свршеним студентима и већи профит фирмама.

**Које ће се мере и активности током увођења кратких програма предузети да би се остварило оно што се доношењем закона намерава?**

| Мере и активности | Носилац |
|---|---|
| доношење законског оквира за КП | МПНТР |
| доношење правилника о КП | НСВО, МПНТР |
| успостављање регистра КП | НСВО, КАПК, МПНТР |
| измене правилника о исправама | МПНТР |
| доношење правилика о КП ВШУ | ВШУ |
| почетак примене кратких циклуса | ВШУ |
| упознавање јавности о КП | пројекат, МПНТР, ПКС |

***2.3.*** *Закон о високом образовању (Сл. Гласник Бр. 88/2017; 27/2018; 73/2018)*

У наставку су наведени чланови Закона који се директно односе на термин "Кратки програм студија". Као што је већ речено, Национални савет за високо образовање треба да пружи детаљне смернице за организацију, спровођење, проверу одговарајућих сертификата, вођење евиденције и контролу реализације СП-а. Након тога, високошколске установе у својим актима морају детаљно одредити процедуре за усвајање, евидентирање и реализацију СП-а.

**Надлежност Националног савета**
**Члан 12.**

Национални савет:

1) прати развој високог образовања и његову усклађеност са европским и међународним стандардима;

2) предлаже министарству надлежном за послове високог образовања (у даљем тексту: Министарство) мере за унапређивање система високог образовања;

3) даје мишљење о политици уписа на високошколске установе;

4) даје мишљење у поступку доношења прописа којима се уређују питања од значаја за делатност високог образовања;

5) предлаже Влади нормативе и стандарде рада високошколских установа, као и материјална средства за њихово остваривање, по прибављеном мишљењу Конференције универзитета и Конференције академија и високих школа;

6) одлучује у другом степену по жалбама у поступку акредитације, на основу предлога жалбене комисије, коју образује за сваку појединачну жалбу;

**7) утврђује смернице у вези са организацијом, спровођењем кратког програма студија и издавањем одговарајућег сертификата;**

8) утврђује научне, уметничке, односно стручне области у оквиру поља из члана 37. овог закона, на предлог Конференције универзитета и Конференције академија и високих школа;

9) утврђује листу стручних, академских, научних, односно уметничких назива са назнаком звања одговарајућег степена студија из одговарајућих области и скраћенице стручних, академских, научних, односно уметничких назива двојезично, на српском и енглеском језику;

10) утврђује стандарде за самовредновање и оцењивање квалитета високошколских установа на предлог Националног акредитационог тела;

11) утврђује стандарде за спољашњу проверу квалитета високошколских установа на предлог Националног акредитационог тела;

12) утврђује стандарде за почетну акредитацију на предлог Националног акредитационог тела;

13) утврђује стандарде и поступак за акредитацију високошколских установа на предлог Националног акредитационог тела;

14) утврђује стандарде и поступак за акредитацију студијских програма на предлог Националног акредитационог тела;

15) утврђује минималне услове за избор у звања наставника, на предлог Конференције универзитета, односно Конференције академија и високих школа;

16) доноси Основе за кодекс о академском интегритету и сукобу интереса приликом избора у звање наставника, односно сарадника и заснивања радног односа на високошколским установама у Републици Србији;

17) утврђује листу рецензената;

18) обавља и друге послове у складу са законом.

**Врсте студија**
**Члан 34.**

Делатност високог образовања остварује се кроз академске и струковне студије на основу акредитованих студијских програма за стицање високог образовања.

На академским студијама изводи се академски студијски програм, који оспособљава студенте за развој и примену научних, уметничких и стручних достигнућа.

На струковним студијама изводи се струковни студијски програм, који оспособљава студенте за примену и развој стручних знања и вештина потребних за укључивање у радни процес.

**Ради стручног оспособљавања лица са стеченим средњим образовањем за укључивање у радни процес, изводи се кратки програм студија који има јасно дефинисану структуру, сврху и исходе учења и за који се издаје сертификат о завршеном кратком програму студија и стеченим компетенцијама.**

**Обим студија**
**Члан 39.**

Сваки предмет из студијског програма или кратког програма студија исказује се бројем одговарајућих ЕСПБ бодова, а обим програма се изражава збиром ЕСПБ бодова.

Збир од 60 ЕСПБ бодова одговара просечном укупном ангажовању студента у обиму 40-часовне радне недеље током једне школске године.

Укупно ангажовање студента састоји се од активне наставе (предавања, вежбе, практикуми, семинари и др.), самосталног рада, колоквијума, испита, израде завршних радова, студентске праксе, добровољног рада у локалној заједници и других видова ангажовања.

Добровољни рад је рад студента без накнаде, који организује високошколска установа на пројектима од значаја за локалну заједницу који се вреднује у систему високог образовања.

Услове, начин организовања и вредновање добровољног рада уређује високошколска установа својим општим актом.

Укупан број часова активне наставе не може бити мањи од 600 часова у току школске године.

Основне академске студије имају од 180 до 240 ЕСПБ бодова.

Основне струковне студије имају 180 ЕСПБ бодова.

Специјалистичке струковне студије имају најмање 60 ЕСПБ бодова.

Специјалистичке академске студије имају најмање 60 ЕСПБ бодова када су претходно завршене мастер академске студије.

Мастер академске студије имају:

1) најмање 60 ЕСПБ бодова, када је претходно остварен обим основних академских студија од 240 ЕСПБ бодова;

2) најмање 120 ЕСПБ бодова када је претходно остварен обим основних академских студија од 180 ЕСПБ бодова.

Мастер струковне студије имају најмање 120 ЕСПБ бодова када је претходно остварен обим првог степена студија од најмање 180 ЕСПБ бодова.

Студијски програми академских студија могу се организовати интегрисано у оквиру основних и мастер академских студија.

Докторске студије имају најмање 180 ЕСПБ бодова, уз претходно остварени обим студија од најмање 300 ЕСПБ бодова на основним академским и мастер академским студијама, односно интегрисаним академским студијама.

Студијски програми академских студија из медицинских наука могу се организовати интегрисано у оквиру основних и мастер академских студија, са укупним обимом од највише 360 ЕСПБ бодова.

**Кратки програм студија може се изводити у обиму од 30 до 60 ЕСПБ бодова.**

**Евиденције које води високошколска установа**
**Члан 113.**

Високошколска установа води: матичну књигу студената, евиденцију о издатим дипломама и додацима диплома, евиденцију о запосленима, евиденцију о признатим страним високошколским исправама ради наставка школовања и записник о полагању испита**.**

**Високошколске установе воде и евиденцију о полазницима и издатим сертификатима о завршеном кратком програму студија.**

Евиденција из става 1. овог члана води се на српском језику, ћириличким писмом, у штампаној форми, а може се водити и електронски.

Када се настава остварује на језику националне мањине, евиденција из става 1. овог члана води се на српском језику ћириличким писмом и на језику и писму националне мањине.

Подаци уписани у евиденцију високошколске установе достављају се Министарству за обављање законом утврђених послова, у складу са овим законом.

Ближе услове у погледу вођења, прикупљања, уноса, ажурирања, доступности података о којима се води евиденција, као и друга питања од значаја за вођење евиденција, прописује министар.

**Подаци у регистру акредитованих установа**
**Члан 116.**

Регистар акредитованих високошколских установа представља скуп општих података којима се одређује: правни статус високошколске установе, статус високошколске установе у систему високог образовања; подаци о студијским програмима које високошколска установа реализује; **подаци о реализованим кратким програмима студија и издатим сертификатима;** висина школарине; седмични фонд часова по студијском програму за сваку годину за предавање и вежбе; језик на коме се изводи студијски програм; број буџетских и самофинансирајућих студената по студијском програму и по години; подаци о објектима (број зграда и квадратура, број лабораторија, број библиотечких јединица); подаци о актима и органима високошколске установе; подаци о акредитацији високошколске установе и резултатима спољашњег вредновања високошколске установе; подаци о сопственим приходима и њиховом трошењу.

У регистар из става 1. овог члана уносе се и други подаци од значаја за развој система високог образовања и за укључивање у европски простор високог образовања.

Подаци из регистра из става 1. овог члана су отворени подаци, осим података о сопственим приходима и њиховом трошењу, јавно доступни на интернет презентацији Министарства, у машински обрадивом облику за коришћење и даље објављивање.

**Подаци у евиденцијама о студентима**
**Члан 118.**

Подаци о студентима које високошколска установа води у евиденцији из члана 113. став 1. представљају скуп личних података којима се одређује њихов идентитет, образовни и социјални статус и потребна образовна, социјална и здравствена подршка.

Личне податке о студентима прикупља високошколска установа путем обрасца чији изглед прописује министар и који се попуњава у папирној форми при упису године студија.

За одређивање идентитета студента прикупљају се следећи подаци: име, презиме, име једног родитеља, пол, јединствени матични број грађана, број пасоша и издавалац за стране држављане, датум рођења, место рођења, држава и адреса сталног становања, адреса становања за време студирања, национална припадност у складу са законом, брачни статус, држављанство, адреса, контакт телефон, фотографија и други подаци у складу са овим законом.

За одређивање образовног статуса студената прикупљају се подаци о претходно завршеном образовању, језик на коме је стечено основно и средње образовање, уписаном студијском програму, врсти студија, години студија и години првог уписа на студијски програм, учешћу на међународним програмима мобилности, години завршетка студијског програма, језику на коме се изводи студијски програм, подаци о оствареним ЕСПБ бодовима, подаци о наградама и похвалама освојеним током студирања и издатим јавним исправама.

За одређивање социјалног статуса студената прикупљају се подаци о начину финансирања студија, начину издржавања током студија, адреси становања током студирања, типу смештаја током студирања, радном статусу студента током студирања, издржаваним лицима, школској спреми оба родитеља, радном статусу родитеља (издржаваоца) и занимању родитеља или издржаваоца.

За одређивање здравственог статуса студената прикупљају се подаци о потребама за пружањем додатне подршке приликом обављања свакодневних активности на високошколској установи.

**Високошколска установа, сходно одредбама из ст. 3. и 4. овог члана, води евиденцију и о уписаним полазницима на кратким програмима студија и издатим сертификатима.**

Руковалац подацима о личности из ст. 3–7. овог члана је високошколска установа.

# ЗАКЉУЧАК

Рад на пројекту "Introduction of part time and short cycle studies in Serbia – PT & SCHE" трајао је од октобра 2015. до априла 2019. Основне активности на пројекту биле су у функцији реализације одређених делова „Стратегије развоја образовања у Републици Србији до 2020 године“ и предлога за увођење нових облика студија у високо образовање Републике Србије.

Током реализације Пројекта, усвојен је нови Закон о високом образовању (октобар 2017., измене септембар 2018.). Нови Закон је пружио могућност за студирање уз рад, као и за образовање кроз кратке програме који омогућавају значајно брже и ефикасније оспособљавање за актуелне послове који припадају квалификацијама високог образовања и за које постоји интересовање и потреба на тржишту рада. Иако нису сви предлози развијени у Пројекти усвојени у Закону, суштински је основни задатак Пројекта испуњен.

На високошколским институцијама, привредним субјектима и студентима је могућност и одговорност да нове облике студирања на најбољи начин реализују и искористе. Као и увек, само ће квалитетна реализација донети корист свим учесницима овог процеса: обезбедити квалификације које су усклађене са потребама тржишта рада и омогућити бољи квалитет и развој пословања; појединцима омогућити стицање виших професионалних компетенција и већу конкурентност, боље приходе, већи стандард и квалитет живота.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# NEEDS AND REQUIREMENTS FOR ONLINE PART-TIME AND SHORT-CYCLE IN HIGHER EDUCATION IN SERBIA*

**Nebojša Mitrović**[1]

nebojsa.mitrovic@ftn.kg.ac.rs

**Danijela Milošević**[1]

danijela.milosevic@ftn.kg.ac.rs

**Abstract:** *This report provides the results of the survey on the subject of the needs and requirements of online PT&SCHE in higher education institutions in the Republic of Serbia. It gives a systematically presented overview of the gathered information about practices and principles for quality assurance and other aspects relevant for online PT&SCHE studies, as well as on the needs and experiences in this area in the Republic of Serbia.*

***KEY WORDS:*** PART-TIME STUDIES, SHORT CYCLE EDUCATION, ONLINE STUDIES**,** NEEDS, REQUIREMENTS,

## 1. INTRODUCTION

The PT&SCHE project is implemented by a consortium of fifteen partners from Serbia, Estonia, United Kingdom, Netherlands, Hungary and Slovenia. The consortium consists of four European universities, one European Vocational College, four universities in Serbia, one school of applied studies in Serbia, the Ministry of Education, Science and Technological Development, the National Council for Higher Education, the Conference of Universities of Serbia, Belgrade Chamber of Commerce and one IT Serbian company. One of the main objectives of the project is the adoption and implementation of the most suitable online and traditional (face-to-face) learning methodologies.

The report is focused on paving the way for strengthening sustainability of PT&SCHE with adoption of e-Learning technologies and pedagogical approaches in order to specify the needs and requirements for online PT&SCHE in Serbia.

## 2. THE NEEDS AND REQUIREMENTS FOR ONLINE PT&SCHE - RS PROJECT PARTNERS SURVEY

Since Part-Time and Short-Cycle studies currently do not exist in the Republic of Serbia, in this part of analysis, we focused on answering two main questions:

[1] Institution/Affiliation: Faculty of Technical Sciences, University of Kragujevac, Serbia

1. What is the opinion about and readiness for the introduction of PT&SC studies and their implementation modalities, with focus on online implementation?

2. What is the current state of Serbian HE system regarding online learning in general?

Both questions are important in order to establish and evaluate current situation in this area. This evaluation is needed in order to have the proper grounds for defining the most effective ways and pace of introduction of PT&SC studies in Serbia through e-Learning.

The survey was distributed among two target groups:

1. Teaching staff of the HEIs in Serbia participating in PT&SCHE project,

2. Enrolled and potential students of the HEIs in Serbia that participate in this project.

Since the project consortium encompasses 3 of the largest universities from public sector in Serbia (UB, UNS, UNIKG), one university from private sector (BMU), and one school of applied studies (VISER), the teaching staff and students from these institutions can be perceived as a representative sample for the Serbia HE system survey. Data collection was done by using the set of questionnaires developed by the consortium members for the purposes of the project.

The survey was responded anonymously. It was distributed as an online survey (using the Google form) to the representatives of the academic community and students. The teachers' survey was distributed to all the faculties and departments within the participating institutions, followed by official plea sent by the contact person or the responsible person (Vice-Rector for teaching affairs etc.). The teachers' survey received 537 responses. The students' survey was distributed through student databases (owned by the Rectorates, University Centers for Career Development and Students Counselling, the teachers etc.). The students' survey received 838 responses.

### 2.1. Teachers' survey

As above mentioned, the survey responses have been provided by the representatives of 3 of the major public universities in RS, 1 of private universities and one school of applied studies. UNS, UKG and UBG had the largest response rate among the teachers. These numbers could be expected due to the size of all 5 partner institutions. The universities mentioned have considerably higher number of teachers than VISER and BMU, so this ratio is reasonable.

The teachers from all scientific fields gave their contribution. Except for VISER, which conducts studies exclusively in the field of technical and technological sciences, the other HEI conduct studies in almost all the fields – social sciences and humanities, mathematics and natural sciences, medical sciences, arts and interdisciplinary studies.

The most interest is the survey on this subject was shown by the teachers from the field of technical and technological sciences and social sciences and humanities (33 % of the responses per each field). Relatively low interest is shown by the teachers from the field of medical sciences, due to the nature of the studies in this field that mainly requires clinical practice and direct contact with the patients.

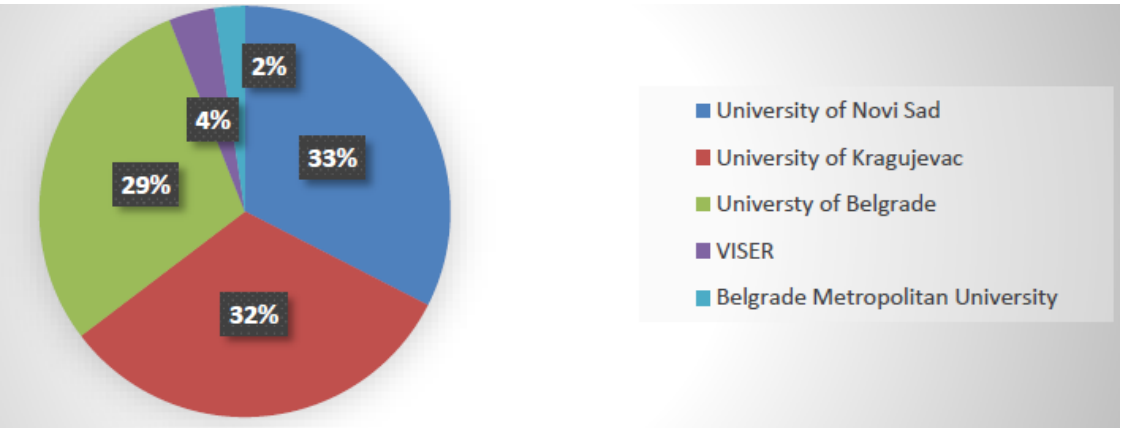



**Figure 1. Home institutions of the respondents**

The smallest number of professors that participated in the survey are teaches within the field of interdisciplinary studies, due to the small part of study programmes within this area in RS.

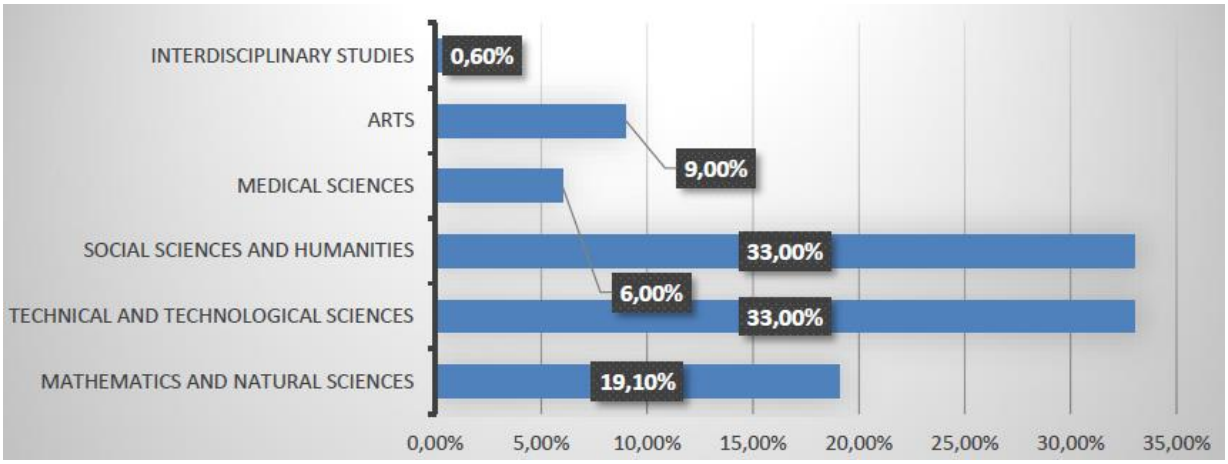



**Figure 2. Teaching field of the respondents**

According to the academic ranks, more than a half of the respondents (63.2 %) are professors, more precisely: full professors – 19.5 %; associate professors – 12.5 %, and predominantly, assistant professors – 30 % of all respondents. Also, significant numbers of respondents are assistants of the professors. These numbers indicate the prominent interest of the younger generations for this subject, indicating that in the future there will be the faculty interested for these activities. However, the more experienced professors were not reluctant to discuss it.

Since the issue of neither the duration, nor the number of ECTS for SC studies is not yet established, the respondents were asked for their suggestions. As can be seen at the figure above, the answers are provided to an extent that significantly varies. The largest group (32.5 % of the sample) is of an opinion that SC should be worth half a regular study year, in terms of ECTS (30 ECTS).

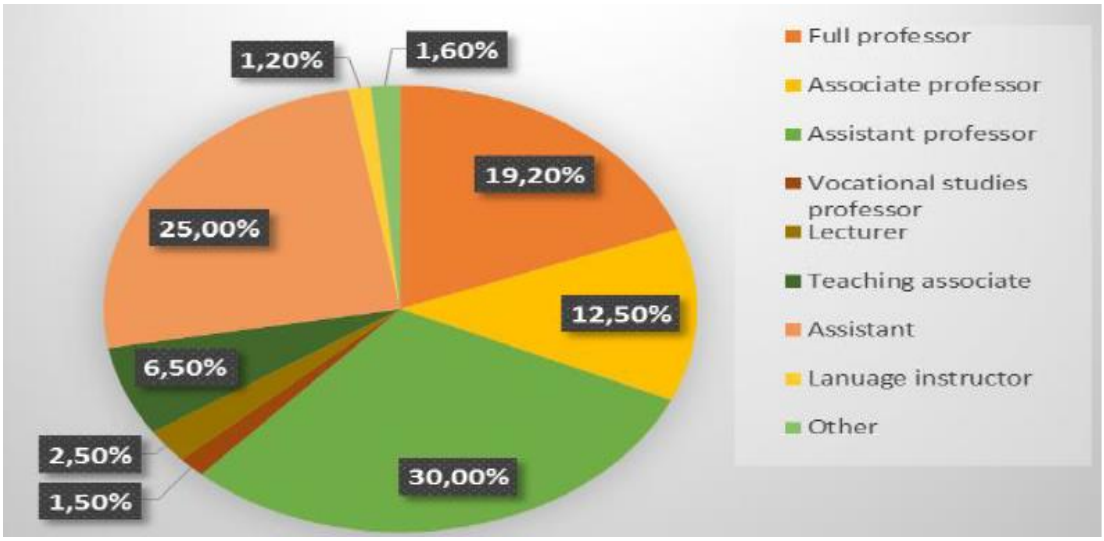



**Figure 3. Title of the respondents**

Considerable portion (22.10 %) suggests the same distribution of the credits as in the regular academic year (60 ECTS). Around 10 % of the respondents would find suitable 20 ECTS and 40 ECTS per SC. Interesting differences can be observed between the rests of the answers (from 0 to 90 ECTS). However, none of the solutions separately is not supported enough so as to be considered as a significant statistical group. These varied responses are, of course, due to the broad definition of a Shot Cycle, which is not very familiar concept in RS.

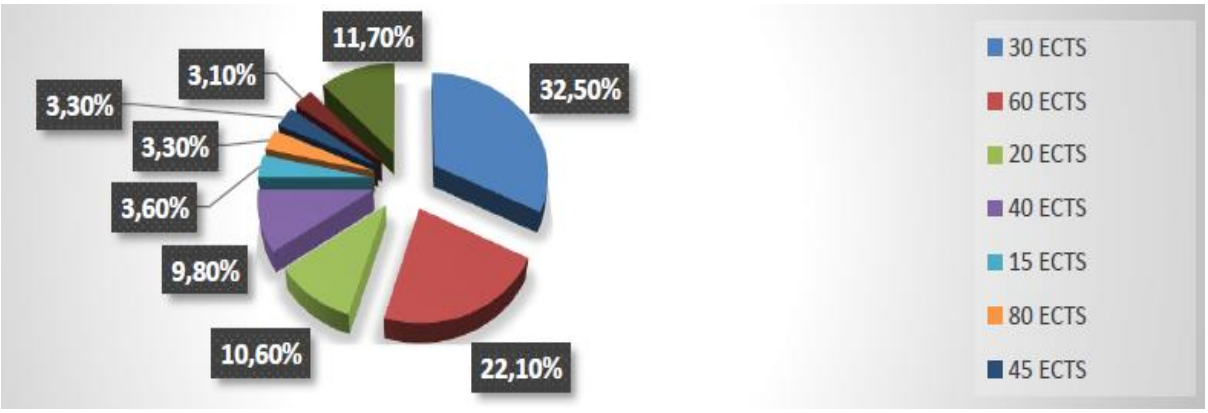



**Figure 4. Opinion about the number of ECTS in SC**

The vast majority of respondents (95 %) agree about the question of consulting employers about the formulation of SC structure, as well as its financial implementation. 65.70 % fully supports the collaboration with the employers, 29.30 % partially, and only 5 % would not support this idea. When asked about the suggestions for PT studies, more specifically, should it be provided as distance learning – almost 90 % of the respondents agree.

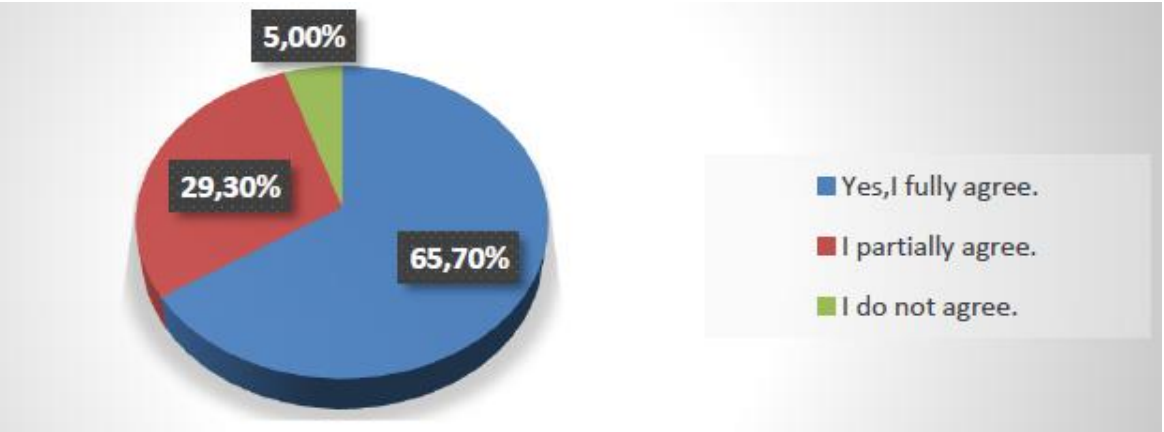



**Figure 5. Support of the cooperation with employers**

The number of students which would prefer it as a blended learning is almost a double of students who would support providing it completely at a distance. 12.8 % do not support this form of distance learning.

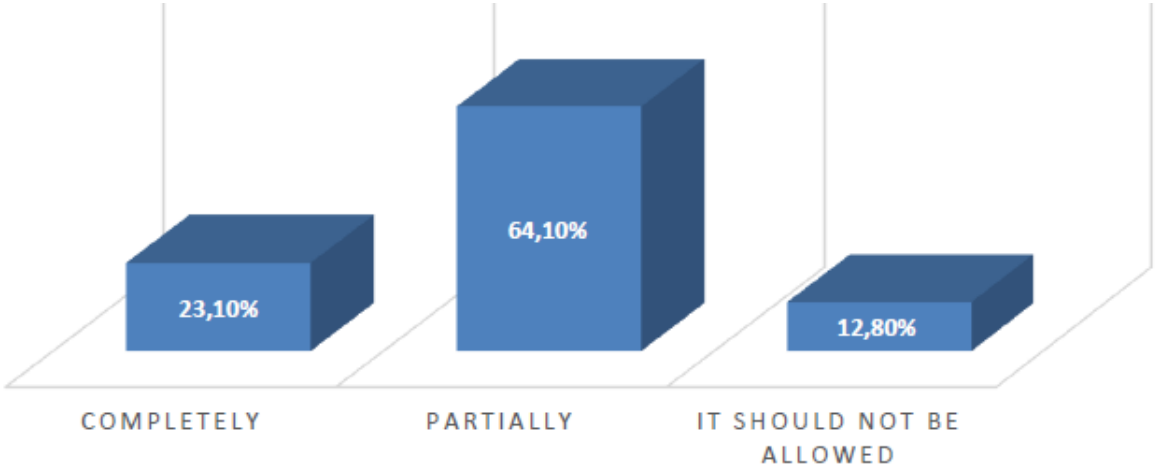



**Figure 6. Opinion on distance learning in PT**

Several modalities of implementation of online teaching were suggested for the evaluation of the teachers. As it can be seen from the figures below, online learning is very strongly supported in Serbia. Most support is given to blended learning: study programs (90.40 %) and Short-Cycles (90.50 %) implemented in this way. Studies implemented entirely online rise a little bit more skepticism, especially when it comes to whole study programmes, but they also have support by the majority of teachers. Utilizing online studies for mutual teaching in collaboration with other institutions is also perceived as a positive initiative by the largest group (almost 90 % of the teaching staff).

