CCHE Challenges of Contemporary Higher Education

Challenges in Contemporary Higher Education,
Kopaonik, Srbija, 29.01 – 02.02.2024.

VIRTUAL STUDENT INTERNSHIP MOBILITY - BUILDING OF INCLUSIVE AND INTERNATIONAL PROFESSIONAL HIGHER EDUCATION IN THE COUNTRIES OF THE BALKAN REGION

Tatjana Marinkovic[1], Zarko Bogicevic[2], Branko Savic[3], Plamen Zahariev[4], Milorad Muric[2], Slobodanka Stankov[2], Miroslava Jordovic-Pavlovic[2], Ljubica Dikovic[1], Dragan Marinkovic[5]

Abstract: Here, we present results of student inernship mobility gained through implementation of web-based digital internship model suitable for the professional higher education studies (DIMPS). This model was developed and tested as a part of cooperative work between several professional higher education institutions from three countries of the Balkan region: Serbia, Bulgaria and Greece. Our model of digital internship enables students to gain real-world experience and skills in a remote online setting. Internship methodology integrated into DIMPS platform permits achievement of both disciplinary and technical learning outcomes, as well as the academic-related generic outcomes. We successfully applied this digital platform in the context of international virtual student exchange between Balkan countries, demonstrating its flexibility and suitability for inclusive professional higher education. Importantly, DIMPS platform may contribute to the promotion of the attractiveness of the study programs, thus growing the internationalization of the higher education in Balkans.

Key words: digital internship, professional higher education, inclusion, international internship, web-based platform.

1. INTRODUCTION

International internships are gaining more importance in the context of internationalization of higher education process and globalization of modern professional world. Students capable of working in multicultural, multinational, and multi-ethnic environments will be more prepared for the local and global job market, eliminating restrictions on their employment location. However, traditional type of internships where traveling is obligatory for students, are not always feasible because of financial, geographical, social, or other reasons (i.e., disability, social exclusion, legal constraints, etc.). This holds true for internships with international context or even national internships that are held in different cities. There are plenty of difficulties to overcome, starting from those related to the lack of communication between the learner, the company mentor, and the institution of higher education. In order to solve these limitations of traditional forms of internships, virtual or digital internships were introduced.

Virtual internships are defined as "a set of ICT (Information Communications Technology) supported activities that realize or facilitate international, collaborative experiences in a context of teaching and/or learning" [1]. The main channel that may be used for conducting an internship experience through ICT is an online platform. It can provide the necessary information, learning material, communication channels, and all documents required to organize digital internships. This platform would facilitate all the necessary steps of digital internships, from planning to evaluation. Generally, two types of digital internships can be identified. One type are fully digital internships that are done entirely in a digital environment, without the need for in-person appearances. They facilitate all the internship activities online, from preparation and planning to evaluation and assessment. The other type are hybrid or blended digital internships. Fully digital internship is not possible, but it is partially implemented with required occasional time spent in the company which provides the internship [1].

The COVID19 crisis has strongly challenged the traditional internship concept based on gaining experience at the workplace. As many companies faced limitation in their basic work processes, disruptions in workplaces led to the massive cancellations of internship positions [2]. Work-based learning has been maintained in very few sectors like finance and ICT, where commercial activities have continued through teleworking. However, technical professional education programs, as well as heavily affected economic sectors such as tourism, faced serious difficulties concerning work-based learning.

[1]Academy of Technical Applied Studies Belgrade, Serbia
[2]Western Serbia Academy of Applied Sciences, Uzice, Serbia
[3]Higher Education Technical School of Professional Studies in Novi Sad, Serbia
[4]University of Ruse "Angel Kanchev", Bulgaria
[5]University of Belgrade-Faculty of Special Education and Rehabilitation, Serbia

Importantly, the curricula of study programmes in professional higher education (PHE) typically have the internship as the mandatory element. PHE internships have defined learning outcomes and ECTS-expressed workload, required for the programme accomplishment. Limited opportunities for students to physically approach the workplace and conduct their internship strongly affected and delayed the accomplishment of their studies [2]. Thus, we have clearly recognized a need for the development of a digital internship model suitable for the conduction of work-based learning for professional studies. The significance of such a platform, however, transcends the need to resolve emergency education obstacles. Even under "regular" circumstances, the assignment of work-based tasks that are performed digitally and remotely, with the development of adequate monitoring of student progress, may significantly facilitate student learning outcome achievement. Importantly, digital internships may be a solution for the inclusion of students who cannot participate in traditional internships due to financial, geographical reasons, or disabilities, etc. Therefore, the development of a digital internship model and platform would facilitate the internship process in the professional studies per se and increase its inclusivity. As a final result, quality of professional higher education process would be improved.