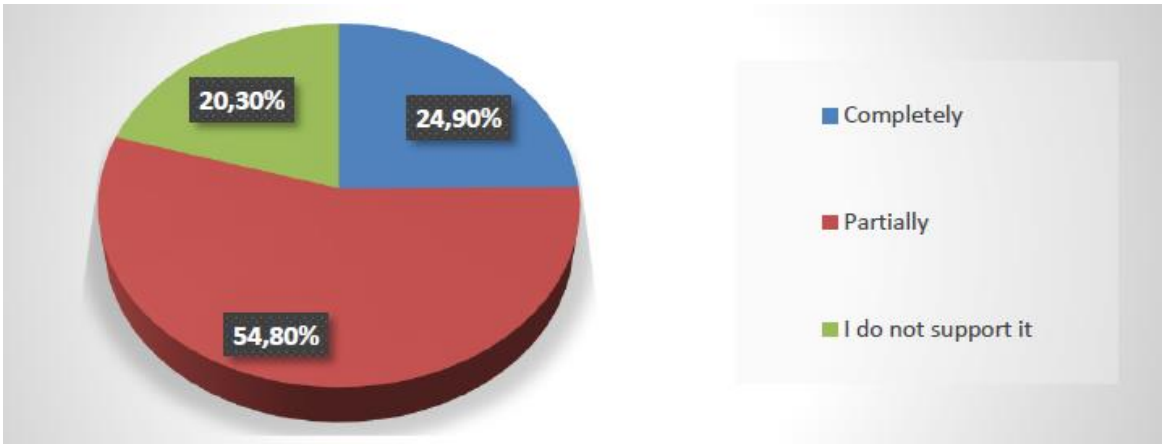



**Figure 7. Support of Short-Cycles implemented online**

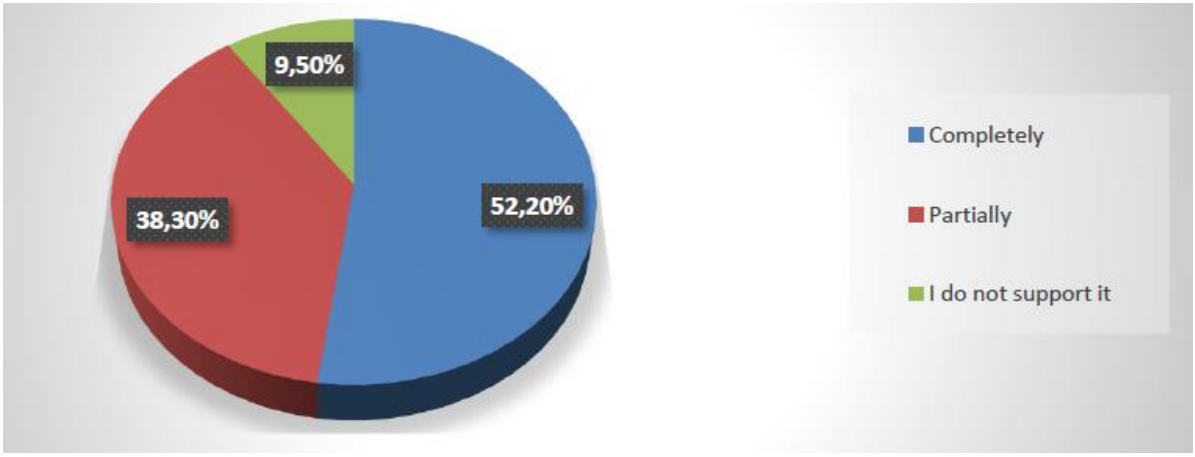



**Figure 8. Support of Short-Cycles implemented as blended learning**

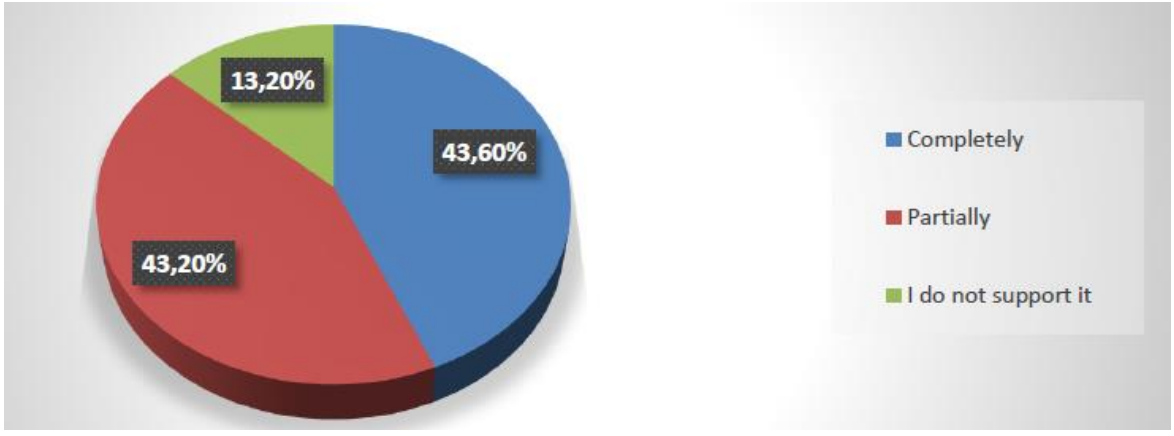



**Figure 9. Support of online teaching implemented in cooperation with other institutions**

Apart from the general opinion and the support for the online PT, SCHE and other types of e-learning, we wanted to find out the level of readiness of RS teachers for the implementation of e-learning in their specific subjects. This would not be an issue for almost half of the respondents (44.5 %), since 19.20 % indicated that e-learning already takes place in their classes. Additional 23.30 % of the respondents stated that they are completely ready for introducing it. As for the rest of the respondents, 37.20 % would support it, but would need training in the field of IT usage and/or pedagogical approach to this form of teaching. To about a quarter of the respondents, additional financial compensation seems important. 23.7 % teachers stated that they would not be ready for e-learning– 15.10 % due to the nature of the subjects that they teach, the content of which is not suitable for transfer in electronic lessons. Overall, the readiness level is found to be favorable.

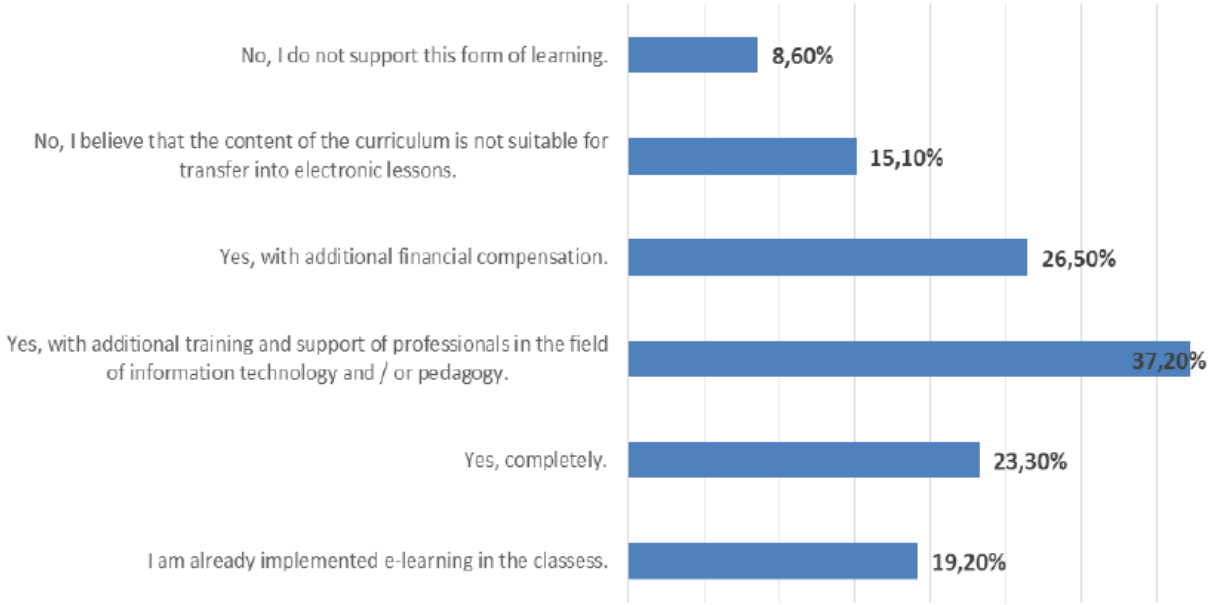



**Figure 10. Readiness of the respondents for introduction of e-learning**

Most teachers (79.30 %) find e-learning suitable for attracting larger number of students which are currently not enabled to study, such as employed, disabled students, people with family obligations, geographically distant students etc. Again, the possibility of collaboration with other institutions via these forms of HE is highlighted by many (65.8 %). The special capacity is something that is often a problem in RS HEIs, and the benefit of online teaching in this area is stressed by more than a half of the respondents.

The need for innovation is evident when we state that almost two thirds of the teachers (63.5 %) currently implement only traditional teaching in the classroom. Completely online study courses are implemented only by 4 %, while bended learning is more frequently implemented – in almost 40 % of the cases.

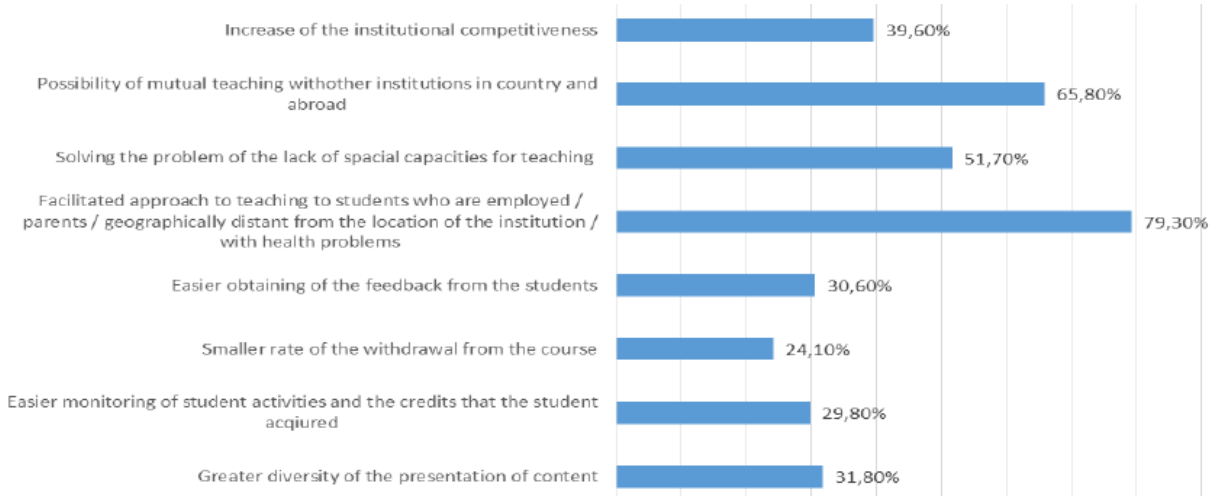



**Figure 11. Rating of benefits of online courses**

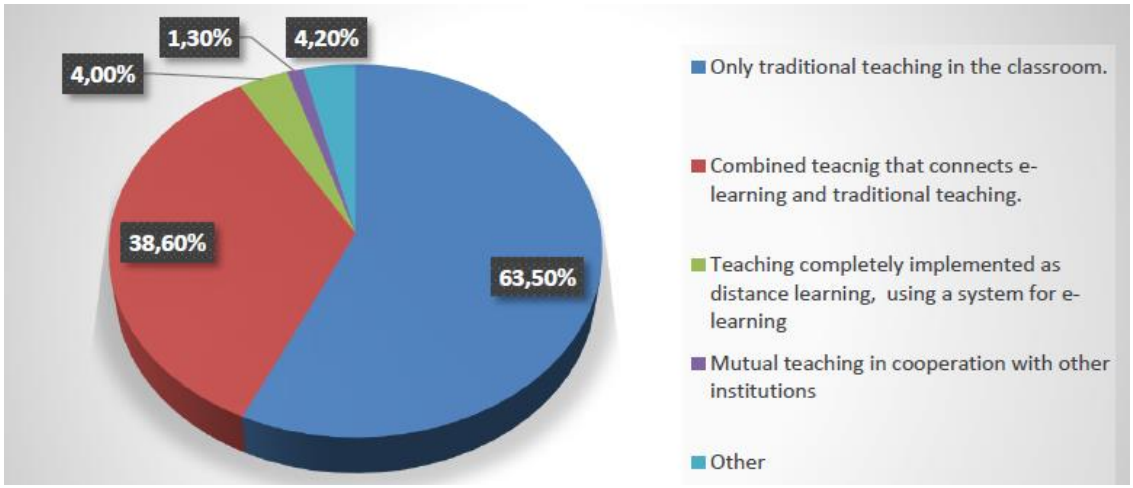



**Figure 12. Existent teaching modalities**

In line with the above indicated percentage of the teaching staff not involved in e-learning, almost the same number (62 %) is not familiar with the existence of institutional rules and regulations related to it. 32 % state that there is no legislative or official rules at their institution, as opposed to only 4 % where there is some form of e-learning guidelines.

Those answers very mainly vague and were related to study programmes accreditation standards (existing specifically for distance learning studies). Only 2 respondents mentioned documents specifically targeted to e-learning (1. Regulation on distance learning and 2. Setting up the concept of online lessons 2016-17, Increase of the interactivity of online lessons 2016-17). However, having in mind that out of almost 537 people, only 2 provided these answer, it can be concluded that either the responses are not exact, or the existence of the documents is not sufficiently known in practice.

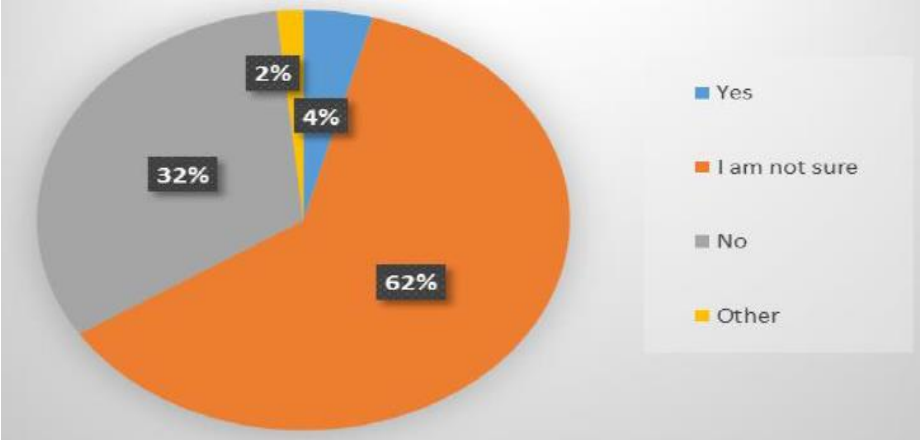



**Figure 13. Existence of institutional e-learning regulations**

For those whose institutions implement online classes, we wanted to investigate what are the target groups of the students. Since in the previous questions we concluded that there is no formal strategic approach to e-Learning, these answers should be interpreted with care i.e. the parts of the student population that are provided with e-tools for learning might have these opportunities as a result of enthusiasm of specific departments or event teachers alone, not necessarily as a result of a deliberate approach. This could explain the choice of the response "Other" in 17.10 % cases 29.7 % of the respondents indicated the students of Bachelor studies as a main target group, while on the second place there are students of Master studies and employed students (16.5 % each). According to the survey, the least targeted categories are of PhD students and students interested in additional courses (10.10 % each). The letter is actually potential students of SC, which do not exist in RS so far, which explains the lack of the data on this.

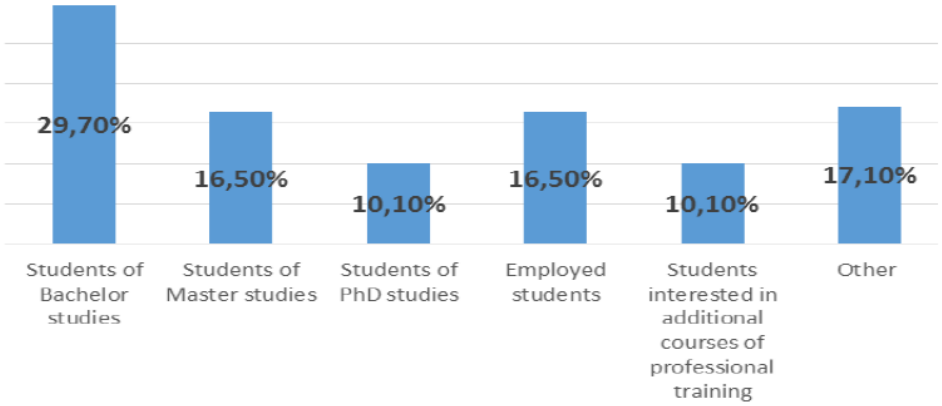



**Figure 14. Existent teaching modalities**

In addition to the issue of lack of regulatory basis for e-Learning, the same applies to the processes of quality control of these types of activities. Only 15 % of the respondents state the existence of the quality assurance approach at the institutional level. However, through further investigation in details on the internal and external quality control processes, it shows that these

answers were mainly related either to the external quality control by National Accreditation Committee. When the answers are related to internal control, in 45 % cases it points to the anonymous surveys (28.33 % stated the students' surveys) and 18.33 % of responses it points to monitoring by University/Faculty Quality Assurance Commissions. These commissions control the work of teachers, propose plans for quality improvement, and make suggestions to the competent authorities of the faculty/university, teaching staff and non-teaching staff. They have the roll to take the proper actions to improve the quality of teaching, following legal and other regulations of the university and the faculty, taking into account labor market needs, opportunities and aspirations of students.

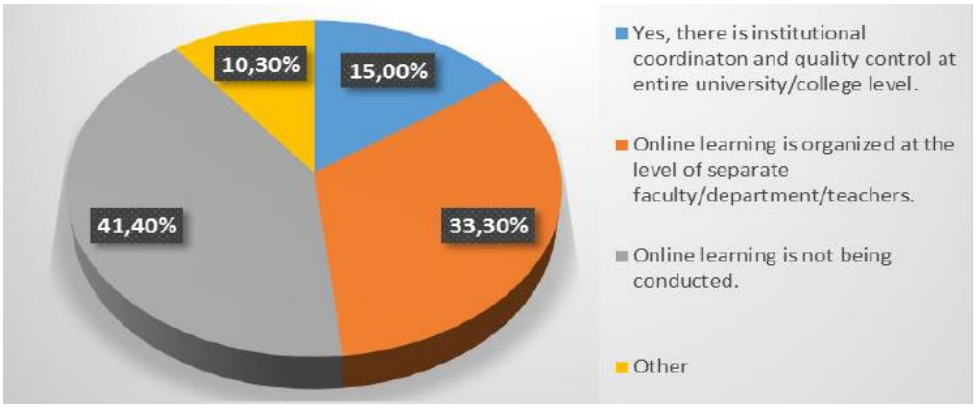



**Figure 15. Institutional coordination and quality control of online learning**

When it comes to the material generated for e-learning purposes, the majority of teachers make them alone or together with their subject assistants (66 %). Around one fifth of the teachers conducting online teaching have the support of the teams such as IT or pedagogy experts, and the question of intellectual property is not nor clear nor resolved. Great majority of teachers believe that IP question should be of priority and that this not being regulated is even a significant factor for the reluctance of many professors to produce the materials and participate more actively in e-learning. Several teachers suggested Creative Commons application.

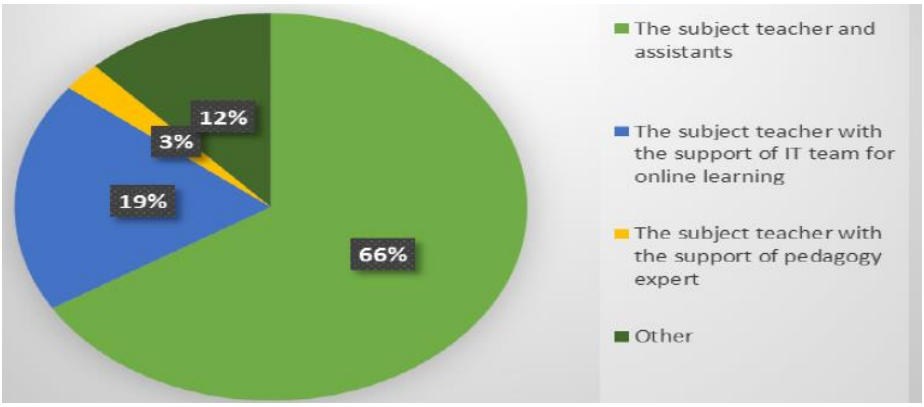



**Figure 16. Institutional coordination and quality control of online learning**

### 2.2. Students' survey

Majority of the respondents are between 18 and 22 years of age, i.e. on bachelor studies (57.27 %). After that, the students between 23 and 27 participated (32.65 %). The oldest respondents are 48 years old. Since PT and SCHE is targeted at lifelong learners and people in need of requalification or additional training for work-related purposes, as well as for young people, it is positive to state that the survey reached a variety of target groups. In this survey, gender balanced responses have been received.

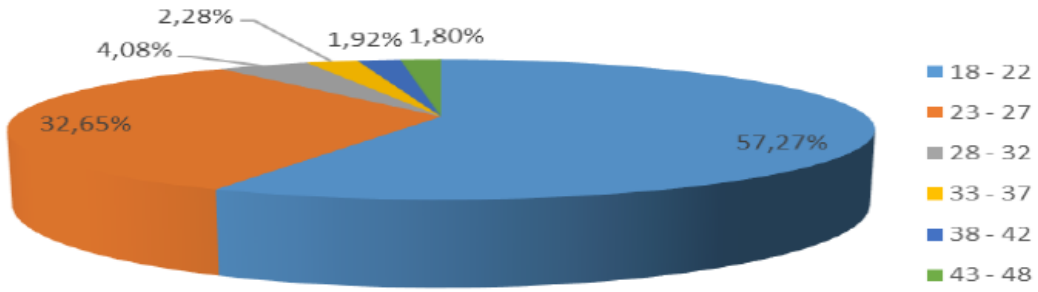



**Figure 17. Age of the respondents**

Students from University of Kragujevac actively participated in the survey (almost a half of the overall number), and VISER response rate is surprisingly high, having in mind the size of the institution and the number of students. But also, since the overall number of the students that responded is over 8 hundred, the smaller rates of other universities gave a sufficient number of students to perceive the overall picture.

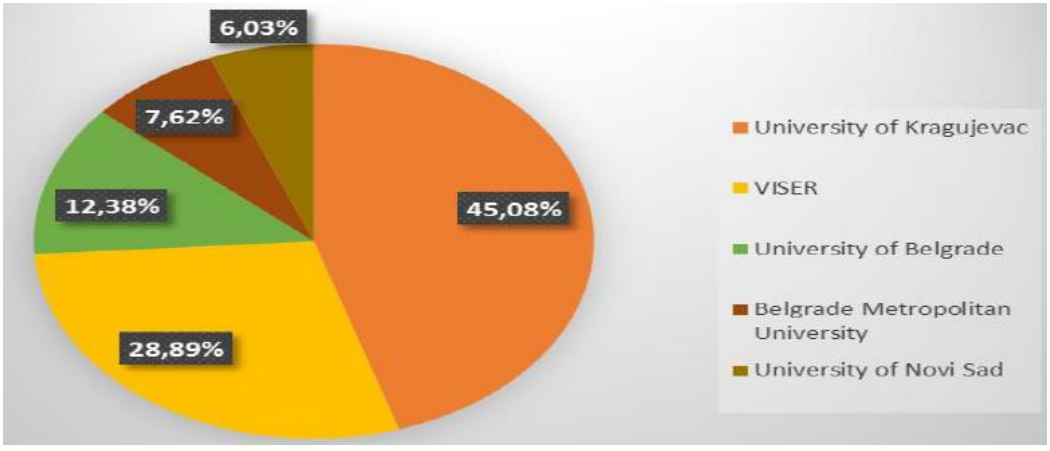



**Figure 18. University/School attended**

As in case of the teaching staff, the smallest sample of students came from the field of medical sciences. Almost half of the respondents study technical and technological sciences, and around 30% social sciences and humanities. Nevertheless, natural sciences, mathematics, arts and interdisciplinary students also participated.

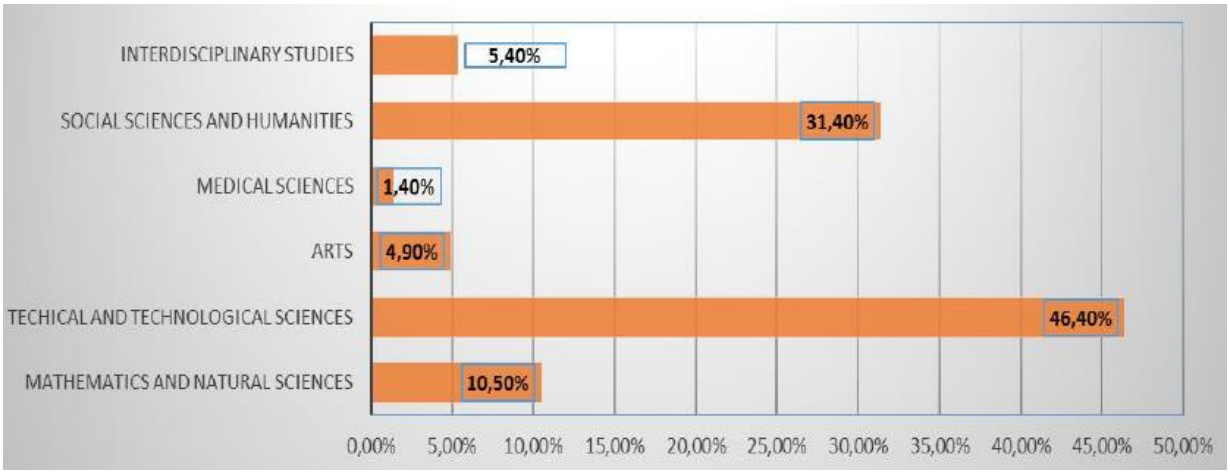



**Figure 19. Field of study of the respondents**

Majority of the respondents, as stated above, are students of basic (bachelor) studies – over 50 % (52.80 %) of the overall number attends basic academic studies, while 32.70 % attend basic vocational studies (this once more reflects VISER participation). Also, 10 % are at the master level of studies and a number of PhD students and students of specialized professional studies as well.

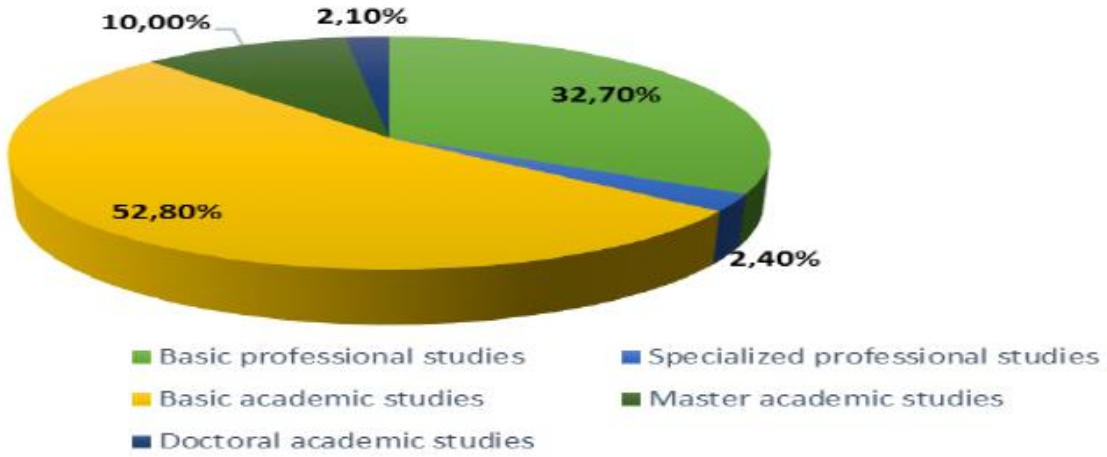



**Figure 20. Level of study of the respondents**

The ratio between employed and unemployed respondents is approximately 60 %: 40 %. Employed students are divided in nearly a half in terms of the type of employment (full-time vs. part-time job). Once again, all the target groups are successfully covered.

Among respondents, almost 40 % studies outside their city of residents, which is interesting finding, having in mind that these students could be one of the main target groups for online PT and SCHE.

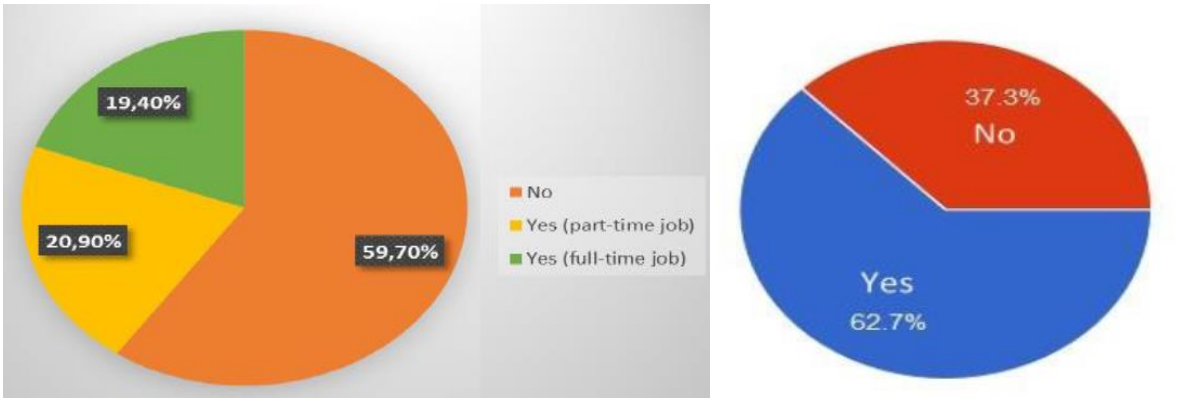



**Figure 21. Percentage of employed students and city of residence**

When asked about distance learning possibilities for part-time students, only 4.7 % of the students did not find this possibility attractive, as opposed to 95.3 % which support this option – 50.30 % partial allowance and 45 % complete teaching at distance. The interest rate in these studies will, in reality, of course, depend on many factors, but for the beginning, this response suggests interest and a good potential.

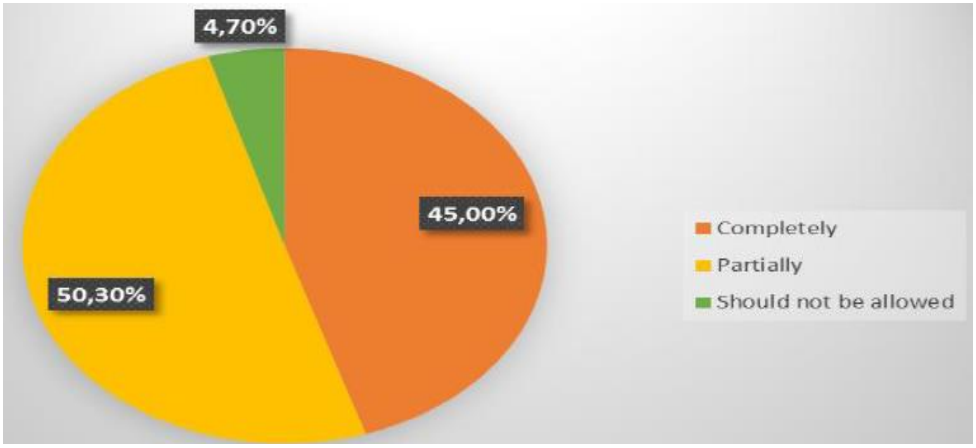



**Figure 22. Distance learning for PT studies**

When asked about SCs, the students agree with the teachers about the suggested ECTS worth of a study cycle, giving preference to 30 ECTS (23.97 %) and 60 ECTS (23.30 %). Other suggestions are widely spread – from the smallest numbers to 100 ECTS. 40 ECTS also got a significant number of suggestions.

As we have seen in the teachers' survey, the academic community representatives believe it is important to include the employers into the formulation of SCs, and expect them to support the trainings of their staff. Fortunately, the opinions of the employed respondents are also optimistic – almost two thirds would receive some kind of employers' support – 33.88 % indicated the practice of their firms to financially support their staff in their professional improvement, while 29.62 % could be relieved from the workload with the aim to attend classes.

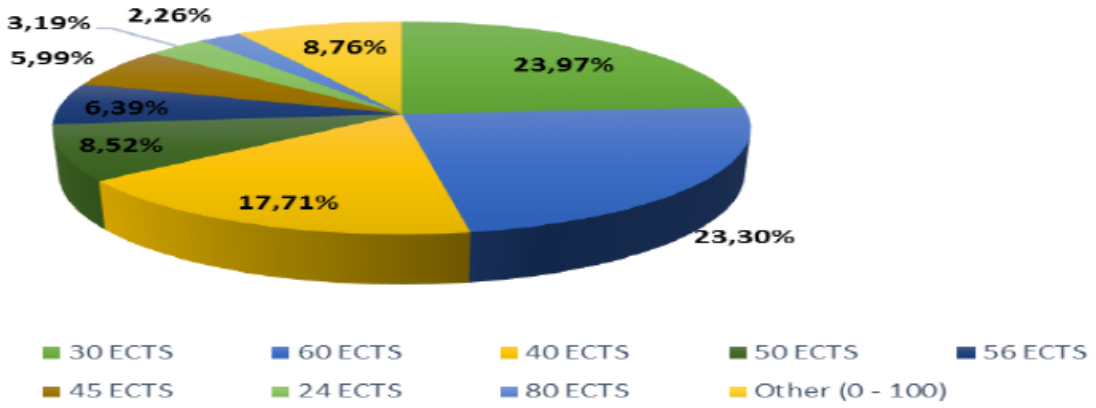



**Figure 23. Number of ECTS in SC**

On the other hand, 36.50 % of the employed students would not rely on their employers and would have to organize trainings only in free time outside work, and to pay it by their own means.

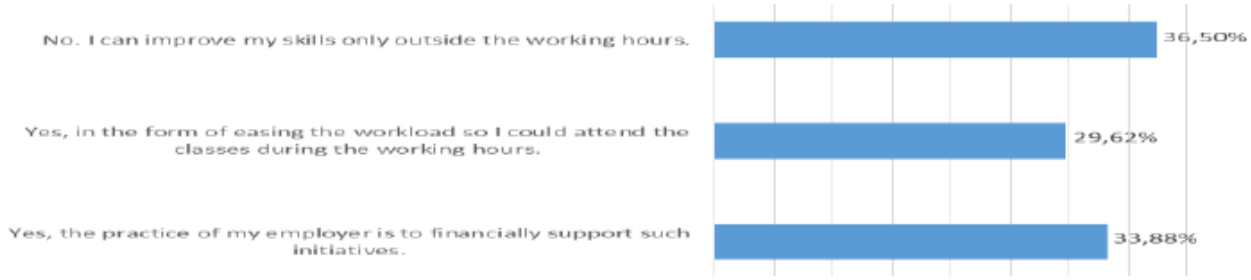



**Figure 24. Opinion on the employer's support**

Our so far conclusions are confirmed in this question. 61.90 % students questioned would be interested to attend online SC studies, and 34.30 % a study programme completely or partially conducted online. About 4% of the respondents are interested in both. Thus, both PT and SC studies, according to this survey, have a significant potential and interest rates in students in Serbia.

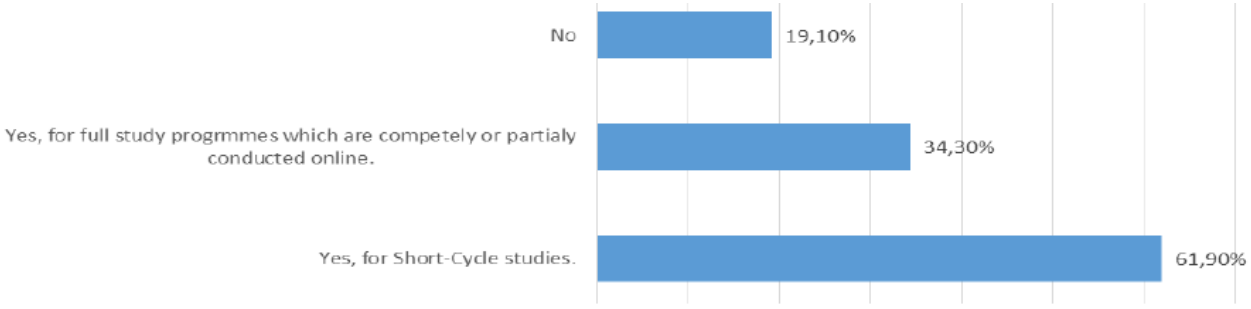



**Figure 25. Distance learning for PT studies**

## 3. WIDER SCOPE ABOUT RS PRACTICE – OUTSIDE THE PROJECT PARTNERSHIP

Since Serbia has no specific QA standards, strategies or action plans which are dedicated to online PT and SC studies, we will give an overview of the current regulations in the area of online studies, which would be, or already are, in most cases applied to the PT and SC which are implemented in a form of e-learning. We will here focus on regulatory and legislative frameworks. Further on, since the strategic approach is something that is very country / institution specific, we will mostly provide the information about the frameworks and models that can be most applicable – those for the quality assurance. In Serbia, there is no specific strategy for e-learning in HE at national or, at institutional level. It is promoted as a part of other development strategies (such as national Strategy of Development of Information Society in Republic of Serbia), but separate strategy is not specifically elaborated. Thus, it can be concluded that a correlation between the existence of a specific strategy and actual implementation of e-learning activities is not inevitable. The survey performed by the European University Association in 2013 showed that of all the HEIs that engage in e-learning more than 50 % of the students, 45 % has institutional strategy in place which points that there is a link, but not a very strong one, between the adoption of e-learning strategies and the volume of e-learning activities. Serbian HEI experience is additional a proof for this, since many e-learning activities exist for a long time as a result of independent efforts and initiatives.

Regarding the Quality Assurance of e-learning, there are several regulations at national level. The Standard 12 for Accreditation is dedicated to distance education. This standard states that distance learning programmes should be based on methods and technologies of distance education, and supported by resources that enable its quality implementation. Distant learning study programmes can be organized in every area, and for each educational, scientific and artistic field, if its content, supported by available resources, can be adopted through distance studies in a quality manner, and if it is enables the same level of acquired knowledge of graduated students, same effectiveness of the studying and the same degree, as the usual methods of study programme realization.

The statute provides the following guidelines:

- The course contents should be conceptually adjusted to distance learning, with clearly noted consultation hours
- Learning guides, provided by the faculty, must contain concrete proposals and suggestions about the learning strategies of students and self-testing
- The testing subsystem must be integrated into a LMS, and must support different learning and assessment methods
- The exam must be executed within the premises of the faculty
- The faculty must provide the necessary equipment and ICT for keeping and maintaining two-way communication between lecturers and students, needed for realisation of distance education.

## 4. CONCLUSION

On the basis of the conducted research study, a set of conclusion is provided.

- There is an extremely large variety of quality tools catering to many audiences and needs.
- There is no significant gap in terms of analysis of institutional systems, which would require a new scheme to be developed.
- In the case of recognition and unbundling, which are not e-learning specific; there are definite deficiencies with scope for further developments.
- All the quality systems suffer certain deficiencies (lack of universal applicability, unclear which maturity levels they are best for, widely divergent quality of reviews and of advice given, challenges to respond to change, etc.)
- There is a role for ICDE working with other international organizations in the following main areas, all of which are critical:
  - providing a register of effective quality systems, and a guide to members on which are appropriate for their context and purpose
  - addressing common issues around training, best practice sharing, localization, etc., for providers of quality systems
  - working with international organizations to ensure a harmonized regulatory environment
  - working with international agencies to ensure student engagement in determining quality standards.

**Text adopted from Report DEV 3.1 (WP3)*
*Activity 3.1 Analysis of needs and requirements for PT&SCHE*

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# EXISTING PRACTICES AND CONSTRAINTS OF PART-TIME STUDIES IN EUROPEAN COUNTRIES

**Andreja Tepavčević**[1]

andreja@dmi.uns.ac.rs

**Zorana Lužanin**[2]

zorana@dmi.uns.ac.rs

**Mirko Savić**[3]

savicmirko@ef.uns.ac.rs

**Stojanka Dakić**[4]

stojankad@ef.uns.ac.rs

**Abstract:** *In Bologna process there is a need for flexibility in higher education, in a way to try to enable individuals to learn differently in terms of time and modes of delivery of learning and in this way to adapt education There are different programs in various EU countries that are available and adopted for part time learner in all type of degrees to their needs. One of the flexible ways is a possibility of part-time student status, which exists in some EU countries. This paper is presentation of main characteristics and constraints in two European countries with different historical development of higher education: Germany and Slovakia.*

**KEY WORDS:** PART-TIME, STUDIES, EUROPE

**JEL CLASSIFICATION: I21**

## 1. PART-TIME EDUCATION IN EUROPEAN COUNTRIES

In Bologna process there is a need for flexibility in higher education, in a way to try to enable individuals to learn differently in terms of time and modes of delivery of learning and in this way to adapt education to their needs. One of the flexible ways is a possibility of part-time student status, which exists in some EU countries. What is also important in this aspect is the recognition of prior learning in access and also progression in higher education.

The definition of part-time learner: „Part-time adult learner also part-time learner (PTL) refers to a subset of non-traditional learner who pursues higher education, typically after reaching physical maturity,

[1] Institution/Affiliation: Faculty of Sciences, University of Novi Sad

[2] Institution/Affiliation: Faculty of Sciences, University of Novi Sad

[3] Institution/Affiliation: Faculty of Economics, University of Novi Sad

[4] Institution/Affiliation: Faculty of Economics, University of Novi Sad

while living off-campus, and possessing responsibilities related to family and/or employment. Many are from a minority or disadvantaged group (disability, immigrant status, etc.).“[5]

There are different programs in various EU countries that are available and adopted for part time learner in all type of degrees: bachelor, master and PhD degrees and also short cycle education degrees. The courses can be taught traditionally face to face but also on-line and all other variations of these two types are possible. The part-time learners are often those who work full or part-time but also individuals with many different personal reasons that prevent them to study full time.

In some countries there is no strict formal difference between part time and full time learners. Sometimes the difference is only in enrolment of credit or courses per semester, part time learners enroll smaller number of credits or courses than full time learners. In some countries minimum number of credits or courses that student can enroll is fixed and strictly defined. Part-time students are then defined as students that enroll less that some standard student load (e.g. less than 30 credits per semester which is standard students load in EU countries).

There are many formal or informal barriers with which part time learners are faced in higher education. There are different policies in some countries that make attendance of part-time students difficult. However, there are more and more possibilities in various countries that are specially tailored for needs of part time learners. It proved to be the most convenient to them to study on-line or blended (combination of on-line and face to face learning). This will solve their time-management problems.

There are EU countries that recognized necessity to provide special rules and conditions for students which would like to continue their study while working and/or to gain work experience while studying. The full-time student status is mostly clear at most of the EU countries. On the other hand, it is not only clear and easily understandable what type of students are part time students, since 'part-time' mean different things in different countries – sometimes strictly time of studying per week or per semester and sometimes something connected to funding arrangements.

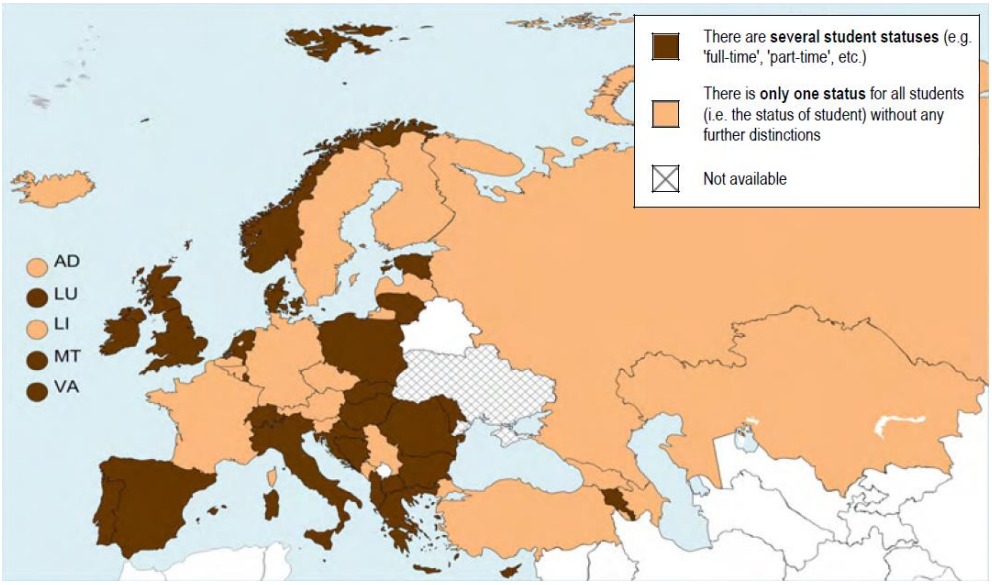
In Figure 1 we can see European Higher Education Area where countries are shown which formally recognize more than one different student status. As shown in the figure, majority of countries recognize other statuses that status of full-time student (around 2/3 countries for which the data are available). In other countries there is no formal status of part-time students, but usually such students study within the existing system, although they are not officially recognized as a particular category of students.

In some countries system recognizes the possibility of prolonged studying within the status of regular students, in some countries regular students can study two years longer or even they can study double period than the one that is planned for the curriculum. This would enable some students to choose twice less credits (or courses) per year than regular students, and still they would keep the regular student status. Only this would mean in some countries that they should have to pay some additional fee.

In this text we will describe more specifically the situation with part time students in Germany in Slovakia, it is one of countries where more than one student statuses exist.

[5] Part-time learner in higher education, Wikipedia. https://www.wikipedia.org/

*Figure 1. Existence of different student statuses in EU area (Source: Eurydice (2015) The European Higher Education Area in 2015: Bologna Process – Implementation Report, pp. 153)*




There is a difference among countries related to financial aspects of part-time studying. There are two possibilities of financial arrangements throughout the EU: either part- time students pay the same levels of fee as full-time students or they pay higher fees then full time students. Regarding the levels of support sometimes part time students pay the same level of fee's, but they are entitled to lower levels of support. Finally, there are also countries where part-time students pay the same fee and have the same level of support as full-time students. There are also opposite countries, where part-time students have to pay higher fees and they do not receive any financial support.

Part-time studies are those in which learner enroll courses at a high education institution, choosing courses according to his needs, and as many of them as they fit into his life, work, family and other commitments. In general, (depending on the country and the higher education institution), part-time learner has access to numerous programs and tracks of study to pursue. These programs can be enrolled in certificate, diploma, undergraduate or graduate degrees, in credit or non-degree credit courses.

According to the 2012 Implementation Report, most European countries have flexibly implemented higher education, in order to enable studies to those who could not enroll full-time programs. In addition, it turns out that mature students are those who are the most likely to study part-time.

Table 1 is showing the part-time students enrolled in tertiary education and their share in total student population from 2013 to 2015 in European countries. These are the latest available data from Eurostat database. The share of part-time students varies significantly from country to country. The largest share of part-time students in 2015 is in Finland (41.80%), while the smallest share is in Portugal (5.51%). Some countries don't have part-time students at all, like Austria and Italy.

*Table 1. Number and percent of students enrolled in tertiary education (levels 5-8)*

| WORKTIME | Part-time | | | | | |
|---|---|---|---|---|---|---|
| ISCED11 | Tertiary education (levels 5-8) | | | | | |
| SECTOR | Total | | | | | |
| | 2013 | | 2014 | | 2015 | |
| GEO/TIME | Number | % | Number | % | Number | % |
| Belgium | 136390 | 27.92 | 141486 | 28.53 | : | : |
| Bulgaria | 87239 | 30.72 | 86790 | 30.64 | 85270 | 30.57 |
| Czech Republic | 11634 | 2.72 | 17084 | 4.08 | : | : |
| Denmark | 34257 | 11.77 | 31906 | 10.59 | : | : |
| Germany | 400886 | 14.42 | 423774 | 14.55 | 384583 | 12.92 |
| Estonia | 9593 | 14.80 | 9094 | 15.16 | 8028 | 14.54 |
| Ireland | 30797 | 15.44 | 31695 | 15.54 | : | : |
| Spain | 525718 | 26.69 | 517875 | 26.13 | 510233 | 25.98 |
| Croatia | 48173 | 29.26 | 49655 | 29.90 | : | : |
| Cyprus | 5703 | 17.84 | 6204 | 18.42 | 7739 | 20.82 |
| Latvia | 25815 | 27.32 | 24554 | 27.38 | 23329 | 27.16 |
| Lithuania | 44736 | 28.01 | 39038 | 26.31 | 34294 | 24.39 |
| Luxembourg | : | : | : | : | 1222 | 17.72 |
| Hungary | 112585 | 31.36 | 100992 | 30.65 | 89921 | 29.22 |
| Malta | 2733 | 21.74 | 2665 | 21.13 | 3035 | 22.96 |
| Netherlands | : | : | : | : | 149370 | 17.73 |
| Poland | 892240 | 46.89 | 618219 | 35.07 | : | : |
| Portugal | 16921 | 4.56 | 17959 | 4.96 | 18595 | 5.51 |
| Romania | 67601 | 10.94 | 54900 | 9.49 | 46925 | 8.66 |
| Slovenia | 22108 | 22.63 | 18621 | 20.55 | 16010 | 18.70 |
| Slovakia | 65412 | 31.22 | 57135 | 28.88 | 49704 | 26.96 |
| Finland | 135353 | 43.80 | 132043 | 43.14 | 126446 | 41.80 |
| Sweden | 207001 | 47.41 | 198895 | 46.31 | : | : |
| United Kingdom | 669320 | 28.05 | 621546 | 26.42 | : | : |
| Iceland | 5539 | 29.00 | : | : | : | : |
| Liechtenstein | 247 | 29.23 | 251 | 30.24 | 214 | 28.53 |
| Norway | 95090 | 37.23 | 97885 | 37.05 | 95395 | 35.56 |
| Switzerland | 65924 | 23.56 | 69287 | 23.91 | 69928 | 23.75 |

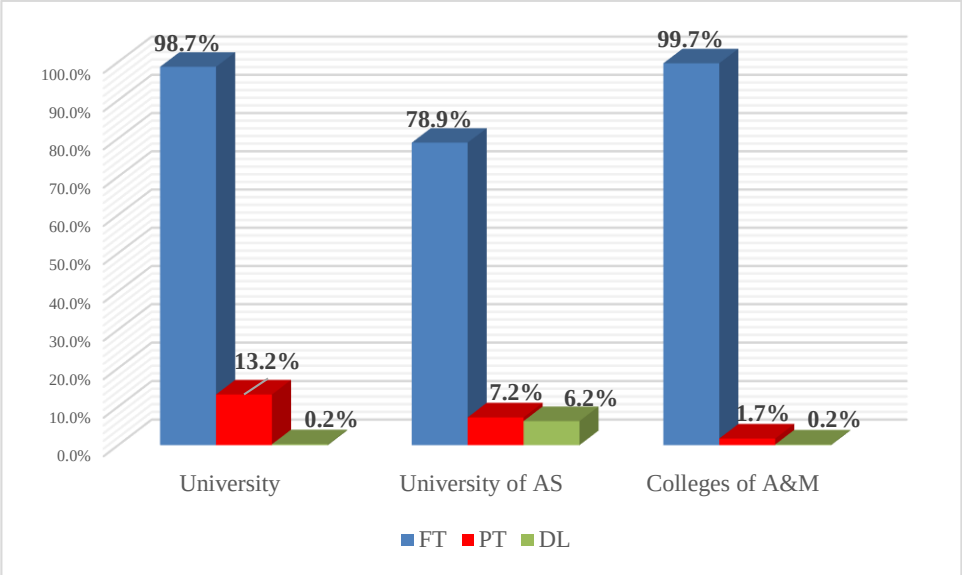
Source: Eurostat, 2016.

## 2. EXISTING PRACTICES IN GERMANY AND SLOVAKIA

There are several types of studies in Germany and we will focus on the three following types: full-time (FT), part-time (PT) and distance learning (DL). Out of 10156 first cycle programs 9305 (91.6%) have the option of FT studying, 1051 (10.3%) have the option for PT, and 244 (2.4%) option for DL. Both options, FT and PT have 868 programs (8.5%), while PT and LD options have 846 (8.3%) of the first cycle programs.

At second cycle programs there are 7856 programs with FT option (89.1%), 1357 (15.6%) with PT option, and 281 (3.2%) with DL option. Both PT and FT options are offered in 959 (10.9%) programs, while 114 (1.3%) have PT and LD options.

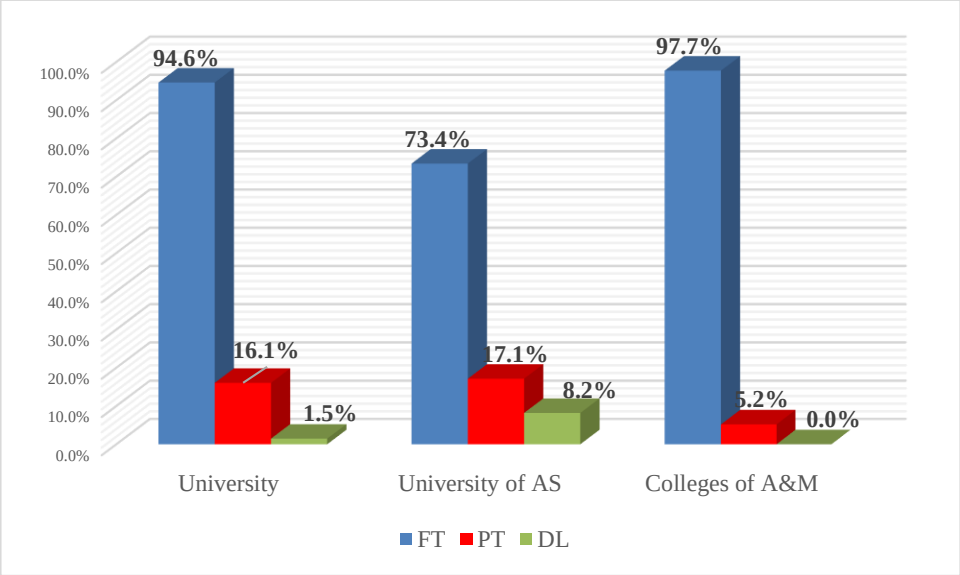
*Figure 2. Types of studying at first cycle programs across different types of HEIs in Germany*




From the total number of first cycle programs, universities almost all programs offer as FT study (98.7%), while 777 programs (13.2%) have PT option, and only 14 (0.2%) have DL option. At universities of applied sciences situation is significantly different, where 229 programs (6.2%) have option DL, 264 (7.2%) with option PT, and FT option is offered at 78.9% of first cycle programs. It is important to mention that these institutions are conducting also programs from dual system of education, but these program are not the subject of our analysis. At faculties of arts and music almost all programs are with FT option (99.7%), while PT option is offered at 10 programs (1.7%).

There is significant difference in distribution of study programs across different types of institutions. From 244 programs offered with DL option, 229 (93.9%) are conducted at universities of applied sciences, and only 14 (5.7%) at universities. Situation is totally different in the case of FT studies. 5833 (62.7%) are conducted at universities, 2891 (31.1%) at universities of applied sciences, while 583 (6.2%) at faculties of arts and music. Significant part of programs with PT option is conducted at universities: out of 1051 there is 777 (73.9%) at universities, while 264 (25.1%) are at universities applied sciences, and only 10 programs at faculties of arts and music.

*Figure 3. Types of studying at second cycle programs across different types of HEIs in Germany*




From the total number of second cycle programs, universities almost all programs offer as FT study (94.6%), while 933 programs (16.1%) have PT option, and 85 (1.5%) have DL option. At universities of applied sciences situation is significantly different, where 196 programs (8.2%) have option DL, 410 (17.1%) with option PT, and FT option is offered at 73.4% of first cycle programs. At faculties of arts and music almost all programs (601) are with FT option (97.7%), while PT option is offered at 32 programs (5.2%).

There is significant difference in distribution of study programs across different types of institutions. From 281 programs offered with DL option, 198 (69.8%) are conducted at universities of applied sciences, and only 85 (30.2%) at universities. Situation is totally different in the case of FT studies. 5499 (70%) are conducted at universities, 1756 (22.4%) at universities of applied sciences, while 601 (7.7%) at faculties of arts and music.

In Slovakia, like in other countries of this group mature students are those who mostly study part-time, while younger students mostly study full-time.

Countries from European higher education area have implemented different policy measures for flexible delivery of higher education. Slovakia belongs to the portion of around two thirds of all the countries in which there is more than one student statuses (besides full-time students there are also students of other types).

Slovakia is one of the countries (like e.g. Greece) in which part-time studies are defined in terms of expected hours of study per week. While in Greece, the part-time students are defined per number of study hours per week, in Slovakia, the required hours are defined as study hours per academic year, with a range of 750-1440 hours for part-time students, and 1500-1800 hours per academic year for full-time students.

Therefore, Slovakia belongs to a group of countries where formal programs for part-time students are provided under flexible arrangements.

Regarding the budget, in most of the countries and also in Slovakia, higher education institutions do not have a public budget specifically for lifelong learning or part-time students (only eight EU countries have a specific budget for lifelong learning provision, and it is only a partial contribution to lifelong learning funding.) Resources for lifelong learning come mostly from general public budgets, often combined with other financial resources, such as private contributions from students or businesses. As already mentioned, usually part-time students receive lower funding then full-time students. In Slovakia part-time students are required to make higher contributions than full-time students, they receive lower financial support than full-time students, but are entitled to a student loan.

Higher education institutions in the majority of EU countries are autonomous in deciding if they wish to offer other types of program than full-time. Only in France and Spain, higher education institutions should provide a mode for part-time studies.

Slovakia is among countries where providing part-time studies is no longer a formal requirement. Institutions have autonomy and recent years only a limited number of institutions provide opportunities for part time-studies.

As natural, older students are much more likely to study part-time than their younger colleagues. In the countries from European higher education area (EHEA), fewer than 20 % of students between the ages of 18 and 23 study part-time. In opposite, the majority of students in their late twenties study part-time in half of the EHEA countries. Consequently, part-time studies are the most common study form for adults over 30 years of age, which is almost 63% of student aged 30-34 years, and even higher percentages in older age ranges. The older the students are, the more likely they are to study part-time in all countries. In Slovakia there is around 15% students that study part-time among the age of 20-24 and 87% that study part time among the age of 30-34.

According to Eurostudent-data, over 80% of students declare themselves to be full-time students in 14 countries. In eight countries at least 20 % of students declare themselves to be part-time students.

According to these data, in Slovakia: 81.3% declared themselves to be full time students, and 18.7% to be part time.

As previous data show, students may be considered as full-time students, even if they devote fewer hours to study than is often considered to be a norm for full-time studying. Conversely, in some countries part-time students may devote more hours to study than it is usually required for part-time students. Thus, there is not always direct connection (correlation) between official student status and hours devoted to studying, because full-time students sometimes devote less hours to studying than part-time students in the same country.

In Slovakia the related data are as follows: 85% of full time students study over 21 hours per week, which means that 15% of full time students study less than 21 hours per week. At the same time, in Slovakia, there are 46.2% of part time students that study over 21 hours per week (53.8% study less than 21 hours per week).

There is a statistically significant difference in numbers of male and female part-time students, especially in the Nordic countries (which also have high percentages of 'mature students') and in the Baltic countries. The gap between male and female students is also significant in Slovakia, where the proportion of ‘mature students’ is around 1.3 times higher among female students than among male students.

In Slovakia the percentage of students enrolled in tertiary education, e.g. in the school years 2011/12 which are 30 or more years old, is 18%, and among male students this percentage is 15.1% and among female students it is 19.9%. Median for EHEA (for all together) is 15.8%.

There are two types of older students participating in formal higher education: 1. older students in tertiary education who have not yet completed their initial studies or 2. adult returners who have re-joined the formal education and training system.

The second group is usually called delayed transition students. In some countries it is usual to make a break after secondary school and to continue studies after one years or more, or to move into the labor market directly after school with an upper secondary qualification and then it can happen that they decide, for whatever reason to pursue higher education at a later stage in their life.

Share of delayed transition students in the overall student population among Eurostudent respondents in Slovakia in 2013/14 were 14.2%. Some other countries have less than 5 % of delayed transition students which would suggest that the cultural norm is to move quickly into higher education after completing upper secondary education. In Slovakia, similarly to the Czech Republic and Italy, the percentage of delayed transition students in the younger age group is very low (which is 6.3% for the age group between 22-24 years). On the other hand, the percentage of the delayed transition students in the older age group (over 30 years) is in Slovakia 87.1% which shows that there is a large share of mature students starting their studies relatively late (after experiences in labor market or for woman e.g., after they gave birth to children).

The percentage of adults who acquired a higher education degree during adulthood (from 30-64 years) as a percentage of all adults in Slovakia is 2.8%. In some other EU countries this percentage is even less than 2%. Since in Slovakia the share of mature students is between 15-20%, this means that the non-completion rates of mature students are relatively high, or it can also indicate that the policies to support mature student participation in higher education is introduced recently.

## 3. CONCLUSION

On the basis of experiences from Germany, Slovakia and some other European countries, the project team od University of Novi Sad has developed their concept of part-time studies. The concept was tested at master study program of applied statistics at the same university. Several students enrolled part-time program and all features, positive and negative aspects were recorded and presented in the special report which is published in 2018. Additionally, Faculty of Economics at University of Novi Sad also has developed the specific type of part-time program at master level where lectures were organized in a way that is suitable for working students. At this point we can conclude that Serbian HEIs have developed their own model of part-time studies on the basis of experiences from other countries in European Higher Educational Area and recommendation emerged from pilot programs conducted under the project ERASMUS+ Introduction of part-time and short cycle studies in Serbia (PT&SCHE).

## REFERENCE LITERATURE

[1] Part-time learner in higher education, Wikipedia. https://www.wikipedia.org/.

[2] The European Higher Education Area in 2015, Bologna Process Implementation Report.

[3] Eurostudent, http://www.eurostudent.eu/.

[4] Study Rules of Procedure at Faculty of Medicine, Pavol Jozef Šafárik University in Košice. https://www.upjs.sk/en/.

[5] University of Economics in Bratislava, https://www.euba.sk/.

[6] Comenius University in Bratislava, https://uniba.sk/.

[7] Matej Bel University Banska Bystrica, https://www.umb.sk/.

[8] Technical University Kosice, http://www.tuke.sk/wps/portal.

[9] Faculty of Business Economics, Kosice, https://old.euba.sk/faculties/faculty-of-business-economy,-kosice.

[10] Faculty of Special Engineering at University of Zilina, http://old.www.uniza.sk.

[11] College of International Business IS Slovakia in Prešov, https://en.eae.es.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# EVALUATION OF THE PILOT SHORT CYCLE PROGRAM "PROGRAMMING IN JAVA" AT BELGRADE METROPOLITAN UNIVERSITY

**Dragan Domazet**[1]

E-mail: dragan.domazet@metropolitan.ac.rs

**Jovana Jović**[2]

E-mail: jovana.jovic@metropolitan.ac.rs

**Abstract:** *This paper presents an evaluation of the short program "Programming in Java" implemented at Belgrade Metropolitan University (BMU) as a pilot program of the project "Introduction of part-time and short cycle studies in Serbia" (PT&SCHE), funded by Erasmus+ European Union program realized from October 2015 to May 2018. Based on the analysis of the most appropriate model for the adoption and development of PT&SCHE in Serbia, this paper aims to analyze and discover the most relevant pedagogical and methodological approach in eLearning processes of short programs. This paper describes the teaching methodology and e-learning technology proposed and implemented by BMU for short cycle programs (SCHE). The paper also analyzes the effects to students (their success and satisfaction), it provides evaluation of the applied methodology in the pilot phase of the short program "Programming in Java" realized by BMU.*

**KEY WORDS:** E-LEARNING, SHORT CYCLE PROGRAM, PT&SCHE PROJECT

## 1. INTRODUCTION

The Higher Education Act (2017), provided legal bases for part-time studies (PT) and short cycle programs in higher education (SCHE). Belgrade Metropolitan University (BMU) got the assignment to develop and evaluate a short cycle program according to the new Higher Education Act and recommendations generated by the PT&SCHE project, as pilot implementation of a SCHE or a "short program", as specified by the Higher Education Act. "

A short program (SCHE) enables a student to become capable of performing a particular job (for example, a Java programmer), as opposed to 3 or 4 year study programs that educate a student for a specific profession in a particular field (e.g. Information Technology Engineer). In this sense, the program is a set of courses that provides students with qualifications for a particular job within 3 to 12 months. While study programs of bachelor and master studies in a period of three or four years train a student for jobs in one profession (for example, software engineering), a short program enables a student ro do a particular job within a profession (eg, Java programmer) within 12 months A short program can provide a qualification for a particular job, within a profession, at the 5th, 6th or 7th level EQF (2008), depending on the job complexity and requirements.

After an analysis of the current labour market needs, BMU decided to develop a pilot SCHE program named "Programming in Java" with the aim to develop and test the most suitable methodology for

[1] Institution/Affiliation: Belgrade Metropolitan University/ Rector and Emeritus Professor

[2] Institution/Affiliation: Belgrade Metropolitan University/Research Assistant

SCHE programs. The SCHE program "Programming in Java" was developed according to the standard internal review of BMU. In addition to the carefully prepared curriculum, lecturers and tutors were carefully selected from faculty members of BMU. This work represents evaluation of the applied methodology of the whole eLearning process during the pilot phase of the realization of the program at BMU with the aim to define in what extent the proposed methodology was successful and what needs to be changed in the future.

This paper is organized as follows. Section 2 describes technical details of the curriculum and training details of the pilot online program "Programming in Java". Section 3 describes the teaching methodology applied in the short cycle program. Section 4 shows the evaluation of the applied methodology. Section 5 concludes the paper.

## 2. THE CURRICULUM

### 2.1 Specification of the job profile "Java Developer"

"European ICT Professional Profiles" (2017) specifies a European ICT Profiles family tree structured from six main ICT Profile families. (Figure 1.). "The concept devised is broadly analogous to human genetics where the genes of one generation pass down to the next. In the same way it is envisaged that the core components of the 23 Generation 2 Profiles will pass down to profiles constructed to meet specific stakeholder requirements. The 23 Profiles constructed in this CWA combined with e-competences from the e-CF (2014), provide a gene pool for the development of tailored profiles that may be developed by European ICT sector players in specific contexts and with higher levels of granularity.

The 23 multi-stakeholders agreed that ICT Profile descriptions are based on the European e-Competence Framework (e-CF). European ICT Profiles and e-Competence are complementary concepts that can significantly support the development and management of a world class ICT professional community within Europe.

Applied at the same level of granularity as the e-CF, the European ICT Profiles provide generic skeletons of the most representative Profile prototypes currently used in ICT Business structures." Figure 2 shows the job profile "Developer" as specified in "European ICT Professional Profiles" (2017).

The European e-Competence Framework (e-CF) version 3.0 provides a reference of 40 competences as required and applied at the Information and Communication Technology (ICT) workplace, using a common language for competences, skills and capability levels that can be understood across Europe. For the Developer position, it has been defined that it must have five e-competencies (listed in the E-Competence Framework document (e-CF)):

B.1. Design and Development (Level 3)

B.2. System Integration (Level 2)

B.3.Testing (Level 2)

B.5. Documentation Production (Level 3)

C.4. Problem Management (Level 3)

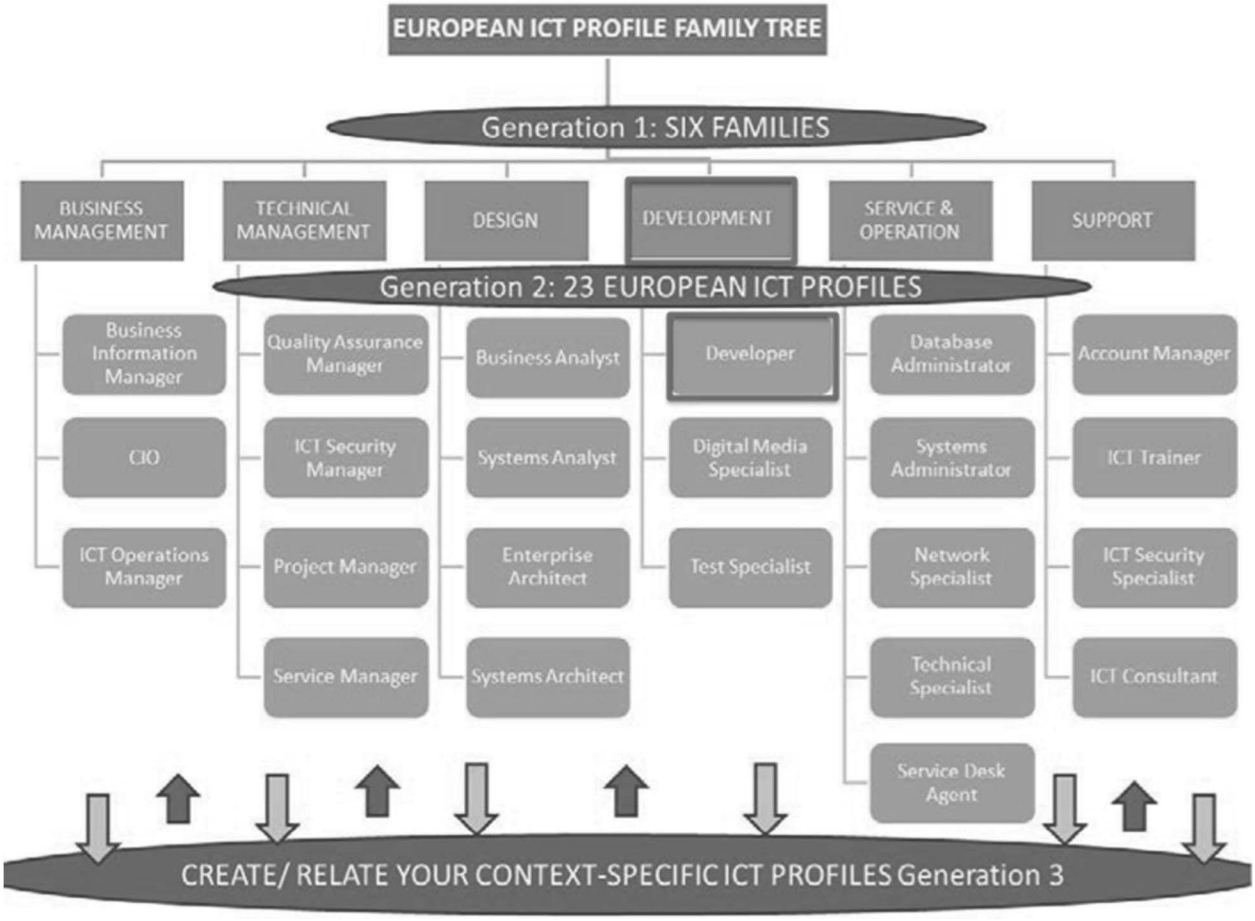



*Figure 1.*

To illustrate one of the specified five e-competences, we present the e-competence B.1. Design and Development in Figure 3.

Depending on the achieved e-competence level (e-2 or e-3) and EQF level (5 or 6), an SCHE program may educate and train a Java Junior Developer or a Java Developer (Figure 4). The pilot implementation od the SCHE Programming in Java is developed for Java Developer level (e-3 and EQF level 6).

| **Profile title** | **DEVELOPER** (6) | | |
|---|---|---|---|
| **Summary statement** | Builds/codes ICT solutions and specifies ICT products according to customer needs. | | |
| **Mission** | Ensures building and implementing of ICT applications. Contributes to planning, low level design. Compiles diagnostic programs and designs and writes code for operating systems and software to ensure optimum efficiency and functionality. | | |
| **Deliverables** | **Accountable** | **Responsible** | **Contributor** |
| | • Hardware Component<br>• Software Component | • Solution Documentation | • Software Design Description<br>• Test Procedure<br>• Solution in Operation |
| **Main task/s** | • Develop component<br>• Engineer component<br>• Shape documentation<br>• Provide component support beyond the first level<br>• Supply 3rd level support | | |
| **e-competences** *(from e-CF)* | B.1. Design and Development | | Level 3 |
| | B.2. Systems Integration | | Level 2 |
| | B.3. Testing | | Level 2 |
| | B.5. Documentation Production | | Level 3 |
| | C.4. Problem Management | | Level 3 |
| **KPI area** | Fully functional ICT components | | |

*Figure 2.*

An elaboration of the e-competences B.1, B.2, B3., B.5 and C.4 of a Developer are given in the following tables, based on their specification given in e-CF (2014). We specify two competence levels of Java developers: **JUNIOR JAVA DEVELOPER** (e-2) and **JAVA DEVELOPER** (e-3)

*Table 1: Job description related to different e-competences*

| | **JUNIOR JAVA DEVELOPER & JAVA DEVELOPER** |
|---|---|
| **e-competences** | **Job Description** |
| B.1. Application Development | Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution. |
| B.2. Component Integration | Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration. |
| B.3.Testing | Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements. |
| B.5. Documentation Production | Produces documents describing products, services, components or applications to establish compliance with relevant documentation requirements. Selects appropriate style and media for presentation materials. Creates templates for document-management systems. Ensures that functions and features are documented in an appropriate way. Ensures that existing documents are valid and up to date. |
| C.4. Problem Management | Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance. |

*Table 2: e -Competence levels*

| | JUNIOR JAVA DEVELOPER | JAVA DEVELOPER |
|---|---|---|
| **e-competences** | **Level e-2** | **Level e-3** |
| B.1. Application Development | Systematically develops and validates applications. | Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions. |
| B.2. Component Integration | Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities. | As for Level e-2 |
| B.3.Testing | Organises test programmes and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results. | As for Level e-2 |
| B.5. Documentation Production | Determines documentation requirements taking into account the purpose and environment to which it applies. | Adapts the level of detail according to the objective of the documentation and the targeted population. |
| C.4. Problem Management | Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution. | Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure. |

*Table 3: Knowledge needed related to different e-competences*

| | **JUNIOR JAVA DEVELOPER & JAVA DEVELOPER** |
|---|---|
| **e-competences** | **KNOWLEDGE: Knows/aware of/ familiar with** |
| B.1. Application Development | K1 appropriate software programs/modules<br>K2 hardware components, tools and hardware architectures<br>K3 functional & technical designing<br>K4 state of the art technologies<br>K5 programming languages<br>K6 power consumption models of software and/or hardware<br>K7 DBMS<br>K8 operating systems and software platforms<br>K9 Integrated development environment (IDE)<br>K10 rapid application development (RAD)<br>K11 IPR issues<br>K12 modelling technology and languages<br>K13 interface definition languages (IDL)<br>K14 security |
| B.2. Component Integration | K1 old, existing and new hardware components/software programs/modules<br>K2 the impact that system integration has on existing system/organisation<br>K3 interfacing techniques between modules, systems and components<br>K4 integration testing techniques<br>K5 development tools (e.g. development environment, management, source code access / revision control)<br>K6 best practice design techniques |
| B.3.Testing | K1 techniques, infrastructure and tools to be used in the testing process<br>K2 the lifecycle of a testing process<br>K3 the different sorts of tests (functional, integration, performance, usability, stress etc.)<br>K4 national and international standards defining quality criteria for testing<br>K5 web, cloud and mobile technologies and environmental requirements |
| B.5. Documentation Production | K1 tools for production, editing and distribution of professional documents<br>K2 tools for multimedia presentation creation<br>K3 different technical documents required for designing, developing and deploying products, applications and services<br>K4 version control of documentation production |
| C.4. Problem Management | K1 the organisation's overall ICT infrastructure and key components<br>K2 the organisation's reporting procedures<br>K3 the organisation's critical situation escalation procedures<br>K4 the application and availability of diagnostic tools<br>K5 the link between system infrastructure elements and impact of failure on related business processes. |

*Table 4: Skills needed related to different e-competences*

| | **JUNIOR JAVA DEVELOPER & JAVA DEVELOPER** |
|---|---|
| **e-competences** | **SKILLS: is able to** |
| B.1. Application Development | S1 explain and communicate the design/development to the customer<br>S2 perform and evaluate test results against product specifications<br>S3 apply appropriate software and/or hardware architectures<br>S4 develop user interfaces, business software components and embedded software components<br>S5 manage and guarantee high levels of cohesion and quality<br>S6 use data models<br>S7 perform and evaluate test in the customer or target environment<br>S8 cooperate with development team and with application designers |
| B.2. Component Integration | S1 measure system performance before, during and after system integration<br>S2 document and record activities, problems and related repair activities<br>S3 match customers' needs with existing products<br>S4 verify that integrated systems capabilities and efficiency match specifications<br>S5 secure/back-up data to ensure integrity during system integration |
| B.3.Testing | S1 create and manage a test plan<br>S2 manage and evaluate the test process<br>S3 design tests of ICT systems<br>S4 prepare and conduct tests of ICT systems<br>S5 report and document tests and results |
| B.5. Documentation Production | S1 observe and deploy effective use of corporate standards for publications<br>S2 prepare templates for shared publications<br>S3 organise and control content management workflow<br>S4 keep publications aligned to the solution during the entire lifecycle |
| C.4. Problem Management | S1 monitor progress of issues throughout lifecycle and communicate effectively<br>S2 identify potential critical component failures and take action to mitigate effects of failure<br>S3 conduct risk management audits and act to minimise exposures<br>S4 allocate appropriate resources to maintenance activities, balancing cost and risk<br>S5 communicate at all levels to ensure appropriate resources are deployed internally or externally to minimise outages |

All specified competences, related to job description, levels of e-competences, knowledge needs and skills needs are implemented in Java. Due to time limitation specified by Higher Education Low (2017) of only 12 months, and having in mind the complexity of Java technology and its implementation, BMU decided to develop an SCHE program with the aim to train future **Junior Java Developer.** After appropriate experience, they can enroll to another SCHE program aiming to train future Java Developers.

Based on above, we specified Generation 3 of the ICT Profile Family, as shown in Figure 3. It describes two job profiles Junior Java Developer (e-2, EQF Level 5) and Java Developer (e-3, EQF Level 6). Specifications for these Generation 3 job profiles are given in Tables 1-4. The major difference between Generation 2 Developer and Generation 3 Java developer profiles is in the area of development. Java Developer uses Java technology to develop an application. The pilot implementation of our short (SCHE) program was developed and implemented for the job profile **Junior Java Developer.**

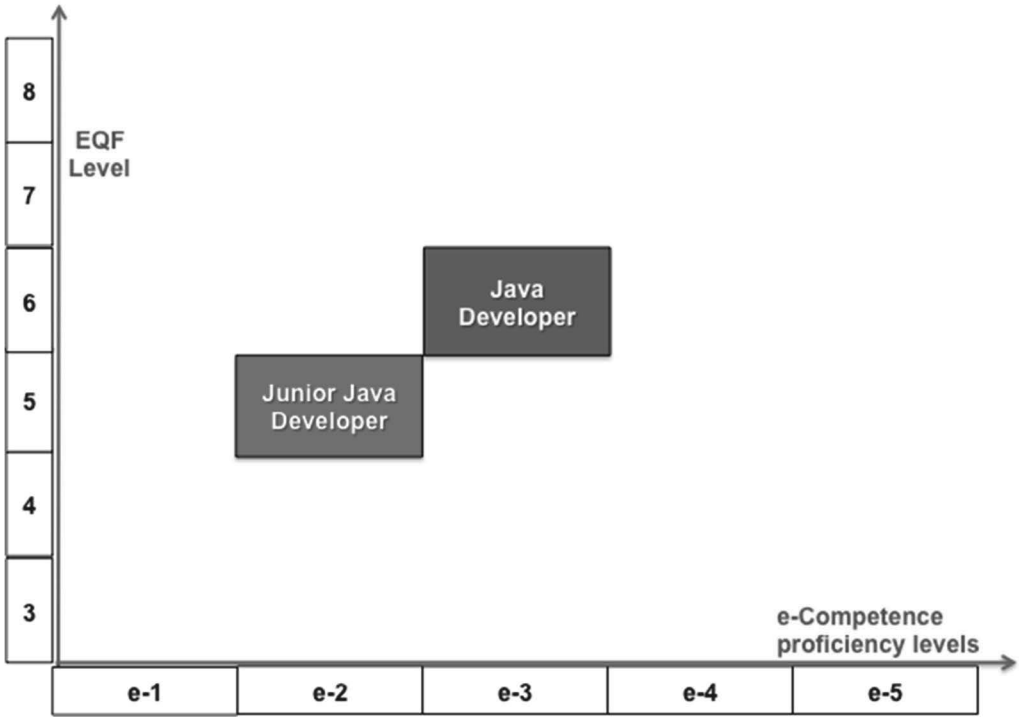



*Figure 3.*

In order to distinguish these two Generation 3 job profiles, we cite description elements of EQF Levels and e-CF Levels in Table 5 using the relevant part of the table given in e-CF(2014).

*Table 5: European e-CF and EQF level table*

| EQF Level | EQF Levels descriptions | e-CF Levels | e-CF Levels descriptions | Typical Tasks | Complexity | Autonomy | Behaviour |
|---|---|---|---|---|---|---|---|
| 6 | Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles, advanced skills, demonstrating mastery and innovation in solving complex and unpredictable problems in a specialised field of work or study, management of complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts, for continuing personal and group professional development. | e-3 | **Senior Professional/Manager** Respected for innovative methods and use of initiative in specific technical or business areas; providing leadership and taking responsibility for team performances and development in unpredictable environments. | Consulting | Structured – unpredictable | Works independently to resolve interactive problems and addresses complex issues. Has a positive effect on team performance. | Planning, making decisions, supervising, building teams, forming people, reviewing performances, finding creative solutions by application of specific technical or business knowledge / skills. |
| 5 | Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge, expertise in a comprehensive range of cognitive and practical skills in developing creative solutions to abstract problems, management and supervision in contexts where there is unpredictable change, reviewing and developing performance of self and others. | e-2 | **Professional** Operates with capability and independence in specified boundaries and may supervise others in this environment; conceptual and abstract model building using creative thinking; uses theoretical knowledge and practical skills to solve complex problems within a predictable and sometimes unpredictable context. | Concepts / Basic principles | Structured – unpredictable | Works under general guidance in an environment where unpredictable change occurs. Independently resolves interactive issues which arise from project activities. | Designing, managing, surveying, monitoring, evaluating, improving, finding non standard solutions. |

### 2.2 The Body of Knowledge

The specification of the job profiles according to the European ICT Professional Profiles (2017) and European e-Competence Framework (e-CF) was a good guideline for us to describe the job profile that our short program (SCHE) has to provide. It specifies key e-competences with four dimensions and five possible levels (dimension 3, as shown in Figures 3 and 5. Dimension 4 specifies key knowledge areas and skills of a job profile, for e-competences B1-B5 and C4. These competences are given in Domazet (2017).

Competences specified for Java Developer profile, are not sufficient to specify the curriculum of the SCHE program "Programming in Java", as more detailed knowledge specification is needed. When a curriculum has to be developed, it is usually necessary to develop its Body of Knowledge (BOK). We developed BOK for SCHE program "Programming in Java" based on the following relevant and existing BOKs:

- The Foundation ICT BOK (2015)
- SWEBOK 3.0 (2014)
- Computer Science BOK (2013)

**The Foundation ICT BOK (2015**) specifies 12 knowledge areas:

1. ICT Strategy & Governance
2. Business and Market of ICT
3. Project Management
4. Security Management
5. Quality Management
6. Architecture
7. Data and Information Management
8. Network and Systems Integration
9. Software Design and Development
10. Human Computer Interaction
11. Testing
12. Operations and Service Management.

Four of these 12 knowledge areas are relevant for SCHE program "Programming in Java":

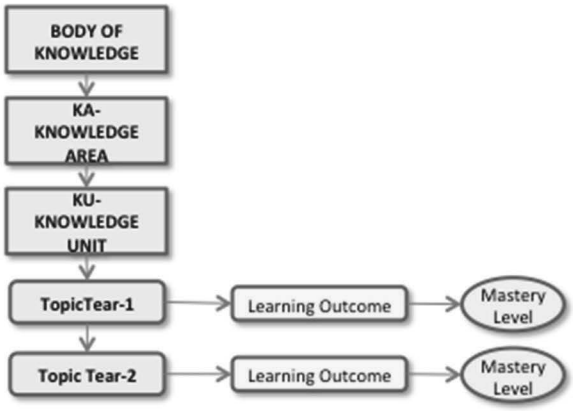
- Software Design and Development
- Human Computer Interaction
- Data and Information Management
- Testing

All four knowledge areas are presented in Domazet (2017).

Unfortunately, the ICT Foundation Body of Knowledge does not provide yet lower levels of knowledge and it is not sufficient for curriculum development. Therefore, additional extensions (sub-topics) of the Bodies of Knowledge are needed. We used two BOKs: SWEBoK 3.0 (2014) and Computer Science BOK (2013), shown in Figure 4. BMU is using these two BOKs for its BSc programs: Software Engineering and Information Technology. The development of our SCHE courses are therefore based on these two BOKs, and courses of our two BSc degree programs: Software Engineering and Information Technologies (Figure 5)

**Computer Science BOK 2013**

| No. | Knowledge Area | Level 1 | Level 2 |
|---|---|---|---|
| 1 | • AL - Algorithms and Complexity | 19 | 9 |
| 2 | • AR - Architecture and Organization | 0 | 16 |
| 3 | • CN - Computational Science | 1 | 0 |
| 4 | • DS - Discrete Structures | 37 | 4 |
| 5 | • GV - Graphics and Visual Computing | 2 | 1 |
| 6 | • HCI - Human-Computer Interaction | 4 | 4 |
| 7 | • IAS - Information Assurance and Security | 2 | 6 |
| 8 | • IM - Information Management | 1 | 9 |
| 9 | • IS - Intelligent Systems | 0 | 10 |
| 10 | • NC - Networking and Communications | 3 | 7 |
| 1 | • OS - Operating Systems | 4 | 11 |
| 12 | • PBD - Platform-based Development | 0 | 0 |
| 13 | • PD - Parallel and Distributed Computing | 5 | 10 |
| 14 | • PL - Programming Languages | 8 | 20 |
| 15 | • SDF - Software Development Fundamentals | 43 | 0 |
| 16 | • SE - Software Engineering | 6 | 21 |
| 17 | • SF - Systems Fundamentals | 18 | 9 |
| 18 | • SP - Social Issues and Professional Issues | 11 | 5 |
| | Total hours | 164 | 142 |




**SWEBOK-V3 (2014)**

| RB | Akronym | Naziv oblasti znanja (KNOWLEDGE AREA) |
|---|---|---|
| 1 | SR | SOFTWARE REQUIREMENTS |
| 2 | SD | SOFTWARE DESIGN |
| 3 | SC | SOFTWARE CONSTRUCTION |
| 4 | ST | SOFTWARE TESTING |
| 5 | SM | SOFTWARE MAINTENANCE |
| 6 | SCM | SOFTWARE CONFIGURATION MANAGEMENT |
| 7 | SEM | SOFTWARE ENGINEERING MANAGEMENT |
| 8 | SEP | SOFTWARE ENGINEERING PROCESS |
| 9 | SEMM | SOFTWARE ENGINEERING MODELS AND METHODS |
| 10 | SQ | SOFTWARE QUALITY |
| 11 | SEPP | SOFTWARE ENGINEERING PROFESSIONAL PRACTICE |
| 12 | SEE | SOFTWARE ENGINEERING ECONOMICS |
| 13 | CF | COMPUTING FOUNDATIONS |
| 14 | MF | METHEMATICAL FOUNDATIONS |
| 15 | EF | ENGINEERING FOUNDATIONS |

*Figure 4.*

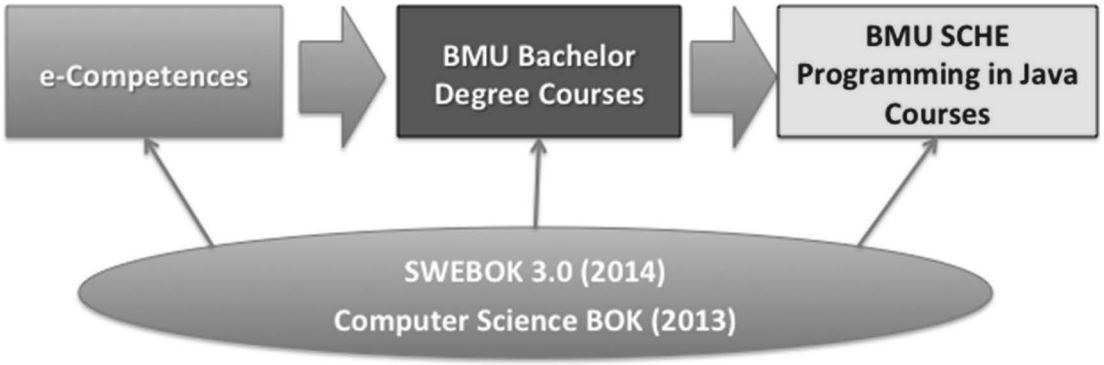



*Figure 5.*

The curriculum of the SCHE program “Programming in Java” is determined by mapping of relevant parts (learning units) of the BMU Bachelor's degree programs. It is implemented in three stages where each of them has one or more courses:

1. **Preparatory stage** – aiming to prepare trainees for programming training, providing the some basic knowledge in IT systems and programming fundamentals. The following courses are included:
   1.1. KI101 Introduction to IT systems
   1.2. KI102 Fundamentals of Programming
2. **Learning stage** – providing programming knowledge and skills to trainees, as well as some basic soft skills that might be useful for their employability. This stage includes:
   2.1. KI103 Java 1: Fundamentals of Programming
   2.2. KI104 Java 2: Object-oriented Programming
   2.3. KI105 Java 3: GUI Programming
   2.4. KI201 Java 4: Data Structures and Algorithms - Part A
   2.5. KI202 Java 5: Data Structures and Algorithms - Part B
   2.6. KI203 Java 6: Advanced Java Programming
   2.7. KI204 Java 7: Java Enterprise Edition
   2.8. KI205 Java 8: Java Programming on the Android platform
   2.9. KI206 Software Development Process and Methodology
   2.10. KI301 Software Construction
3. **On-the-job training stage** – providing trainees with one course (KI401) and one internship (KI402):
   3.1. KI401 Software Development Project
   3.2. KI402 Professional Internship - Java Developer

Table 6 shows core courses with their course hours of all listed courses and dates of their start.

In creating a short program, several IT firms, especially those dealing with software development using Java technology, have been consulted to ensure that this short program is created by "tailor-made employers" who need to hire students who complete this program. The final quality indicator of the realized short program is the percentage of student employment in the first three months after the completion of the short program. For each of the above defined courses, the program contents and learning outcomes are defined, so in the end, they provide the required competencies for the Java programmer work profile.

The program provides 600 hours of active teaching and 60 ESPB, i.e. credits that can be recognized if the student decides to enroll later on one of four BSC degree programs of BMU: Software Engineering, Information Technology, Computer Games and Information Systems. In the normal duration of the 12 month program, students will have: nine months for active learning, two months of internship and one month for annual leave. Learning is performed in blocks, i.e. according to the "course-by-course" system. It is planned that on each course, a student spends at least three hours a day. Including Saturdays (or 18 hours per week) using the e-Learning System of BMU. Table 8 shows start- and end-days of major groups of training activities of the SCHE program “Programming in Java”, lasting, in total, 12 months and providing 60 ECTS.

Syllabi of BMU SCHE program “Programming in Java” for all courses of the program are specified in Domazet (2017). They are implementing parts of Computer Science BOK (2013) and SWEBOK (2014).

*Table 6: Core courses of the SCHE program "Programming in Java"*

**Short-Cycle Programme for Junior Java Developer**

Duration: 12 months 60 ECTS

| # | Course | Duration (Days) | Teaching Days | Workshop Days | Teaching Hours | ECTS | Starting Date |
|---|---|---|---|---|---|---|---|
| 1 | KI101 Introduction to IT systems | 15 | 14 | 0 | 42 | 4 | 02/10/2017 |
| 2 | KI102 Programming Fundamentals | 11 | 8 | 2 | 30 | 3 | 23/10/2017 |
| 3 | KI103 Java 1: Fundamentals of Programming | 17 | 14 | 2 | 48 | 5 | 06/11/2017 |
| 4 | KI104 Java 2: Object-oriented programming | 13 | 10 | 2 | 36 | 3 | 27/11/2017 |
| 5 | KI105 Java 3: GUI Programming | 17 | 14 | 2 | 48 | 4 | 11/12/2018 |
| 6 | KI201 Java 4: Data Structures and Algorithms – Part A | 16 | 13 | 2 | 45 | 4 | 08/01/2018 |
| 7 | KI202 Java 5: Data Structures and Algorithms – Part B | 16 | 13 | 2 | 45 | 4 | 29/01/2018 |
| 8 | KI203 Java 6: Advanced Java Programming | 15 | 12 | 2 | 42 | 4 | 19/02/2018 |
| 9 | KI204 Java 7: Java Enterprise Edition | 24 | 21 | 2 | 69 | 7 | 12/03/2018 |
| 10 | KI205 Java 8: Pragramming in Java on Android Plaform | 14 | 11 | 2 | 39 | 4 | 09/04/2018 |
| 11 | KI206 Development Process and Methodologies | 18 | 15 | 2 | 51 | 5 | 30/04/2018 |
| 12 | KI301 Software Construction | 21 | 18 | 2 | 60 | 6 | 21/05/2018 |
| 13 | KI401 Software Development Project | 6 | 5 | 10 | 45 | 4 | 18/06/2018 |
| 14 | KI402 Intership (8 weeks) | 40 | 0 | 0 | 0 | 3 | 06/08/2018 |
| | **TOTAL:** | **243.0** | **168.0** | **32.0** | **600.0** | **60.0** | |

*Table 7. Time schedule of courses*

| | Start Date | End Date |
|---|---|---|
| Introdutory courses | 1.10.2017 | 5.11.2017 |
| Online training courses | 7.11.2017 | 13.7.2018 |
| Summer Holidays | 15.7.2018 | 5.8.2018 |
| Internship (8 weeks)* | 8.8.2018 | 28.9.2018 |

* Student has to realize its 8 weeks intership in this perod

The learning material provided on the BMU's e-Learning System contains web pages with multimedia contents (text, figures, Java codes, video and audio content), but also a PDF version of each lesson, the textual part of each lesson in PDF format (as an additional teaching material), and the student is not required no additional literature (although it is always useful to use other sources of knowledge). In addition to online classes, a two-day workshop in the computer classrooms of the University is planned for each course. All students get work assignments (as homework tasks) and one project per course. If a student is prevented from participation in workshops, their workshops can also be organized online. After the completed project and all assignments and tests are evaluated, students take the exam of each course.

After successfully completing professional internship in every course, the student receives the Certificate of Successful Completion of the Short Program, with an appendix containing the obtained grades on all subjects of the Short Program with a list of course learning outcomes and competences.

## 3. TEACHING METHODOLOGY

Figure 6 shows the organization of the training program and online learning materials. The Training Program consists of Courses. Each Course has a different number of lessons. A lesson describes the objectives, procedures, materials and evaluation for a particular class or a particular day. Each Lesson consists of one or more Learning Units. A Learning Unit provides a new and short concept depending on the content. Each Learning Unit has a clear learning objective regarding to change the level if knowledge and skills of trainees. A Learning Units consists of one or more Topics. A Topic or Sub-Topic is an atomic learning concept with a clear learning outcome.

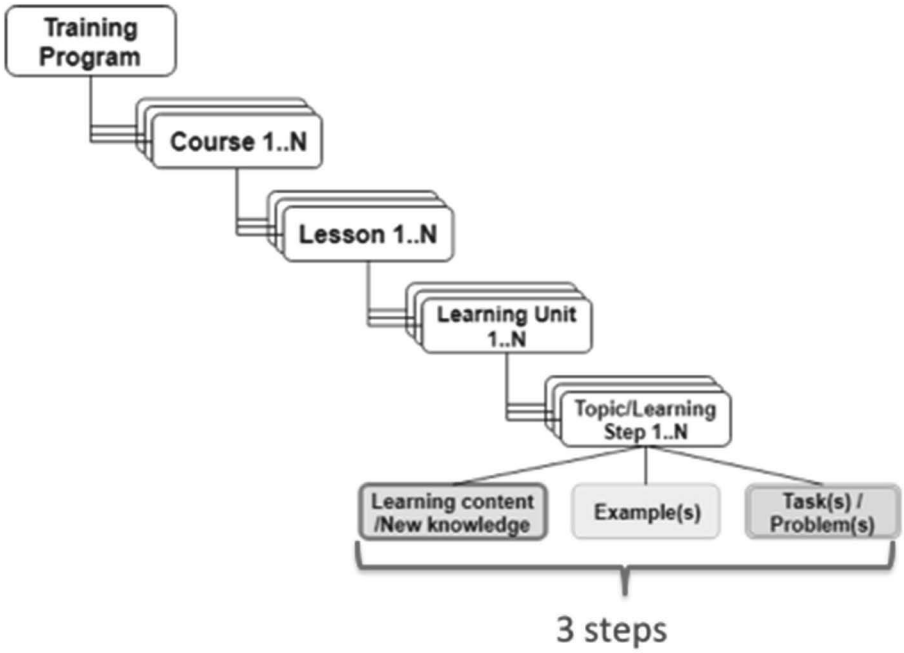



*Figure 6*

Especially for SCHE programs, BMU decided to implement a "Step-By-Step" learning methodology. Each Step provides small chunks of new knowledge to trainees, related to a Topic, immediately followed by one or more given examples (solved problems) and by tasks or (unsolved) problems/exercises that trainees have to solve by using this newly acquired knowledge. Figure 7 shows Learning Units with their Thematic Steps (Topics), each with three types of sub-steps:

1. New knowledge acquisition (a learning concept) – a small chunk of new knowledge or a new concept
2. Presentation of examples of solved problems demonstrating use of new knowledge
3. Tasks (unsolved problems) to be accomplished by each learners – given problems to solve

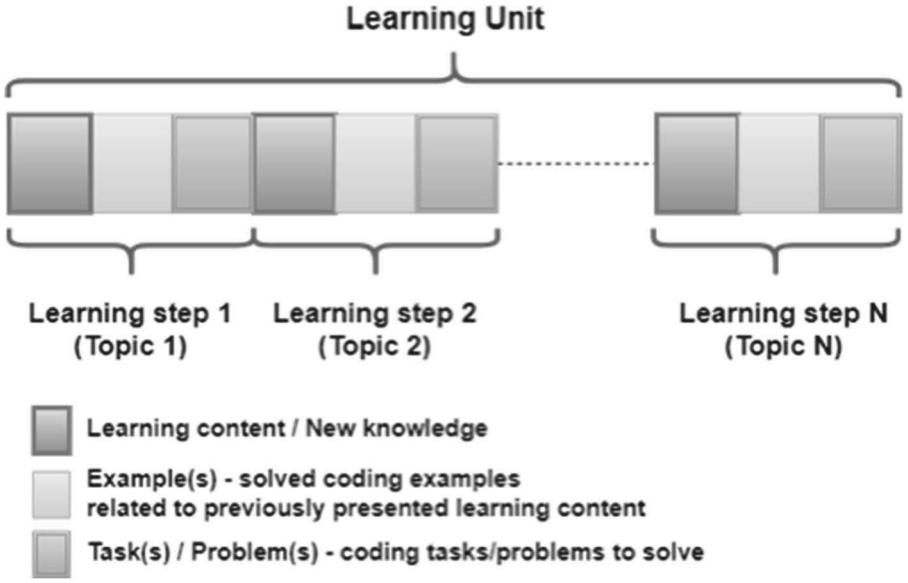



*Figure 7.*

The "Step-By-Step" learning methodology has been developed by BMU for SCHE programs aiming to provide high level of applied knowledge (Bloom Level 3). A trainee learns how to implement newly acquired knowledge, as a trainee must demonstrate his implementation capability by solving given problems. The granularity of Topics/Learning Steps should be as small as feasible, in order to achieve high level of integration of knowledge acquisition and its application activities. A Learning Path of a trainee is a Learning Process leading to the Learning Goal (achieving an appropriate knowledge and capability level) consisting of many Learning Activities related to hierarchically structured knowledge (Learning Units/Topics/ Sub-Topic).

BMU has structured its learning materials according to the requirement of the "Step-By-Step" methodology. BMU has a large repository of Learning Objects (LOs) ("any entity, digital or non-digital, that may be used for learning, education or training"– one for each Topic or Sub-Topic. Use of Learning Objects (LO) with fine granularity, allows easy configuration and generation of new learning material specifically created for a specific Study or Training Program. The use of LOs with fine granularity provides also a high reusability of the existing and previously developed LOs. An appropriate Learning Material may be efficiently developed for a new curriculum with high degree of reusable learning objects. By implementation the concept of LOs, with fine granularity, BMU is able to create in the learning material for "Programming in Java" training program and its curriculum in a few weeks. The online delivery of the learning material by using the BMU eLearning System, provides an efficient mechanism for the delivery of the learning materials to all trainees, and their additional interaction using its interactive activities.

## 4. EVALUATION

During the pilot phase, through all courses, learning activities were logged in the eLearning system (LAMS v3.0) including: time spent on learning online materials, the number of solved tasks and assessments, as well as other interactions with the resources provided by the eLearning system. The information system of BMU (ISUM) tracks all marks and other data about progress of students by course, such as: number of points per tests and projects, the number of points scored in the exam and the final grade. 8 trainees are included who passed the entire training process are included in the process of evaluation (Table 9).

Five trainees dropped out at the beginning of the course. Their reasons for dropping out are of personal nature, so we will not take them into account during the analysis. It is important to note that at the time this paper was written (September 2018), only two students successfully passed all the exams in the first test period, and six more have to pass the correction exams. In order to analyze the relatively poor results in the first test period (only 25% successfully passed all exams), we analyzed the use of learning materials and other activities provided by the eLearning system in order to determine the extent to which the system was used and what resources were most used.

Comparing the time spent in learning and number of failed exams, it is evident that trainees T3 and T8 spent less time in learning from others who have fewer failed exams. In this part, it is very important to motivate students to use the e-learning system to a greater extent somehow.

*Table 9. Time spent in e-learning by trainees*

| Trainee | Number of failed exams (max 13) | Projected learning time in hours | Time spent in learning |
|---|---|---|---|
| T1 | 0 | 606 | 780 |
| T2 | 3 | 606 | 585 |
| T3 | 8 | 606 | 120 |
| T4 | 0 | 606 | 980 |
| T5 | 2 | 606 | 780 |
| T6 | 3 | 606 | 330 |
| T7 | 3 | 606 | 300 |
| T8 | 8 | 606 | 80 |

At the end of the evaluation, trainees were asked to complete a questionnaire shown in Table 10. Prior to the questionnaire, the participant had to mark the place where the workshops were held (Nis or Belgrade). We identified 5 trainees from Belgrade and three trainees from Nis.

*Table 10: Trainee satisfaction questionnaire*

| QUESTIONS | MEDIAN ±STD |
|---|---|
| Q1: How satisfied are you with the work of the instructor during the duration of the course? | 4 ± 1.05 |
| Q2: How satisfied are you with the realization of the course? | 4 ± 1.09 |
| Q3: How satisfied are you with the level of knowledge that you acquired after completing the course? | 4 ± 1.11 |
| Q4: How satisfied are you with the quality of teaching materials? | 4 ± 0.99 |
| Q5: How satisfied are you with the organization of teaching materials by the "step by step" rule? | 4 ± 1.09 |
| Q6: How much is the weight of the teaching material adequately distributed? | 3.5 ± 0.7 |
| Q7: How satisfied are you with the LAMS system? | 5 ± 0.99 |
| Q8: How satisfied are you with the use of the LAMS system in the form of tests and other learning activities? | 5 ± 0.48 |
| Q9: To what extent are practical examples relevant to the material? | 4 ± 0.83 |
| Q10: To what extent is it necessary to add materials to external resources? | 3.5 ± 0.83 |
| Q11: If it is necessary to add resources to the teaching materials that would be? | / |
| Q12: Assess the adequacy of teaching materials in line with the latest IT developments | 3.5 ± 0.99 |
| Q13: Assess the quality of the applicability of the acquired knowledge after the course passed? | 3 ± 1.11 |
| Q14: How satisfied are you with the quality of the skype consultation? | 4 ± 0.93 |
| Q15: How satisfied are you with the quality of mail consultation? | 4 ± 1.16 |
| Q16: How satisfied are you with the quality of the workshops held during the course? | 5 ± 0.7 |
| Q17: How satisfied are you with the number of classes scheduled for the course during the course? | 3 ± 0.86 |
| Q18: Choose the model that you find most suitable for the realization of workshops (once a week, once in two weeks, half and at the end of the course, at the end of the course, other) | / |
| Q20: How satisfied with the compatibility of exams tasks and teaching material | 5 ± 0.7 |
| Q21: Choose the model that you find most appropriate for the course that you attended (a longer course, a less intensive course or a more intensive course, a shorter period of time) | / |
| Q22: How satisfied are you with the support of the services of Belgrade Metropolitan University? | 4 ± 1.4 |
| Q23: Which areas in this course do you consider necessary to be improved further: | / |
| Q24: Here you can write your suggestions, positive feedback or possible comments about the course | / |

The questionnaire used the five-point Likert scale, ranging from the lowest point (1) to the highest (5), and additional essay questions. The questionnaire also provided an option to enter comments in order to allow students to give their suggestions and comments in the form of an open-ended question. Questions Q1-3, Q14-17 and Q22 had the goal to give answers to the questions about the satisfaction of the course, instructors, organization and support from BMU services during the course. Analyzing those results students expressed that are satisfied with instructors (Q1) 4 ± 1.05 (with the median 4.00) and with realization (Q2) and level of knowledge (Q3) that are acquired after completing the course (respectively 4 ± 1.09 and 4 ± 1.11 with the median 4.0). Also, the participants answered that they are satisfied with the method of carrying out Skype consultations (Q14), 4 ± 0.93 (with the median 4.0) and a little less mail

consultation (Q15) 4 ± 1.16 (with the median 4.0), which is logical in relation to the type of course where it is sometimes difficult to explain the problem in writing. Trainees consider the workshops as very useful especially that they were organized in the traditional way in classrooms (Q16), 5 ± 0.7 (with the median 5.0), but consider that there is insufficient number of traditional classes of workshops that are necessary for an adequate understanding of the material (Q17), 3 ± 0.86 (with the median 3.0).

Some questions have a relatively high standard deviation due to the limited number of trainees, but at this stage we can conclude that trainees are satisfied with quality (4 ± methodology (4 ± 1.09) of learning materials thru Q4 and Q5, but also the trainees opinion is that the difficulty of the teaching material is not adequately distributed, 3.5 ± 0.7 (with the median 3.0), although they think that the examples (Q9) and exams (Q20) are relevant to teaching material 4 ± 0.83 (with the median 4.0). Trainees are absolutely satisfied with the BMU eLearning system (Q8) 5 ± 0.99 and they agreed that tests and other learning activities are of the great help in the learning process (Q9) 5 ± 0.48 (both with the median 5.0).

Lower satisfaction of the students is observed in the assessment of the conformity of learning materials with IT trends (Q12) 3.5 ± 0.99 and the applicability of the acquired knowledge after the course (Q13) 3 ± 1.11. We believe that such results may be due to insufficient practice of the participants and overloading information that needs to be channeled through practical work. Certainly, BMU has the task of further improving the teaching materials in order to increase the adequacy.

Students responded positively to “Programming in Java” short cycle program even through their comments through Q11, Q18, Q221, Q23 and Q24. Students considered the course to be useful and interesting:

- “Program is good”,
- “It's a good and interesting course”,
- “The program is very useful and provides a lot of practical knowledge for future employment.”

Additional comments and suggestions point to other questions of an essay questionnaire are generally similar and we can conclude that it is necessary to improve:

- “Everything is good, but there is a lack of traditional work in the classroom with instructors”,
- “More teamwork is needed”,
- “The course needs to be slower and less intense.”

Comment such as: ”Links to online resources would be helpful” indicate that learners also consider that additional online resources would be helpful if they were linked to LO.

Conclusions that can be made for the improvements of short cycle “Programming in Java” program from the given results are the following:

- Workshops must be organized more often and should be longer
- It is important to provide additional resources to LOs or assigned problems, such as Internet resources and
- The extent of the course and its intensity should be re-examined.

Finally, Table 11 shows the achieved results (in ECTS) of students fo SCHE Programming in Java, enrolled 2nd of October 2017 with duration of 12 months. The results are taken on 11th of March 2019.

| | | Acheived ECTS per course of short program "Programming in Java", as on 11.3.2019 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Student | KI101 | KI102 | KI103 | KI104 | KI105 | KI201 | KI202 | KI203 | KI204 | KI205 | KI206 | KI301 | KI401 | KI402 | Total |
| 1 | Zorana Milojković | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 4 | 7 | 4 | 5 | 6 | 4 | 3 | **60** |
| 2 | Vesna Strahinić | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 4 | 7 | 4 | 5 | 6 | 4 | 3 | **60** |
| 3 | Dejan Milić | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 4 | 7 | 4 | 5 | 6 | 4 | 3 | **60** |
| 4 | Katarina Ristanović | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 0 | 7 | 4 | 5 | 6 | 4 | 0 | **53** |
| 5 | Bojana Domazet | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 0 | 7 | 0 | 5 | 6 | 4 | 0 | **49** |
| 6 | Branislav Manojlović | 4 | 3 | 5 | 3 | 4 | 0 | 0 | 0 | 7 | 4 | 5 | 6 | 4 | 0 | **45** |
| 7 | Nataša Ljubisavljević | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **27** |
| 8 | Đorđe Ristić | 4 | 3 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **15** |
| 9 | Goran Grozdanić | 4 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **12** |
| 10 | Branislav Tošić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| 11 | Marina Šćepanović | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |

As it can be seen, only 3 of 11 trainees got on time 60 ECTS. Two trainees left the program at the beginning.

## 5. CONCLUSION

This paper deals with evaluation of a short cycle program "Programming in Java" implemented as a pilot program of PT&SCHE project and aims to provide one critical source of information in the order for the future improvement of courses, curriculum, and instructor's pedagogic efforts. Today, everyone can find all possible information on the Internet. However, if the learning process is routed and controlled by an appropriate technology and methodology as implemented in the short program "Programming in Java" realized as pilot program of PT&SCHE project on BMU, then the learning process is much faster, easier and more effective as shown in the conducted evaluation. The achieved results might suggest that the curriculum was too demanding for trainees, but it will allow them to find a job of Junior Java Programmer more easily, as they have a needed set of knowledge and skills. BMU is aiming to satisfy employers and their expectations. Trainees must understand that programming is a serious and demanding job. They need to be ready for serious tests when future employers will ask them to demonstrate what they can perform.

Therefore, future analyzes and improvements will be directed at what is considered by trainees as a lack in the current implementation of program, such as the intensity of the course with the increasing of the work with instructors.

## REFERENCE LITERATURE

Higher Education Act (2017), The Higher Educatio Act, Republic of Serbia, “, Službeni glasnik RS, No. 88/17, Belgrade, 29 September 2017.

EQF (2008), The European Qualifications Framework for Lifelong Learning (EQF)“, European Commission, Office for Official Publications of the European Communities, Luxembourg, 2008, Available: https://www.eurashe.eu/. [Accessed: 24-Sep-2018].

“European ICT Professional Profiles” (2017), CEN ICT Skills Workshop „European ICT Professional Profiles in action“, INTERIM REPORT, June 2017

e-CF(2014), “The European e-Competence Framework (e-CF) version 3.0 – A common European Framework for ICT Professionals in all industry sectors. CWA 16234:2014 Part 1. © CEN, http://www.ecompetences.eu/e-cf-3-0-download/ [Accessed 10/03/19]

Domazet (2017), Development of curriculum of the pilot online SCHE program PROGRAMMING IN JAVA, Deliverable 5.1.1, Partners Technical Report, Erasmus + project "Introduction of part-time and short-cycle studies in Serbia/PT&SCHE", 20.07.2017, www.pt-sche.metropolitan.ac.rs

The Foundation ICT BOK (2015), The Foundation ICT Body of Knowledge, Version 1, 22 February 2015, a report prepared for the European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs by the Service Contract: e-Skills: Promotion of ICT Professionalism in Europe | No 290/PP/ENT/CIP/13/C/N01C011 prepared by Capgemini Consulting and Ernst & Young, https://ec.europa.eu/docsroom/documents/21342/attachments/1/translations/en/renditions/pdf

SWEBOK 3.0 (2014), SWEBOK 3.0 – Guide to the Software Engineering Body of Knowledge, Editors Pierre Bourque, École de technologie supérieure (ÉTS) and Richard E. (Dick) Fairley, Software and Systems Engineering Associates (S2EA), IEEE Computer Society, https://www.computer.org/education/bodies-of-knowledge/software-engineering

Computer Science Curricula 2013, Curriculum Guidelines for Undergraduate Degree Programs in Computer Science, December 20, 2013, The Joint Task Force on Computing Curricula Association for Computing Machinery (ACM) IEEE Computer Society, https://dl.acm.org/citation.cfm?id=2534860

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# EVALUATION OF THE PILOT PART-TIME BACHELOR PROGRAM "INFORMATION SYSTEMS" AT BELGRADE METROPOLITAN UNIVERSITY

**Dragan Domazet**[1]

E-mail: dragan.domazet@metropolutan.ac.rs

**Bojana Trebinjac**[2]

E-mail: bojana.trebinjac@metropolitan.ac.rs

**Abstract:** *The aim of this paper is to present the evaluation of pilot implementation of the part-time online BSc program in Information Systems with 240 ECTS at Belgrade Metropolitan University after the first year of program implementation with 16 enrolled online students. For this purpose, the same online program was used as for regular studies with normal 4 years duration (60 ECTS per year), but here with changed regulations allowing employed online students to study now up to 8 years, achieving at least 30 ECTS per year. The paper present results of the survey realized with the first group of 16 enrolled students after the end of the first year of the program.*

**KEY WORDS:** PART-TIME STUDIES, ONLINE STUDIES OF EMPLOYED STUDENTS, EVALUATION OF PART-TIME PROGRAM, EVALUATION OF PILOT IMPLEMENTATION OF PART TIME PROGRAM

## 1. INTRODUCTION

Higher education institutions (HEIs) offer part-time programs to employed students who cannot attend regular face-to-face (F2F) lectures and tutorials. They usually offer evening or Saturday classes, or online courses. The major problem in Serbia was that employed students had no option to have special part-time programs, allowing them longer period for their studying. They had to get 60 ECTS per academic year as regular F2F students. Belgrade Metropolitan University (BMU) has been offering all its bachelor program in three learning modes:

- Traditional, F2F learning
- Online, or e-learning
- Blended learning (flipped classroom approach).

Online learning is the most appropriate and is used as the mode of learning by employed students. However, they complained that they couldn't meet the requirements to earn 60 ECTS per year. In many countries, employed students have an option to choose part-time programs with 50% to 100% longer duration. The Government of Serbia agreed with the proposal of our PT&SCHE project to introduce part-time studies also in Serbia with the extended study period for employed students. Higher Education Act (2017) introduced for the first-time part-time studies to have only 30 ECTS or more per year. Thus, instead of studying 3 or 4 years in the first cycle (bachelor programs), part-time students now can study 6 or 8 years, if they are employed.

[1] Belgrade Metropolitan University/Rector and Emeritus Professor

[2] Belgrade Metropolitan University/Librarian

In order to evaluate effects of the introduction of part-time studies in Serbia, Belgrade Metropolitan University got the task within the PT&SCHE project to initiate the pilot implementation of part-time studies within its existing online bachelor program in Information Systems with 240 ECTS. In this paper we report our findings after the first year of program's implementation.

## 2. CURRICULUM OF THE PILOT PART-TIME BACHELOR PROGRAM "INFORMATION SYSTEMS" AT BMU

The Bachelor of Science in Information Systems provides 240 ECTS and is now offered in two options regarding duration:

1. Normal duration of 4 years (60 ECTS per year) for regular students and traditional learning mode (F2F).
2. Extended duration (up to 8 years, min. 30 ECTS per year) for part-time and online students who are employed.

Table 1 shows the list of all core courses in this program, while Table 2 shows the list of ITS elective courses.

*Table 1. Core courses*

| Sem. | **BSc in INFORMATION SYSTEMS (240 ECTS)** | **ECTS** | Lecture hours | Tutorial hours |
|---|---|---|---|---|
| 1 | IS205 Information Systems Fundamentals | 6 | 2 | 2 |
| | IT101 IT Fundamentals | 8 | 2 | 3 |
| | MK150 Management Fundamentals | 8 | 3 | 2 |
| | OM100 Introduction to Operations Management | 6 | 2 | 2 |
| | NT111 English | 4 | 3 | 0 |
| 2 | IT120 Application Development | 6 | 2 | 3 |
| | OM110 Analysis and Design of Business Processes | 6 | 2 | 3 |
| | IT210 IT Systems | 8 | 2 | 3 |
| | MA100 Mathematics for Managers | 6 | 2 | 3 |
| | NT112 English 2 | 4 | 3 | 0 |
| 3 | IT350 Databases | 8 | 3 | 3 |
| | MK110 Business Economics | 8 | 3 | 3 |
| | MA272 Business Statistics with Probability | 8 | 2 | 3 |
| | NT213 English for IT | 4 | 3 | 0 |
| 4 | IT270 IT Infrastructure | 8 | 2 | 3 |
| | IT370 Human-Computer Interaction | 8 | 2 | 3 |
| | MG150 Business Finances with Accounting | 8 | 3 | 3 |
| | OM410 Business Process Management | 8 | 3 | 3 |

| | | | | |
|---|---|---|---|---|
| 5 | OM323 Project Management | 8 | 3 | 3 |
| | IS280 Systems Analysis and Design | 8 | 3 | 3 |
| | IS250 Architecture of Organizational IT Systems | 6 | 2 | 2 |
| | IS345 Digital Content Management | 8 | 2 | 3 |
| 6 | IS310 Information Systems of Organizations | 8 | 3 | 2 |
| | IS330 Information Systems Management Strategy | 8 | 2 | 3 |
| | NT210 Business Ethics and Communication | 6 | 2 | 2 |
| | Elective Course 1 | 8 | | |
| 7 | IS360 IT Systems Auditing and Control | 8 | 3 | 3 |
| | Elective Course 2 | 8 | | |
| | Elective Course 3 | 8 | | |
| | Elective Course 4 | 8 | | |
| 8 | Elective Course 5 | 8 | | |
| | IS485 Development of Information System Project | 8 | 5 | 5 |
| | IS491 Internship in IS | 4 | 0 | 0 |
| | IS495 Capstone IS Project | 8 | 0 | 0 |

*Table 2. Elective courses*

| Sem. | **ELECTIVE COURSES** | **ECTS** | Lecture Hours | Tutorial Hours |
|---|---|---|---|---|
| 6 | CS324 Scripting Languages | 8 | 3 | 3 |
| | IT255 Web Systems 1 | 8 | 3 | 3 |
| | IT381 Information Security and Safety | 8 | 3 | 3 |
| | CS225 Operating Systems | 8 | 3 | 2 |
| 7 | CS322 Programming in C# | 8 | 3 | 3 |
| | IT375 Computer Control of Systems | 8 | 3 | 3 |
| | MG410 Organizational Change Management | 8 | 3 | 3 |
| | CS101 Introduction to OO Programming | 10 | 3 | 4 |
| | CS220 Computer Architecture | 8 | 2 | 3 |
| | OM240 Quality Management | 8 | 3 | 3 |
| 8 | IS335 Business Intelligence | 8 | 3 | 3 |
| | OM140 Supply Chain Management and Logistics | 8 | 3 | 3 |

The National Council of Higher Education of the Republic of Serbia accredited this program on 13/11/2016 for 40 F2F students and 16 online students. Sixteen online students were chosen and enrolled to this pilot PT program in academic year 2017/18. Regardless of the mode of delivery (F2F or online) and of the duration of studies, the curriculum is the same.

The syllabi of all courses of the program are presented in Deliverable 5.1.2 (2017). Students have the following typical assignments in most of courses (they are different in different courses):

- An online test after each online lesson
- A homework assignment after each online lesson
- One project assignment in almost each course.

They can obtain up to 70 points, but 35 is the minimum to acquire

## 3. EVALUATION

We distributed the questionnaire to students of the pilot BSc program in Information Systems enrolled in the academic year 2017/18. The questionnaire was distributed in March 2019.

### 3.1. Questions

Eleven students responded to the following questions of the survey:

Q1. Do you think that the extension period of studies (60 ECTS for 2 years) is more appropriate for employed students? (Free textual answer is allowed)
Q2. Do you agree that online modes of learning provide as equal knowledge as traditional, in-class (face-to-face) learning mode? (Free textual answer is allowed)
Q3. Would you prefer to have evening classes and Saturday classes instead of online lessons? (Free textual answer is allowed)
Q4. What are the most common obstacles that you faced during your online studies? (Free textual answer is allowed)
Q5. What are the advantages of online learning in your opinion? (Free textual answer is allowed)
Q6. Do you have adequate contacts with teaching and administrative staff as a support of your studies? (Free textual answer is allowed)
Q7. Are you satisfied with your professors? Are you satisfied with your teaching assistants? (Free textual answer is allowed)
Q8. Evaluate the quality of teaching materials. If necessary, give your explanation. (Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)
Q9. How much are you satisfied with the organization of the learning material? If necessary, give your explanation. (Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)
Q10. Is the learning material adequate for you to follow and does it have practical applications?
(Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)

Q11. How much are you satisfied with the Learning Activity Management System (LAMS)? (Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)
Q12. What are the shortcomings of the LAMS system? (Free textual answer is allowed)
Q13. How do you evaluate given examples? Are they corresponding to the presented theoretical concepts? (Free textual answer is allowed)
Q14. Do you recommend extension of the learning material with the external recourses? (Free textual answer is allowed)
Q15. If you suggest the extension of the learning materials, can you propose such external resources? (Free textual answer is allowed)
Q16. Are you satisfied with the quality of professor's office hours with professors and assistants? (Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)
Q17. Are you satisfied with the support of BMU administration and its services? (Marks from 1 to 5, 1-very unsatisfied, 5-very satisfied, students may give their explanation in a free textual form)
Q18. Please specify your suggestions, remarks or possible observations about the program. (Free textual answer is allowed)

### 2.2. Answers

The following answers were obtained by the students who participated in the survey:

**Q1. Do you think that the extension period of studies (60 ECTS for 2 years) is more appropriate for employed students?**

7 answers: 6 positive and one negative.

1. Yes
2. Yes
3. Yes
4. We were unprepared for new lessons when we were near the end of courses
5. I agree with conditions and that they are appropriate for us.
6. Due to a lot of assignments, it is very difficult to obtain requested number of points.
7. I think that it is an adequate mode od studying for working students.

**Q2. Do you agree that online modes of learning provide as equal knowledge as traditional, in-class (face-to-face) learning mode?**

10 answers: 6 positive, 2 negative and 2 have betting positions.

1. No.
2. It is difficult to say. Sometimes learning materials are not very clear, and, sometimes we cannot know what is essential. Both this issues would be solved with traditional learning.
3. Yes, mostly.

4. Yes in most of cases, demanding of student's effort and wish to exercise and motivation to learn. In case of practical training, it is a little bit inadequate, but it is not irrecoverable.
5. Yes, totally.
6. No. Students without any prior knowledge from this field have no opportunity to ask questions during an online lecture.
7. Yes, if access to video archive of recorded lectures and exercises.
8. Yes
9. Yes

**Q3. Would you prefer to have F2F evening classes and Saturday classes instead of online lessons?**

9 answers: 6 is not for F2F learning, 2 are for a combination of both, and only one would prefer traditional 2F2 learning.

1. No.
2. No.
3. The best would be a combination. When we have time to have the right to attend F2F lectures. I live outside Belgrade and work from 7 am to 9 pm, and it is impossible for me to attend F2F lectures.
4. No, online learning is more suitable for me.
5. No, due to my job, I cannot have traditional education.
6. It would not be convenient to me.
7. I would prefer to have tutorials and traditional teaching on weekends.
8. Yes.
9. No, as most employed students, I work in different shifts, including weekends.

**Q4. What are the most common obstacles that you faced during your online studies?**

11 answers: Most comments are related to assignments that are time consuming and related to learning materials.

1. We have too many assignments as preconditions for exam.
2. This way of learning allows my procrastination (to postpone my obligations and duties), but this is my problem.
3. Reduced level of learning practical knowledge in compassion with traditional, F2F learning.
4. No obstacles. Unfortunately, I was ill, and was unable to study. Fortunately, we have now two years to accomplish 60 ECTS and I will have more opportunity to realize this.
5. None. All is accessible, and all milestones are achieved by the faculty.
6. Project assignments require a lot of time, so, besides working, I have little time for learning.
7. Lack of enough information in learning materials. It is not explained in more details.

8. Video clips are in English. Lack of an archive of recorded F2F lectures and exercises. Students are not informed about annual leaves and absents of professors and assistants, and may wait too long to contact them for review of their assignments.
9. Lack of more intensive communication with lecturers and other students.
10. Too many assignments and inappropriate distribution of their points.
11. Exercises in some courses are too big and are very time consuming, especially if there is an error in the learning material.

**Q5. What are the advantages of online learning in your opinion? (Free textual answer is allowed)**

11 answers. Most student see the advantage of online learning in time organization and easier harmonization with their job obligations.

1. A student decides how fast he wants to study, determines his milestones for his assignments.
2. We can plan our time and can continue to develop our careers.
3. Free to plan our free time.
4. Without e-learning, I would not be able to work and study.
5. We can do other businesses and organize our learning time when it is suitable to us.
6. Opportunity to have total freedom to organize our learning time.
7. It is an advantage that we can harmonize our learning with other obligations.
8. This way of learning is the only one possible for some students. Thank you for allowing us to continue our education.
9. Flexibility. Extreme flexibility.
10. Only that you don't need to be physically in the class.
11. Time management.

**Q6. Do you have adequate contacts with teaching and administrative staff, as a support of your studies?**

10 answers: 7 are positive, 3 have some remarks, regarding contacts with teaching and administrative staff, or they had to wait too long for feedbacks from assistants.

1. Yes.
2. We waited for answers from assistants too long in some courses. Too little communication with professor and assistant related to learning. It is mainly related to evaluation of our assignments.
3. Yes.
4. Yes, it is adequate.
5. Yes. Students should be informed about annual leaves and absents of professors and assistants. They should get contacts of their replacements.
6. Not totally satisfied.
7. Yes.
8. Yes.

**Q7. Are you satisfied with your professors? Are you satisfied with your teaching assistants?**

11 answers: 8 are positive and 3 have some remarks, mainly related to lack of enough communication with professors and assistants.

1. I am satisfied.
2. Very much.
3. I am satisfied.
4. Totally satisfied.
5. So far, I give maximum marks 10/10.
6. Only communication with e-mails, no other contacts.
7. All is professional.
8. I am very satisfied. All respect to professors and assistants.
9. So/so, something between positive and negative experience. I didn't like that I had to contact a person to get some materials, but I didn't get instructions how to contact her. If we discuss different topics for term papers, we should get a list of all topics in advance.
10. Very much.
11. Mark 4 of 5.

**Q8. Evaluate the quality of teaching materials. If necessary, give your explanation.**

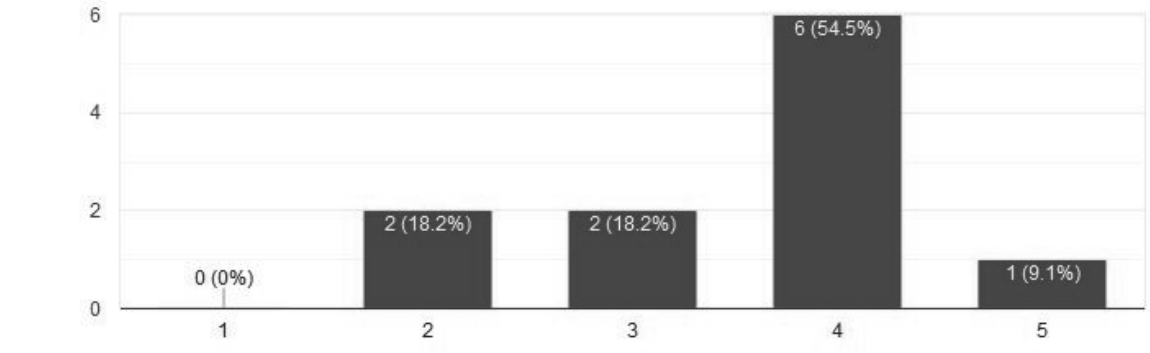



*Figure 1.*

In textual comments, students mostly have complained regarding technical aspect of learning materials (textual errors, or wrong use of terminology and translations). Here are some of the responses:

1. In case of some IT courses, learning materials are too short and incomprehensible. To do assignments, we need to search Internets to find appropriate explanations.

2. I some cases, learning material is not well written, and is difficult to identify what is important what is not.
3. I would like more practical examples that the theory, but I know that both are necessary.
4. Much of the learning material is not structured appropriately and, in some cases, use wrong translations. Some are written for more advance students. Too much theory, without practical examples. We need exercises for exams.
5. Without a prior knowledge, it is hard to learn from the learning materials.
6. In the learning materials of some IT courses, there are errors and we need to have consultations with teachers to overcome them. It advisable to have a video archive of F2F lectures and tutorials.
7. There is an imbalance between the learning materials and assignments in some cases.

Q9. **How much are you satisfied with the organization of the learning material? If necessary, give your explanation.**

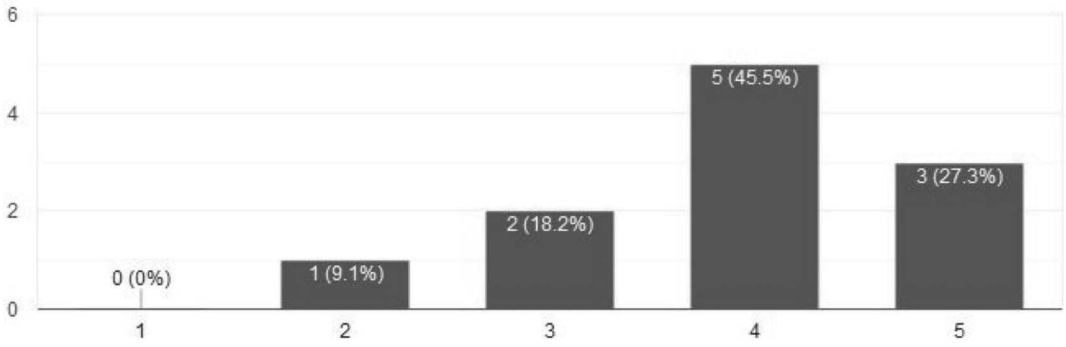



*Figure 2.*

There was only one comments regarding this question: “The same reason as given above”.

**Q10. Is the learning material adequate for you to follow and does it have practical applications?**

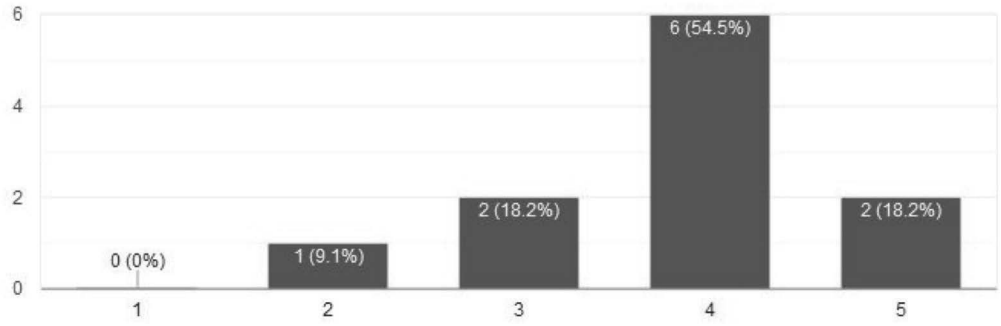



*Figure 3.*

Only few descriptive answers were given:

1. We are in Year 1 of the program. I believe the practicality will be higher in the years to come.
2. In most of courses, how to practically do something was poorly explained. Problems for individual exercise were given without any explanation how to solve them, and we even do not know if we solved them properly.

**Q11. How much are you satisfied with the Learning Activity Management System (LAMS)?**

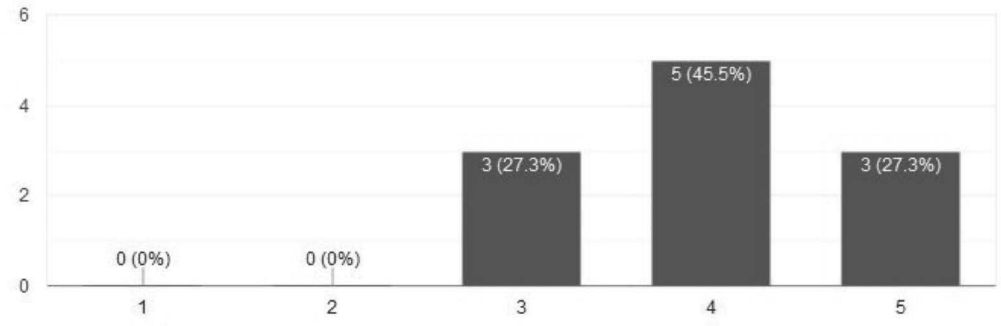



*Figure 4.*

Only four comments were given:

1. LAMS is working slowly. Its frame is small in relation to the screen. PDF version of the material is more convenient, but its format is not the best.
2. At the beginning of each semester the learning material is not provided. It should be prepared earlier and available to students at the start of the semester.
3. A user guide is missing.
4. There are no video materials for F2F lectures.

**Q12. What are shortcomings of the LAMS system?**

7 answers:

1. Too slow. Lesson's frame is small in relation to the space available.
2. I don't like that tests are part of the lecture. It is better that they are separate from the lecture.
3. I haven't noticed any shortcoming.
4. No shortcomings. The learning material is available, and that is important.
5. I haven't noticed shortcomings.
6. The learning material is not accessible at the beginning of semester.
7. Additional material is separated from the PDF version of the lecture and I cannot print it or to download it. It is hard to read from the screen.

**Q13. How do you evaluate given examples? Are they corresponding to the presented theoretical concepts?**

Only one answer is negative. Others are or mainly positive, or with some comments.

1. Partially.
2. I don't know how to answer correctly
3. They are appropriate.
4. It depends on the courses. Mainly they are adequate.
5. To the great extent.
6. Not sufficiently.
7. As far as I noticed, most of the lectures have appropriate examples.
8. We can notice that a great effort was given for preparation of the learning materials and practical example are very appropriate.
9. They are OK.
10. There are sometimes significant differences between different courses.
11. I found many mistakes in exercises, so I had to use additional literature.

**Q14. Do you recommend extension of the learning material with the external recourses?**

Five students think that the materials should be extended, while three of them think that it is not necessary, and the other three have different opinions:

1. Partially.
2. I don't know to give adequate answer.
3. It is desirable for some of courses.
4. In case of programming courses, it would be nice to have resources that maps current market needs and more practical examples.
5. There is no need. If I need something more, I can easily find in on the Internet.
6. It is very necessary, especially with practical examples.
7. It would be useful if we could use the textbook from the library.
8. It would be sufficient to use video archive, as the lively word of the professor is irreplaceable.
9. I think that it is not necessary.
10. Probably a little more. It depends on each student.

**Q15. If you suggest the extension of the learning materials, can you propose such external recourses?**

These are the given answers:

1. I have no answer.
2. I could not give any adequate answer.
3. In case of IT courses, it is desirable that a video clip with professors detailed explanations are attached to each lesson. Textual materials are not sufficient.
4. Additional materials are already available to those who want to learn more, for instance with MOOCS such as EdX, courser and similar. Probably some part of these materials could be used in our lessons.
5. It is not necessary.
6. More practical exercises.
7. More literature, more examples.
8. Video archive solves most of problems.
9. It is not necessary.
10. Video tutorials, for example.

**Q16. Are you satisfied with quality of consultations with professors and assistants?**

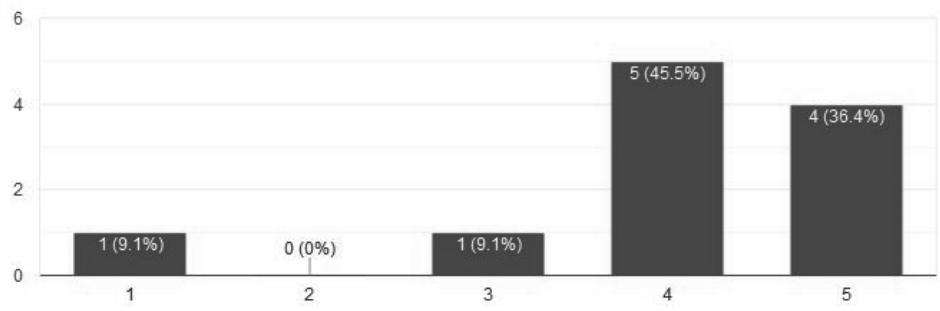



*Figure 5.*

Only two comments were given:

1. I had only few mails regard to some given problems that were not explained clearly. In general, I work all individually and alone.
2. Sometimes communications via mails are confusing. As I am living in Belgrade, I suppose that there is not a problem for us to come to professor's office hours.

**Q17. Are you satisfied with the support of BMU administration and its services?**

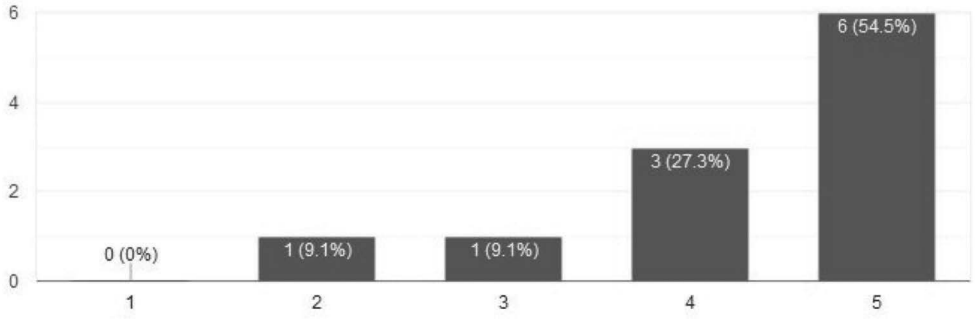



*Figure 6.*

Only one comment was given.

1. The Office of Student Affairs sometimes needs too long to respond to students' mails. The procedure of registration of marks is too long and does not correspond to employees and students who live outside BG

**Q18. Please specify your suggestions, compliments or possible observations about the program.**

1. I have no complains about the program.
2. For the time being I am very satisfied.
3. I have no complains.
4. The program is commendable, as it allows me to earn money while studying.
5. The program is of high quality, but the most of the learning material is bad. There are too many assignments so, it is almost impossible to earn 60 ECTS even in two years.
6. This program is a very good option and a good opportunity for employed students, but with the provided learning materials, the course cannot be mastered. Probably, it should be a good thing that we have some F2F lectures. Also, a forum is desirable, a chat room or something similar, allowing students to be all time in communication.
7. I propose implementation of a video archive to further improve the quality of learning.
8. It is desirable to have a F2F lecture at the beginning of program. Each professor should present his course in 20 minutes, specifying what is needed to pass the exam, at the beginning of each semester. It would also allow students to see each other and to consult each other too. I don't like info packages prepared for each course, especially those that require my interpretation. It would be much easier for all students if we would know exactly what are our obligations and how we can accomplish them.
9. There are too many assignments. Some of them require a lot of work and they bring us only one point. The program is officially prepared for employed students, but I really do not know where this person should be working and that he will get to do all that.

### 3.3 Academic results after 16 months

Table 3 presents achieved results of students from 1st of October 2017 until 11th of March 2019, i.e. after 17 months. The program was realized 100% online and the students had six exam terms to pass their exams.

*Table 3. Academic results of students on PT online program Information Systems after 17 months*

| | | ECTS achieved in Year 1 couses - staus on 11.03.2019 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sudent | IS205 | OM100 | NT111 | OM110 | MK150 | IT120 | IT210 | NT112 | IT101 | MA100 | Total |
| 1 | Dražen Janković | 6 | 6 | 4 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 40 |
| 2 | Bojana Rajić | 6 | 6 | 4 | 6 | 8 | 0 | 0 | 4 | 0 | 0 | 34 |
| 3 | Katarina Nešić | 0 | 6 | 4 | 0 | 8 | 0 | 0 | 4 | 8 | 0 | 30 |
| 4 | Stefan Ćirić | 0 | 0 | 4 | 0 | 0 | 6 | 0 | 4 | 8 | 0 | 22 |
| 5 | Milan Rudež | 6 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 18 |
| 6 | Miloš Đurišić | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7 | Tijana Čukić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Srđan Šolajić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Đorđe Čolić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Jovana Tadić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Marko Dimitrov | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | Nenad Banjac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | Marija Marković | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Svetlana Slijepčević | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Igor Dragović | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Ivana Jelić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Tijana Bujičić | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

The students have two years to achieve 60 ECTS. So far only 3 of 17 students achieved 30 or more ECTS. Three more students had some success, but remaining 11 students had no success. They were not active. These results show that working students still have problems with their studies, despite the reduced yearly ECTS requirements (30 ECTS per year, instead of 60 ECTS per year). BMU will further analyze results and evaluate the program in more detail, and try to make it more affordable for online employed students, without reducing its academic quality standards. The emphasis will be on improvement of learning materials and communications with online students. We will also introduce optional F2F workshops on Saturdays, few times in each semester for all courses.

On the other hand, employed students should raise their motivation for studies and allocate more time for learning. We will organize focus groups to find out all problems they face and try to help them to solve them.

## 4. CONCLUSION

In general, employed students are very satisfied with the possibility to study while working. They prefer online mode of learning to F2F evening classes. Online learning gives them the flexibility to organize their time for learning. Extended duration of their studies, i.e. the requirement for 60 ECTS for two years, instead for one year, as it used to be, is very welcomed. There are proposals for implementation of some forms of blended learning, so that online students can attend also F2F regular lectures or to have some F2F classes during weekends. There is a proposal that an introduction of all courses should be organized F2F at the beginning of each semester.

Most of students complains are related to some aspects of the specific pilot program, and are not related to regulations for part-time studies. Typical complains are as follows:

- Too many assignments, requiring a lot of time
- Learning materials in some courses are of poor quality and need to be improved.
- More practical examples should be given and give exercises for individual work should have some explanations and instructions.

- Use of archive of recorded F2F regular lectures would help students to better understand some topics
- More interactions with professors and assistants, as well as with other students is recommended.

These are useful comments and recommendations, and BMU will try to implement some of the given proposals in order to adopt the program and learning process to be more suitable to employed students.

The evaluation of the pilot implementation of the part-time program confirms that the legislation of part-time studies as specified in Higher Education Act (2017) may be appropriate and suitable for part-time employed students, but it is not enough. Other preconditions must be accomplished. Achieved academic results of students in our pilot PT program are not satisfactory and further elaboration is necessary. Most of students showed no interest to study as expected.

## REFERENCES

Higher Education Act (2017), "Higher Education Act", Republic of Serbia, No. 88, 29.9.2017, Official Gazette of the Republic of Serbia, No. 88/2017

Deliverable 5.1.2 (2017), "Development of curriculum of the pilot part-time online bachelor program in INFORMATION SYSTEMS", Deliverable 5.1.2, Erasmus+ Project "Introduction of part-time and short-cycle studies in Serbia" (PT&SCHE), 11.07.2017, www.pt-sche.metropolitan.ac.rs

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# IMPLEMENTATION OF ONLINE PILOT SHORT CYCLE PROGRAM WEB APPLICATION PROGRAMMER

SVETLANA ŠTRBAC-SAVIĆ
School of Electrical and Computer Engineering of Applied Studies in Belgrade, svetlanas@viser.edu.rs

VERA PETROVIĆ
School of Electrical and Computer Engineering of Applied Studies in Belgrade, verap@viser.edu.rs

***Abstract:*** *Short cycle programs are a new form of study in higher education system of the Republic of Serbia. The realization of such programs is a great challenge because the curriculum and teaching methods of such programs must be adjusted with the goal and the duration of study that is in this case much shorter than in regular study. This paper describes the implementation of the pilot online short cycle program Web application programmer in School of Electrical and Computer Engineering of Applied Studies in Belgrade.*

***Keywords:*** *Short cycle program, teaching of Web programming, E-Learning, online*

## 1. INTRODUCTION

Technological advancement has caused changes in the way people live. In the past, the learning process was preparation for professional work and took place during a period of life before employment. However, today, people have to improve throughout their entire life, and often re-qualify because the labor market changes rapidly, with some jobs completely disappearing, or the number of needed people dropped in some fields, while new jobs appear in some other areas. In addition to the changes that are caused by the labor market, it is often necessary that people in the same workplaces have to be trained to use new technologies. So lifetime learning is really necessity for most people.

In response to these needs, the Law on Higher Education of the Republic of Serbia, adopted in September 2017, envisioned short cycle study programs. This form of study aims to enable re-qualification of people who have completed studies (have 180 ECT or more) and can't find a job in their profession or have completed studies in the field of short cycle program a long time ago but they do not manage to apply new technologies in their field. The point is to enable people in short time to learn necessary skills. To make this possible, the short cycle program must be well designed and implemented.

The School of Electrical and Computer Engineering of Applied Studies in Belgrade has created four short cycle programs. Two online programs in the field of computing: Web application programmer and Computer Programmer/Analyst, and two face to face programmes: Vehicle diagnostics and Professional development of professors and teachers. In this paper the implementation of online short cycle program Web application programmer is described.

The goal of this program is to train a student to master and implement web technologies in order to create web applications. This short cycle program has five courses: Web Design, Standard User Interfaces, Object Programming, Internet Programming and Visual Programming Techniques.

## 2. ORGANIZATION OF THE PROGRAMME

School of Electrical and Computer Engineering of Applied Studies in Belgrade has an extensive experience in distance learning. Since 2012/13 school year our school has a distance learning study program The New Computer Technologies. A lot of learning materials were developed for the realization of online teaching, and during the years those materials were changed and adjusted to online learning along with improvement of the whole teaching process. More details about this program can be found in [1].

This experience helped a great deal implementation of the program. Of course a lot of changes had to be made because courses in the short cycle program had to be more practical, and performed in shorter time then the courses for regular students. In preparing materials for short cycle programs and in general in their organization, it should be taken into consideration that program participants have different backgrounds, as some of the students are from technical professions and have previous knowledge, while some students have previous education in other areas. That is why it is difficult to make a choice of courses and make the syllabus of courses so that all students can successfully prevail the program. Also, emphasis on these courses had to be on the practical work of students, while the theoretical aspects were reduced to a minimum. That is why new

syllabus and learning materials had to be created for realization of each course according to this demands.

Short cycle program Web application programmer was organized at School of Electrical and Computer Engineering of Applied Studies in Belgrade in 2017/18 school year. A lot of people were interest in this program, and we received in just three days three times more applications of candidates than we could enroll. It was not easy to choose between registered candidates, so as we thought that a more uniform level of knowledge of the received candidates would be the best criteria for selection. Image 1 shows that all selected candidates have completed some of the technical faculties or the Faculty of Mathematics, and they all have some basic knowledge of working with computers.

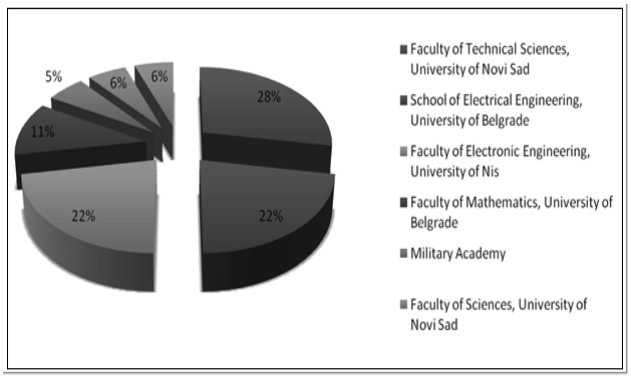



**Image 1:** Previous education of enrollment of students

Eighteen students from the all over Serbia were enrolled to short cycle program Web application programmer Image 2. Students did not pay tuition fee.

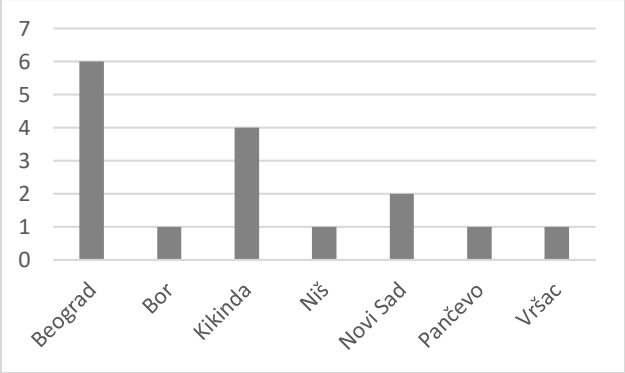



**Image 2:** Place of residence for enrollment of students

In the Introduction of this paper the list of courses was given. The goal of this selection, and of the program in general, is to prepare students step by step to develop web application starting with creations of static web sites, then making dynamic websites. Course Object Programming serves as an introduction for more advanced courses. In course Internet programming students develop complete web applications using Java technologies. The course Visual Programming Techniques trains students to use Microsoft tools to create web applications.

The program was organized so the courses were sequential. First course was Web Design that does not require any special previous knowledge. Then Standard User Interfaces, Object Programming, Internet Programming and Visual Programming Techniques in given order because student had to master the knowledge of previous course to follow next course. Every course had the same dynamics. Four days in the week teachers posted learning materials on Moodle platform with an explanation of what students are expected to master in that lesson or in which order to use the material if they were placing more files in the one lesson. Friday was reserved for consultations both electronic and consultation in School. Of course every day students could communicate with teachers or other participants via private messages or forums (Image 3). Every week students had assignments which they had to complete during the weekend. Those assignments were web applications were student applied knowledge acquired in lessons from the previous week.

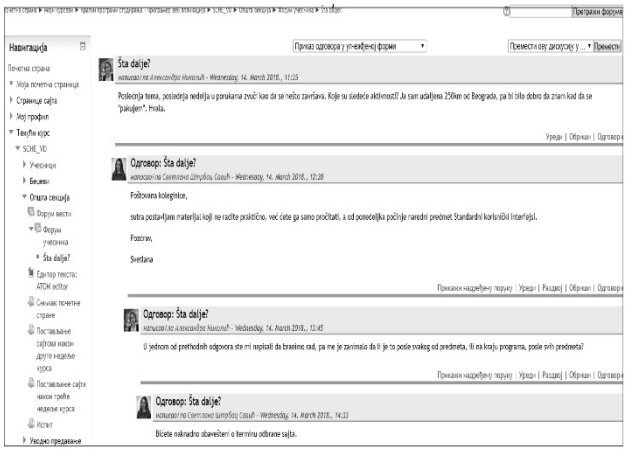



**Image 3:** Example of online discussion via forum of participants

All the courses were held online, only first workshop was organized at the School. This workshop has been organized before program started. Students were informed of the organization of courses, and they got their accounts on both Moodle and Odoo platform and they got a brief training of using of both platforms. They were offered to attend to workshops or consultation in School but since most of them work and some of them are not from Belgrade we had no such demands.

## 3. TECHNICAL REALIZATION OF THE PROGRAMME

One of the prerequisites for the realization of the program was the choice of Learning Management System (LMS) to be used. Within the framework of Erasmus + project "Introduction of Part-Time and Short Cycle Studies in

Serbia", a LMS Odoo has been developed and installed on School server, but it was not completely finished and adjusted to needs of teachers and student until the beginning of the program. For this reason, LMS Moodle was used, although all the learning materials are also posted on Odoo LMS. LMS Moodle has been and still is used in our school since the beginning of the school year 2007/8, when school had provided Learning Management System (LMS) server and opened its website at LMS Moodle [2]. Since that year, the school has been continuously working on the administration and updating of this site. LMS Mooodle is used on the program for regular lessons, exercises, consultations and assessment test over the Internet. For more comprehensive audio-video teaching materials, LMS Moodle system allows links to YouTube and other pre-reserved addresses on the Internet, with the previously developed and set audio-video lessons / instructions for exercises. Moodle system tools also have integration with blog tools, current social networks and other Web tools, which are given to students for working on their homework and seminar papers. In addition to its built-in and integrated Web tools and other multimedia content, Moodle system contains a database of students, teachers, classes of objects, their topics, activities and resources, and its user Web portal [3].

On the first workshop students were trained to use LMS Moodle, and they all got their accounts on the platform. One of the advantages of using Moodle was that some students were already familiar with using Moodle.

For every course on the program new course was opened in LMS Moodle. In image 4 the structure of the course Web Design is visible.

As it was mentioned earlier in the paper new materials were created for every lesson of all five courses. The template of developed learning material was the same for all courses. All the lessons have as least one pdf document in a specific template, and some lessons have other additional learning materials: demonstrations, examples etc.

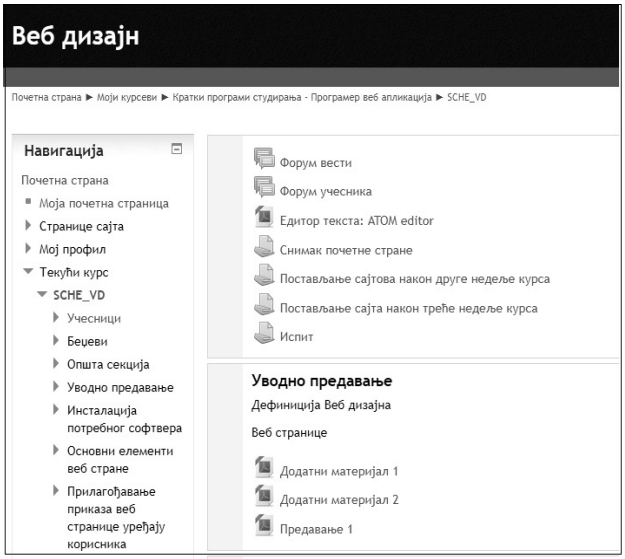



**Image 4: Screen shot of course Web design**

## 4. KNOWLEDGE TESTS

Every course of the program had assignments every week. Those assignments were practical mostly, depending on the subject, creation of web applications. Assignments were reviewed and evaluated by teachers. Students got comments on their application, and recommendations for their improvement. Of course students could ask teachers or other students for help on some issues while they worked on the assignment. During the course students got points, but whey had to take exam for getting a grade of the subject. Every subject on the program had different number of points that students could get during the realization of the course. Teachers insisted that student respect deadlines because as it was previously mentioned it would be very difficult to keep up with next demands on the same course or the following course. Of course some flexibility existed. Because almost all the students of the program are employed.

Some courses included online tests. On Image 5 is one example of online test on Object programming course. Exams for each course were held at School and each student had to come to School and do the exam on every course of the program. All the exams were practical demonstrations of knowledge through creation of appropriate web applications and a discussion with the professor.

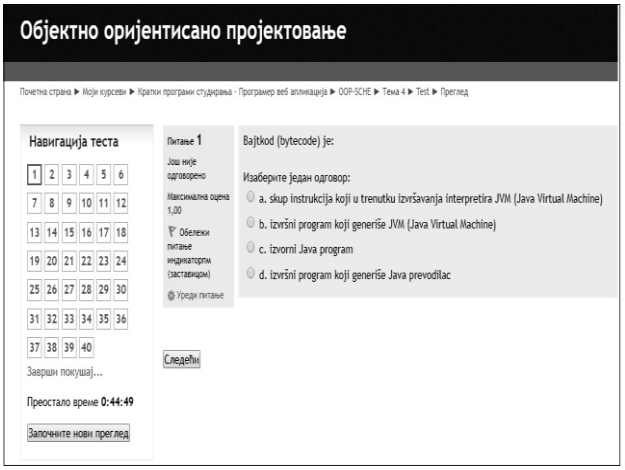



**Image 5:** Example of online test

Students are allowed to take the exams in every examination period. Number of times for student to take an exam is not limited. For students who are not from Belgrade special exam schedule was made so they didn't have to travel to Belgrade more times in one exam period. Of course all students could choose if they want to take exams in regular exam period or in the exclusive term.

Until this moment nine students have successfully finished the program and they already have certificate of successful completion of the program. Twelve students, including eight students who finished the program, were active during the whole program, and we expect that they will pass the rest of the exams in October exam term. Some of those four students have already passed few exams. One student dropped out on during the second course. Other nine students were not constantly active, but they still want to finish the program. Most important is that they are satisfied with the knowledge they got, but they all think that it was very hard for them to do the assignments every week the whole semester with no beak between the courses. Most of them thing that the program should last longer because it is very demanding.

## 5. CONCLUSION

Shot cycle program Web application programmer provides rapid adoption of knowledge in web programming. The program is very demanding and students must be very motivated and disciplined to follow the dynamics of the program. Based on the experience acquired during the pilot program, analyzes and improvements will be made considering learning materials and some organization issues.

Web application programmer successfully preformed pilot short cycle program. After finishing this program, students get one set of Web programming skills that gives them a lot of options to find a job, and gives them the basis for further improvement.

## REFERENCES

[1] D. Prokin, V. Petrovic, S. Strbac-Savic, S. Djenic, A. Miletic, "Learning and teaching methodologies and multimedia in distance study programme," presented at the 11th INTED2017. Valencia, Spain, Mar. 6-9, 2017.

[2] J. Cole and H. Foster, Using Moodle: Teaching with the Popular Open Source Course Management System, O Reilly Community Press, Sebastopol, 2007.

[3] S. Đenić, V. Vasiljević, D. Prokin and A. Miletić, "E - Learning in Distance Study Programme The New Computer Technologies," INFOTEH, vol. 12, pp. 757-761, 2013.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# IMPLEMENTATION OF PILOT SHORT CYCLE AND PATR-TIME F2F PROGRAMS ON VISER

**Svetlana Štrbac-Savić** [1]

svetlanas@viser.edu.rs

**Vera Petrović** [2]

verap@viser.edu.rs

## 1. INTRODUCTION

The government of the Republic of Serbia adopted in September 2017 a change of the law on higher education, which legally enabled the organization of short cycle and part-time programs.

School of Electrical and Computer Engineering of Applied Studies in Belgrade, VISER, has organized three short cycle programs. Two F2F programs: *Professional development of professors and teachers* and *Vehicle diagnostics* and one online short cycle program *Web Application programmer*.

During the 2017/2018 school year short cycle program *Professional development of professors and teachers* was organized twice, first in the winter semester, and second realization of this program on the summer semester. A total of 92 students were enrolled to this program. On first performance of the program 66, and on second 26 students. Enrolled students did not pay tuition fees.

Short cycle program *Vehicle diagnostics* was organized in the summer semester of 2017/2018 school year. Nine students were enrolled to this program, and they also didn't pay tuition fees.

All students have previously finishes undergraduate studies, because the low demanded that enrolled students to short cycle program have already at least 180 ETS points on some accredited high education institution.

Lessons were held on weekends, since most students are employed, and some of them are not from Belgrade.

Candidate application for two short cycle F2F programs and one online short cycle program was published on VISER official web site and on project official web site. Data that was required from candidate was candidate name, phone number, institution on which candidate works (if he works) and data about completed studies. Candidate application was conducted by e-mail communication with potential candidates.

http://websrv3.viser.edu.rs/index.php?page=static&id=1035

Information Systems is an undergraduate program 180 ECTS whose curriculum is developed within the project PT&SCHE. Tree students were enrolled to part-time study regime in school year 2018/2019.

[1] School of Electrical and Computer Engineering of Applied Studies, Belgrade/Professor

[2] School of Electrical and Computer Engineering of Applied Studies, Belgrade/Director

The enrollment of students in previous school year was impossible because the low was adopted after the enrollment process was finished in VISER for school year 2017/2018.

## 2. REALIZATION OF SHORT CYCLE PROGRAM *PROFESSIONAL DEVELOPMENT OF PROFESSORS AND TEACHERS*

Short cycle program *Professional development of professors and teachers* is intended for people who want to work as professors or teachers in secondary or primary school in Republic of Serbia, and who do not have teaching license. In the Republic of Serbia, the person who teaches at school must finish appropriate studies, and have professional knowledge of the subject that the teacher teaches and they must pass exams in Pedagogy, Didactics, Psychology and Teaching Methodology along the professional practice in teaching. This program gives necessary knowledge in these areas and allows candidates to be able to take a professional exam which enables them to get a teaching license in Republic of Serbia.

*Professional development of professors and teachers* was organized twice in 2017/2018 school year. VISER enrolled 92 students to F2F program Professional development of professors and teachers.

First enrolled was organized in October 2017 and 66 students were enrolled to Professional development of professors and teachers program. Second enrollment to the same program was organized in January 2018 and 26 students were enrolled to the program.

Lists of enrolled students to F2F program Professional development of professors and teachers program are available from the VISER site on links:

https://www.viser.edu.rs/download/2301

and also

https://www.viser.edu.rs/projekti/ptsche

All enrolled students have previous finished undergraduate studies. *Figure 6*. shows their previous education.

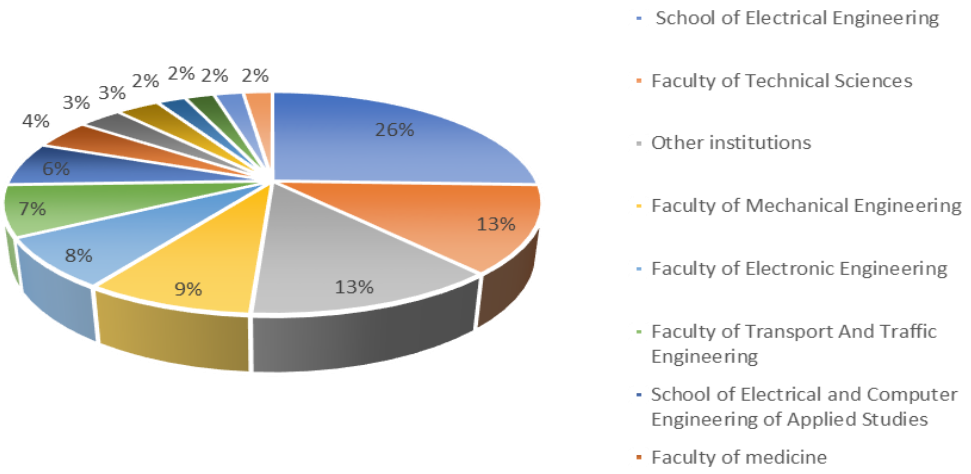



*Figure 1. Previous education of enrolled students to short cycle program Professional development of professors and teachers*

Program duration is one semester 30 ECTS and it consists four courses:

1. Pedagogy (8 ECTS),
2. Didactics (8 ECTS),
3. Psychology (8 ECTS), and
4. Teaching Methodology (6 ECTS).

Course lessons were organized at VISER during weekends since most of the enrolled student work, and a lot of them were not from Belgrade (*Figure 1.*). In addition to theoretical teaching students had seminar papers and workshops. They actively participated in lessons since some of them have teaching experience.

At the request of students, professional practice has been organized for additional 6 ECTS. Student who already work in primary and secondary school finished professional practice in their school, and for other student VISER organized professional practice in primary and secondary schools. Professional practice was not obligatory, because in the syllabus of this program it was not planned, it was optional, but almost all of the students finished it and in the end they got 36 ECTS.

Learning Management System (LMS) Moodle was used for distribution of e-learning materials, uploading domestic assignments and seminar papers and communication with students.

All students enrolled to F2F program Professional development of professors and teachers had accounts and access to Moodle Learning Platform. Username and password was assigned to each student for registration to courses.

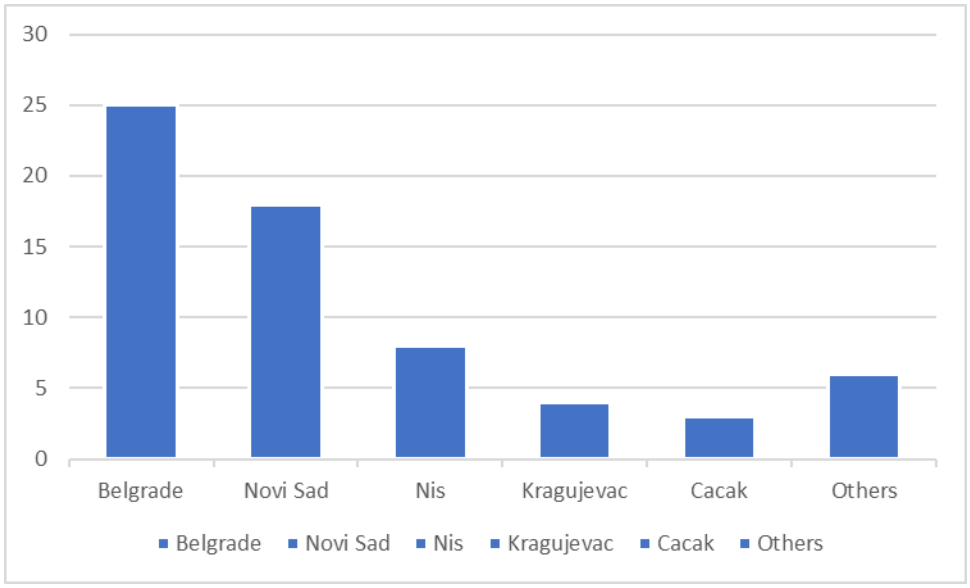



*Figure 2. Palace of residence of enrolled students to short cycle program Professional development of professors and teachers*

Students of sort cycle program *Professional development of professors and teachers* have access to different types of teaching and learning materials, questionnaires, tests etc. Most of the learning material is available via Moodle platform. Every course of the program has an online course created on the Moodle. In addition to these four courses, a Guide for students was created. Throughout the Guide students are informed about all important dates and events.

Printed materials were also prepared. Pedagogy Workbook was printed and distributed to students.

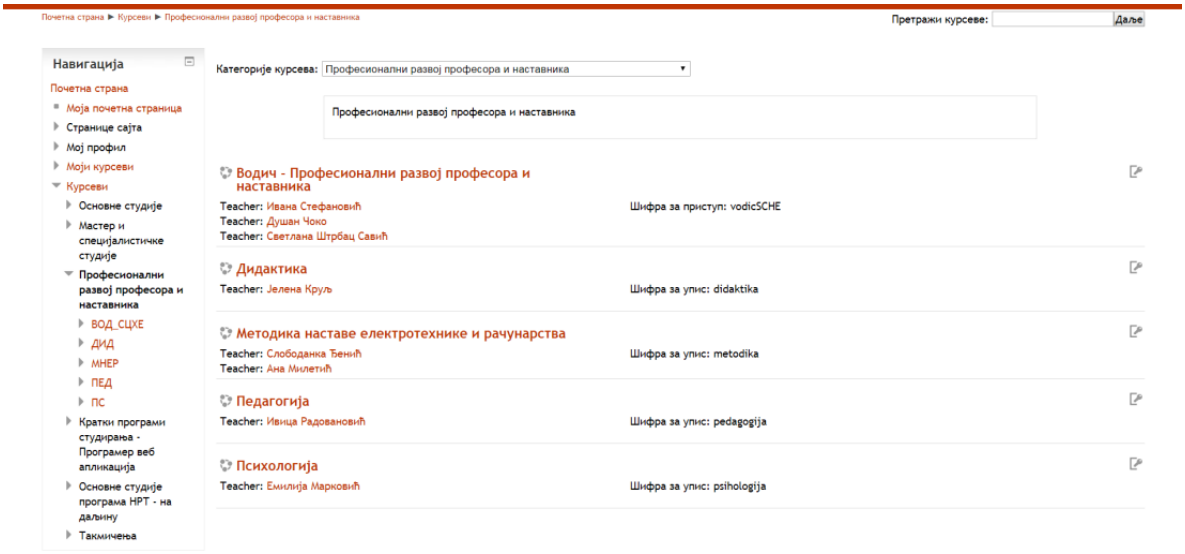



*Figure 3. Program structure on LSD Moodle*

## 3. REALIZATION OF SHORT CYCLE PROGRAM *VEHICLE DIAGNOSTICS*

Short cycle program *Vehicle diagnostics* is intended to people who already work as technicians in car workshops and who want to improve their knowledge and other people who would like to adopt necessary theoretical and practical fundamentals from the field of vehicle diagnosis.

Modern motor vehicles cannot be imagined without sophisticated management system, which means large-scale use of electronic control units and electronic components in management systems of motor vehicles. Because of strong technological progress and the emergence of new technologies, maintenance and repair of motor vehicles require a new profile of professionals who possess multidisciplinary knowledge from mechanical engineering, electrical engineering and computer science. In order to solve complex diagnosis problems of motor vehicles, trained mechatronic professionals are required, capable for performing proper communication and oscilloscope measurements into vehicle systems by usage of modern diagnostic tools.

This program was organized in summer semester of 2017/2018 school year. Program duration was one semester and 30 ECTS. Five courses were organized:

1. Basics of Vehicle Diagnostics,
2. Sensors and Actuators,
3. Ignition and Injection Systems in Gasoline Engines,
4. Injection Systems in Diesel Engines and.
5. Systems of Vehicle Stability, Passenger Safety and Comfort.

All the courses have 6 ECTS. Teaching process was organized at VISER during weekends since most of the enrolled student work. The teaching contained both theoretical and practical parts. Practical teaching was held in VISER's Training Centre for Automotive Diagnostics (equipped with following equipment: scissor lift with lifting table and front recesses for wheel alignment, wheel alignment gauge, roller brake tester, hybrid vehicle mustimeter, OBDII scanner device and other measurement tools)

*Figure 4. Practical training in Training Centre for Automotive Diagnostics in VISER*

.

## 4. ADMINISTRATION OF SHORT CYCLE PROGRAMS

All necessary documentation for students registration was collected at the time of enrollment and in additional terms envisaged for the submission of documents. After collecting paper documents, an electronic database was created exclusively for students enrolled to F2F and short online cycle programmes. For each student, the following data is entered:

1. first name,
2. last name,
3. unique personal number,
4. completed studies,
5. the institution on which student works,
6. phone number,
7. mail address,
8. enrolled course,
9. date of enrollment to course,
10. user name and
11. password.

This electronic database beside student data also contains students' marks and data for certificates.

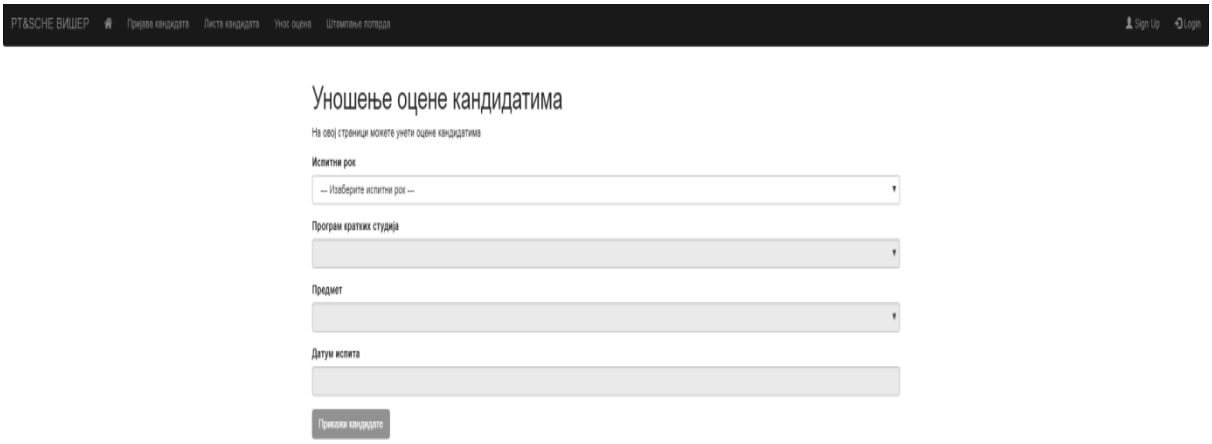



*Figure 4 Screenshot of form for entering data on exams on short cycle programs*

## 5. LEARNING MATERIALS

Learning materials to F2F programs and online short cycle program was free of charge for the students.

Three types of learning materials were created:

1. printed materials,
2. Online learning materials is available on Moodle Learning Platform, and
3. Multimedia materials recorded for short cycle program Vehicle diagnostics.

Printed publications prepared for short-cycle program students are:

4. Pedagogy Workbook
5. Web design Workbook
6. Ignition and injection systems in Internal combustion engines - Workbook

On Moodle Learning Platform for every course topic of short cycle programs Professional development of professors and teachers and Web application programmer the students have access to learning materials.

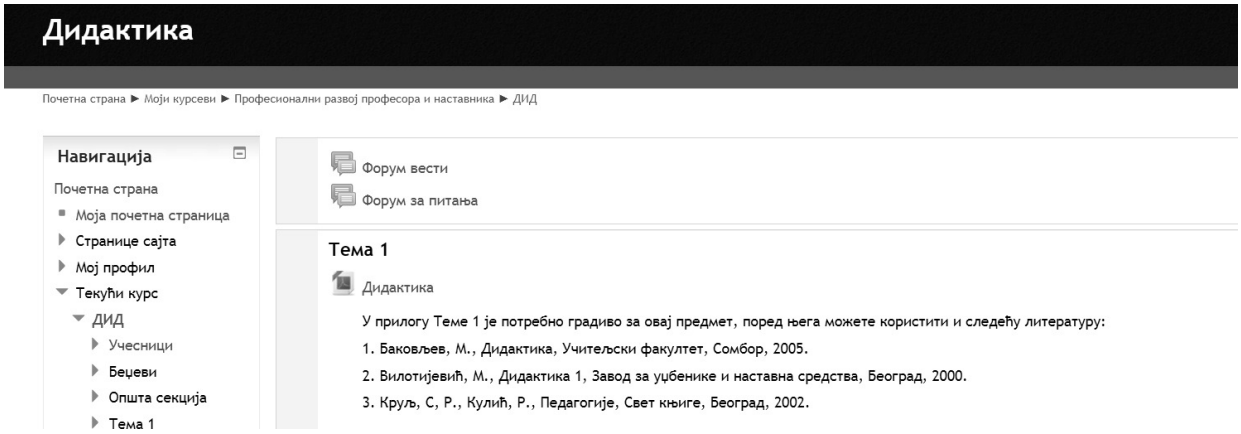



*Figure 1. Online learning materials*

Students also have access to Interactive materials, questionnaires and tests.

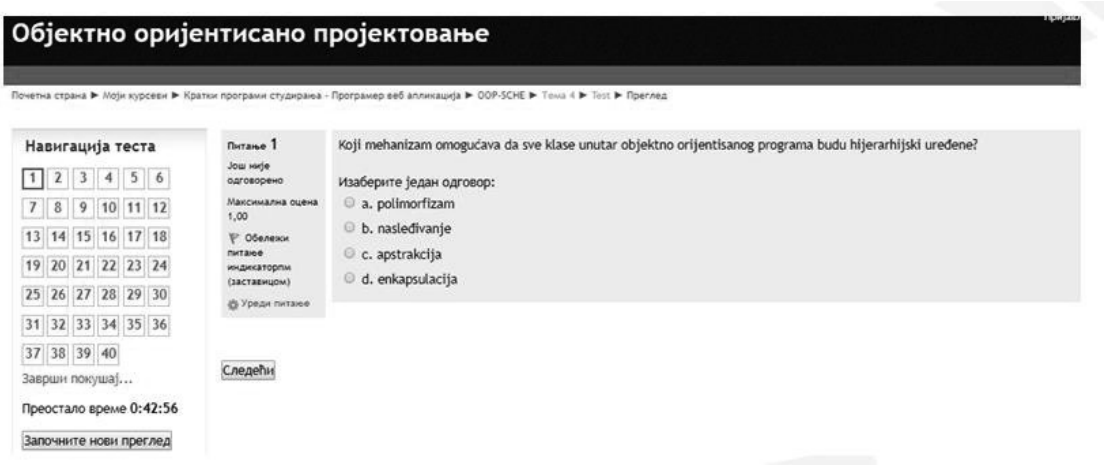



*Figure 2. Test on LSD Moodle*

## 6. EXAMS

Students of short cycle programs take exams at the same time as other students of VISER. All exams on short cycle F2F programs were organized on weekends. Students of F2F programs and online short cycle program have the right to take the exam free at any exams period without registering. Paper registration was prepared for each student in each exams period. Paper registration for each student contain name of student, name of professor, exams period and date of exams, course code and number of ESPB point. Paper registration and list of students was given to professors for each exam. After exams professors return fulfill paper exams registration.

ВИСОКА ШКОЛА
ЕЛЕКТРОТЕХНИКЕ И РАЧУНАРСТВА СТРУКОВНИХ СТУДИЈА
11000 Београд, Војводе Степе 283

Јандрлић Ана
(презиме и име студента)

Број досијеа

Студ. програм АВТ АСУВ ЕЛИТЕ ЕПО НЕТ НРТ РТ
Смер АВТ АТ ЕЛИТЕ ЕН ЕПО МЕТ НРТ РТ
Статус Б САФ

**ПРИЈАВА ЗА ИСПИТ**

Пријављујем испит из предмета Педагогија
Мнемо и шифра 317202 (ЕСПБ) 8 код др Ивице Радовановића
у Јануарском испитном року, школске 20 17 / 20 18 године.
Испит полажем пут.
Кандидат Јандрлић Ана је полагао испит из предмета
Педагогија
Мнемо и шифра 317202 (ЕСПБ 8 и добио оцену ( ).

У Београду
Дана 19.6.2018.

Предметни наставник - комисија
1.
2.
3.

Издавач: Графолак - Аранђеловац

*Figure 3. Paper exams registration*

Information on the terms of the exams and results of the exams was available on VISER website and emails were sent to students using Moodle platform information tools.

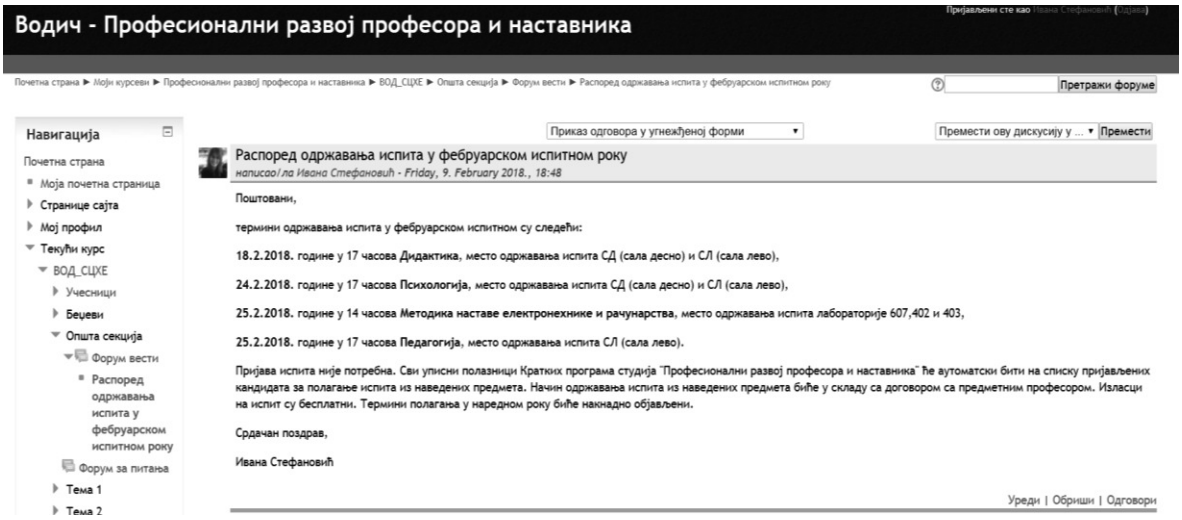



*Figure 4. Information on Moodle about the examination schedule*

Beside paper documentation all exams marks and data are entered and saved in electronic database.

## 8. SERTIFICATE

Official certificates for completed short programs are not yet defined by the Ministry of Education of the Republic of Serbia. The issue of official certificates should be resolved by sub-legal acts which are not yet published.

VISER has made a certificate for all the students who successfully completed short cycle program. Certificate includes basic information on the student, and finished short cycle program, number of ECTS of the program, and an attachment to certificate which includes marks and number of ECTS for every course on the program.

So far, a total of 86 students have finished F2F short cycle programs organized by VISER:

- 68 students finished short cycle F2F program Professional development of professors and teachers.
- 9 students finished short cycle F2F program Vehicle diagnostics.

## 9. REALIZATION OF PILOT PART-TIME PROGRAM INFORMATION SYSTEMS

Information Systems is an accredited program of undergraduate studies at VISER. Program has 180 ECTS and its duration is three years. First generation of students enrolled this program in school year 2017/018. In June 2017 the low on high education didn't allow part-time studies, that is why first part-time students were enrolled to this study regime in school year 2018/2018. In Republic of Serbia part-time study is recognized as "studying and working", and only employed students can be part-time students.

The information on part-time study was published on VISER website, and on the ceremony of reception of first year students of Information Systems.

To part-time program 3 students are enrolled.

The low on high education has allowed part-time students to choose from 30 to 60 ECTS per year. Reducing the number of points is not what attracted students to apply for this regime of studies, but the flexibility in students' obligations.

The problem is how to organize teaching classes when all the enrolled students are employed and they have different working hours. Considering that that fact, it was decided not to organize classes in the afternoon or weekends, but to organize mentoring classes of theoretical teaching. Students of part-time program are given the opportunity to earn points during classes, in the manner in which the professor determines it. Professors had the obligation to provide students with all the teaching and learning materials as well as with supplementary terms for conclusions. For each course, students had to have consulting appointments in the course during the week before noon and in the afternoon, because students who change shifts at work can come to consultation.

In VISER practical classes, on the majority of courses usually organized as laboratory exercises, are obligatory. Since VISER is high institution of applied studies, and practical training is very important for our students, it is necessary to find a way for part-time students to attend practical lessons. The solution to this demand is that students can customized dynamic of the laboratory exercises by choosing the appropriate existing group of exercises for regular students or by arrangement with associates on subjects. Unlike regular students who have one exercise by week, part-time students can have more exercises in one

week. This is good for them because if they have a free day from work, they can come to school and do more exercises from one subject per that day. On certain courses, professors also allow students work on exercises at home and then to demonstrate they work to professors and assistants.

## 10. CONCLUSION

Within the project PT&SCHE two pilot short cycle F2F programs: Professional development of professors and teachers and Vehicle diagnostics, and one part-time F2F program was successfully organized at VISER. Although legal regulations that prescribe the certificates and more detailed definitions of these programs have not yet come out, short cycle programs are recognized as a successful way for obtaining useful knowledge. Certificate of completed short cycle program Professional development of professors and teachers are recognized by responsible institutions for issuing teaching license in Republic of Serbia, and some of the students already obtained a teaching license.

Part-time studies on undergraduate program Information Systems is chance for employed students to succeed in studying. Flexible teaching dynamics and adaptation of teaching methods to students' needs are key to realization of part-time programs. We hope that students will recognize the benefits of part-time study in the future and that they will be more likely to decide for this type of study. On the other hand, experience from implementation of short cycle programs and part-time study will be very valuable for the future organization of these programs.

PT&SCHE
Introduction of part-time and short cycle studies in Serbia

Co-funded by the Erasmus+ Programme of the European Union

# PART-TIME AND SHORT CYCLE EDUCATION: NEEDS AND OPINIONS BASED ON AN INTERNATIONAL SURVEY

**Klára Szabó**[1]

szabok@jgypk.szte.hu

**Mária Bakti**[2]

bakti@jgypk.szte.hu

**Abstract:** *In relation to the project entitled 'Part-time and Short Cycle Studies in Serbia' this paper aims at overviewing and analyzing the results of an online questionnaire-based survey. The questionnaire was developed at the University of Szeged, Hungary. The respondents were representatives of a wide variety of international teaching staff and exchange students from abroad. The novelty of the paper is that the needs for PT and SC programs and the opinions concerning these forms of education reflect an international point of view. In summary the authors intend to formulate recommendations, which might be useful for institutions planning or implementing PT and SC study programs.*

**Key Words:** Part-Time Studies, Short Cycle Education, Dissemination, Methodology, Recommendations

## 1. INTRODUCTION

An important characteristic feature of project-related dissemination and exploitation plans is that they always offer a wide range of flexible project activities in order to popularize project achievements. This feature is of crucial importance in the project entitled '*Part-time and Short Cycle Studies in Serbia'*[3] as well, since part-time (PT) and short cycle (SC) programs are relatively new areas in higher education in general and in the Serbian system in particular. In addition, as it is detailed in a European Commission document entitled *Memorandum on Lifelong Learning* issued in 2010, in our times labor market-oriented and needs-centered education, as well as internationalization are in general of crucial importance both in Europe as well as in the individual European countries [4].

The novelty of educational forms is one of the reasons why dissemination and exploitation are of crucial importance in project work in the area of education. Plans for dissemination and

[1] The Faculty of Education, University of Szeged

[2] The Faculty of Education, University of Szeged

3https://pt-sche.metropolitan.ac.rs/ [Accessed 14/02/2019]

4 http://arhiv.acs.si/dokumenti/Memorandum_on_Lifelong_Learning.pdf [Acessed 14/02/2019]

exploitation written at the beginning of a project life cycle need to be altered, upgraded, complemented and revised throughout project work. Several and varied dissemination activities need to be carried out during the different phases of a project [5], but these phases may also overlap. Some dissemination and exploitation activities even extend beyond the actual project phases. On the other hand it also needs to be added that although dissemination represents a continuum in any project's lifecycle, the first (initial) and last (final) phases of project work are always of extraordinary significance.

In conclusion it can be stated that dissemination and exploitation in general do not represent occasional project activities, but they need to be seen as a continuum in their complexity and when the achievements and outcomes of a project are evaluated, assessment needs to be done from an extremely broad perspective, including international implications.

## 2. THE QUESTIONNAIRE

Considering the formerly detailed points, the project entitled '*Part-time and Short Cycle Studies in Serbia*', dissemination activities initially focused on internal dissemination, i.e. networking and building optimally-functioning relationships within the consortium itself; liaising with external stakeholders in the partners' own countries was also targeted in the first phase. But, in the final phase of the project the popularization of the achievements and outcomes has come into the focus at international level, too, and as part of these activities in the last year of project work a questionnaire-based international survey was carried out.

The questionnaire was compiled by a team of instructors and internationalization experts from the University of Szeged, one of the partner institutions. The questionnaire itself comprised six main parts, all of which were intended to focus on areas either related to one aspect of part-time and short cycle studies or the aspect of dissemination in project work.

The six groups of questions in the questionnaire were as follows: I. Mapping the respondents' background, II. Identifying the descriptors of PT and SC studies within a particular learning environment (university), III. Possible target groups in PT and SC education, IV. Mapping specific needs of PT and SC learners, V. Effective teaching methods in PT and SC education, VI. Dissemination in project work, with a special emphasis on the PT&SCHE project.

The first part of the questionnaire aimed at describing the respondents' general background including age, gender, current occupation and educational background. This part of the questionnaire also aimed to find out about the respondents' past or current involvement in PT and SC studies. There were also questions related to the respondents' future plans concerning their possible enrollment in some PT and SC program.

5 Hobbs, Peter 2009. Project Management. Dorling Kindersley Ltd. pp. 8-9.

The second group of questions was aimed at mapping the respondents' opinion on the optimal learning environment in higher education studies, i.e. the role, interests and motivation of universities in the elaboration and running of PT and SC programs.

The third section of the questionnaire was written with the aim of finding out what role PT and SC programs need to play in the education and career paths of individual social groups, with a special emphasis on the education and training of certain groups of disadvantaged persons.

The fourth set of questions enquired about the needs and expectations of the individual target groups concerning the effectiveness of part-time and short cycle programs.

The questions in Section V were aimed at identifying the requirements of high-quality and marketable PT and SC programs from a pedagogical-methodological perspective.

The last section of the questionnaire had questions about dissemination in general and the effectiveness of certain dissemination tools related to PT and SC studies in particular.

## 3. ANALYSIS OF RESPONSES

The survey was conducted in the fall semester of the academic year of 2018/19. The questionnaire was filled in and submitted by 55 persons. The majority of respondents included international teachers and students. The teachers were from foreign, mostly ERASMUS partner institutions, which are affiliated with the Faculty of Education of the University of Szeged. The students represented a group of ERASMUS incoming students of varied specializations who studied at the University of Szeged in the fall semester of 2018/19. There was a small group of respondents, too, (14 persons), who represented the University of Szeged more directly. They were either teachers or PT students of the Department of Modern Languages of the Faculty of Education, or, represented administrative members of staff of the same institution working directly with international teachers and students. It means that all Hungarian respondents were actively involved in internationalization and, supposedly, they had a broader than average experience in working with various programs, courses, visiting teachers and students at international level.

### 3.1 Background Information

27.3% of the 55 respondents were male and 72.7 % female. The respondents were aged between 19 and 68. 38.8% of the respondents were international students, 21.8% local staff members, 18.2% international staff members, and 12.7% local students.

Many respondents are from Hungary (25.5%), but we have received answers from Poland, Spain, Italy, the Russian Federation and Belgium, countries which have not been directly involved in the PT&SCHE project, so the questionnaire also served as an international-level project dissemination tool..

As concerns the qualification of the respondents, 43.6% have or will have a bachelor's degree, 23.6% hold a master's degree, and 32.7% a PhD. The respondents come from a wide variety of backgrounds, ranging from Applied Linguistics, Languages, Cultural Studies, through Social Studies, Sociology to Geography.
47.3 % of the respondents have been involved in some form of part-time study program; 20% in correspondence programs, 10.9 % in evening courses, 16.4% in distance learning programs, and 12.7% in supplementary programs.
43.6% have been involved in short-cycle programs, including full-time higher vocational training programs (16.4%), postgraduate specialist training programs based on their first or second degree (20%), and in-service training programs (18.2%).
41.8% of the respondents would be interested in doing a part-time and/or short-cycle studies in their own field, whereas 58.2% would be interested in acquiring completely different new skills or knowledge.
In summary, we can say that our respondents fairly represent an international higher education community.

3.2 Mapping the learning environment

The second part of the questionnaire aimed at mapping the learning environment.
First, participants were asked to rank on a scale of 1 to 4 the importance of areas universities should concentrate on in the current social and learning environment. Number 1 was very important, and number 4 was not important at all.

The eight areas were the following:

| |
|---|
| 1. Initial training of students |
| 2. Elaboration of new programs for former students |
| 3. Part- time and short cycle programs |
| 4. Programs in areas the institution is already specialized in |
| 5. Development of novel areas |
| 6. Theoretical knowledge |
| 7. Introduction of advanced technologies |
| **8.** Practical training of own students |

Out of the eight areas listed, 50.9% of the respondents considered the practical training of own students as very important. In addition, the initial training of students was also ranked very important by 49.1% of the respondents.

These areas are followed by the areas respondents considered "important". 54.5% considered part-time and short-cycle programs important, followed by the elaboration of new programs for former students (52.7%). Programs in the areas the institution is already specialized ranked next (47.3%), fourth was the introduction of new technologies (41.8%). Theoretical knowledge and the development of novel areas were considered as important or less important by the majority of the respondents.

Based on the overall results, the three most important areas are the initial training of students, practical training of own students, and programs in areas the institutions already specialized in. The least important areas are development of novel areas, part-time short-cycle programs, and theoretical knowledge.

3.3 Possible target groups

The next set of questions focused on possible target groups. The question was: Are part – time and short cycle programs important for the following groups of people?

The target groups were former university dropouts, mature / senior learners, mothers with babies or young children, international students, the unemployed, the university's own staff, the disabled, the socially disadvantaged, members of ethnic minorities, and the local community.

The unemployed and the socially disadvantaged were ranked first, both with 94.5%, followed by the disabled (90.9%). Next, two groups were ranked; mothers with babies or young children and members of ethnic minorities, both receiving 87.3%. Mature (senior) learners and the local community followed, both with 85.5%. International students came in next, with 83.6%. The two groups for whom these programs were considered as the least important were the university's own staff (78.2%) and former university dropouts (76%).

3.4. Identifying learners' needs

Section IV of the questionnaire intended to identify learners' needs, i.e. what their expectations would be concerning an effective and high-quality PT or SC program. The popularity and prestige of a given profession (program) was marked as very important by only 52.7% of all respondents, while 4.5% judged this feature as less important and 9.1% as not important at all. On the other hand the easiness and clarity of programs was evaluated as very important or important by a total of 72.7 % (29.1%+43.6%). Respondents had very diverse views concerning the importance of the uniqueness of a PT and SC program. While this feature was considered important by 49.1% of all respondents, 40% stated that this feature was less important. The transferability of a program and the consideration of PT and SC students' individual needs were the features which were considered by a total of 72.8% and 76.4% as very important or important.

In summary it can be stated that as far as learners' needs are concerned the transferability of programs and the consideration of students' needs were considered to be the most important features in PT and SC education.

3.5. Methodology: PT and SC Programs

The next group of questions concerned the methodology of teaching in PT and SC programs. These questions aimed to find out to what extent new and specific teaching methods or approaches are considered as desirable in PT and SC studies. Unexpectedly, respondents seemed to have diverse opinions when assessing the importance of face-to-face meetings and consultations as compared with online meetings and consultations. A total of 80% marked face-to-face meetings and consultations as very important or important, while only 62.7% thought that online meetings and consultations were very important or important for PT and SC students. In our respondents' view providing students with solid theoretical foundation was less important than the inclusion of practical aspects and modules in PT and SC programs. (65.5 % and 78.2%) As far as the mode of work is concerned most respondents thought that team work and project work should dominate in PT and SC studies. An interesting feature in this set of questions was that almost three quarters of respondents (74.6%) wrote that liaising with potential places of work represents special significance in PT and SC programs. The use of state-of-the-art technologies was considered very important or important by 70.9% of all respondents.

In summary it can be stated that, although PT and SC studies represent relatively new areas in higher education, and, as such, they are expected to use the most advanced technologies and the most up-to-date pedagogical methods, the majority in the group of international respondents expressed an opinion that face-to-face meetings and consultations with university teachers should be emphatically present in PT and SC education as well.

3.6. Dissemination

The last set of questions was directly linked to dissemination issues. The questions were designed to map the respondents' source of information when acquiring information on projects and project work. With this set of questions it became also possible to measure the effectiveness of the various dissemination tools. It was the ERASMUS+ Project Platform (43.6%), the institutional websites (49.1%), the social media (38.2%), existing personal contacts and professional networks (32.7%) and public events (30.9%) that were considered the most significant sources of information for the respondents, while, surprisingly, targeted written materials, including leaflets, brochures, postcards were thought to be less important.

From the answers to this group of questions it can be seen that institutional (university) websites are very important sources of information at international level, too. This is why these websites should serve the needs of international staff and students as well, by giving information in foreign languages (at least in English), too. Not surprisingly the importance of the social media is increasing in project-related dissemination work as well. In addition, the answers clearly pointed out that the personal factor, i.e. direct contacts with the members of other university communities, as well as professional networking also play a role of utmost significance in dissemination work.

Eventually, the questionnaire invited respondents to write personal comments on the topic of PT and SC education. Only four respondents used this opportunity. In their remarks they pointed out the importance of interdisciplinary partnerships, the responsibility of universities in promoting PT and SC programs on their own websites, the inclusion of face-to-face meetings and consultations in PT and SC study programs. Also, one respondent mentioned that in addition to attending classes of regular bachelor and master level studies, ERASMUS students would also be interested in acquiring more information on PT and SC programs, and, in addition to their regular bachelor- or master-level programs they would be interested in enrolling some PT and SC courses or in liaising with representatives of the world of work of the host country.

## 4. CONCLUSION

Considering the results of the international-level survey conducted by experts from the University of Szeged, Faculty of Education as part of the project '*Part-time and Short Cycle Studies in Serbia',* the following recommendations can be made for those institutions of higher education which intend to develop, introduce or run part-time and/or short cycle study programs.

4.1. It is advisable to build on already existing expertise in a field, in other words develop programs the institutions are already specialized in. In the process, initial training of students and the practical training of students should be focused on.

4.2. Possible target groups could be the unemployed, the socially disadvantaged and the disabled.

4.3.The strengthening of the practical, labor-market-oriented features of these studies is essential.

4.4. The transferability of PT and SC programs is a key issue, because it is the feature that enables learners to participate in supplementary programs, do further studies, upgrade their certificates or even do studies or internships abroad.

4.5. In the area of dissemination in addition to traditional tools including the regular and systematic use of project logo, project website and printed materials, institutional websites (both in the national languages of the countries of the consortia and in English), the social media, professional networking and personal contacts are of crucial importance. In dissemination work international partners and ERASMUS students need to be considered as a target group of special importance.

## REFERENCE LITERATURE

Hobbs, P. (2009). *Proejct Management,* Dorling Kindersley Limited, London.

https://pt-sche.metropolitan.ac.rs/ [Accessed 14/02/2019]

4 http://arhiv.acs.si/dokumenti/Memorandum_on_Lifelong_Learning.pdf [Acessed 14/02/2019]

CIP - Каталогизација у публикацији Народна библиотека Србије, Београд 378.147(082) CONFERENCE Introduction of part-time studies and short programs of higher education in Serbia (2019 ; Beograd) Part-time and Short-cycle studies in Serbia : proceedings of the final Conference Introduction of part-time studies and short programs of higher education in Serbia, Belgrade, 16 March 2019. / [editor Nada Kovačević, Dragan Domazet, Danijela Milošević]. - Čačak : Faculty of Technical Sciences., University of Kragujevac 2019 (Čačak : Graphical center of technical college). - 186 str. : ilustr. ; 21 cm Tekst na engl. i srp. jeziku. - Tiraž 200. - Bibliografija uz svaki rad. ISBN 978-86-7776-232-2 a) Високошколско образовање - Зборници COBISS.SR-ID 274802956