2. RESULTS

Here, we present data obtained through the development and testing of web-based digital internship model suitable for the professional higher education studies (DIMPS). The model and platform development are results of the activities accomplished during the project funded from the European Commission through the 2021 Erasmus+ call "Strategic partnerships in response to the COVID-19 situation". The project involved several higher education institutions from Serbia, Bulgaria and Greece, three geographically, historically and culturally interconnected Balkan countries that exert the need for the improvement of work-based learning and internationalization of higher education process. Development deatils and DIMP platform ispublished at https://dimps-erasmus.com/

2.1 DIMPS piloting

In order to test functionality of the DIMPS platform and applied methodology, students were enrolled to the virtual internships. Critical element of DIMPS piloting process was to ensure that students have access to wide spectrum of virtual internships. For that purpose, DIMPS platform was presented to the companies in partner countries and the Internship catalogue was made. Internship catalogue encompass details about each hosting company and internship possibilities offered to the students. It is published at https://dimps-erasmus.com/internship-catalogue/ and at DIMPS platform itself. Students have possibility to browse presented internships, contact internship representatives (teachers and mentors), apply for internships, and participate in all of the activities envisioned by the selected internship.

2.2 DIMPS in national environment

DIMPS piloting started with the digital internships performed by the Serbian students in the Serbian companies. The Internship catalogue was presented to the students via institutional web sites and DIMPS project Facebook page. Two general profiles of the students were included in this phase. First group were students enrolled in the study program named Information and communication technologies. They performed digital internship in the software company. This group was chosen due to expectation that they possess advanced level of ICT literacy and familiarity with the remote work. Digital internships were accomplished by 3 Serbian students in domestic companies for duration of 3 weeks. Second group were students from master study program of Business Economics and Management-module Management in Tourism. They were chosen in order to test the usability of the DIMPS model in the economy business sector. This sector was heavily affected by COVID19 crisis, and consequently is involved in the process of digital transformation [3], [4]. Among them, 13 students were engaged in three types of one-week courses: Development and Management of a Tourist Destination, Business of Travel Agencies, and Hotel Business.

For each particular engaged student, personal user space with all relevant documents was created in the DIMPS platform, as well as for their teachers and mentors. Through joint activities of professional practice teachers and mentors a learning path has been formed, teaching materials have been provided

.

and useful links have been defined. Mentors and the teachers monitored the fulfilment of each student's activity using the tools of the DIMPS platform. Students had at any time the opportunity to ask a question in a chat or discuss it in the platform. After completing all the activities provided by the learning path, students were given tasks for self-study. The tasks were designed by the mentors in accordance with the current problems that the company deals with on a daily basis. During the work, the students had at their disposal mentors and teachers of professional practice to solve all doubts in the execution of the tasks through asynchronous and synchronous communication provided by the DIMPS platform. Except one student, all enrolled students completed their assignments on time and uploaded acquired internship materials to the platform.

The mentor from the PHEIs and supervisor from the companies assessed the quality of performed student's work and achievement of the learning outcomes. All the students demonstrated satisfactory levels of the expected disciplinary knowledge. As well, virtual internships provided students with the appropriate level of academic-related generic competences. Thus, all the students that accomplished the virtual internship were granted with ECTS credits.

2.2 DIMPS in international environment

Upon successful implementation of DIMPS platform at national level, functionality of DIMPS platform was tested in international setting. Students from Serbian PHEIs were enrolled to internships held by Bulgarian companies. The virtual exchange for the internship was performed according to the Erasmus+ student mobility rules and included signing of the Interinstitutional agreements between PHEIs from Bulgaria and Serbia.

Students that expressed interest to perform internship in virtual student exchange modus were introduced to the procedures for the Erasmus+ student mobilities, as all involved institutions were holders of the Erasmus Charter for Higher Education. In concordance with the postulates of Erasmus Charter for Higher Education, all involved institutions are committed to the direct recognition of ECTS achieved during virtual student exchange for the internship.

The virtual exchange for the internship were followed by four Serbian students. Two students were enrolled in undergraduate study program Information and communication technologies, and two students enrolled in master study program Information and communication technologies. They were all virtually exchanged for 3 weeks to PHEI from Bulgaria to perform internships in Bulgarian software company. In addition, one student enrolled in master study program Business Economics and Management - module Management in Tourism from Serbia was virtually exchanged to Bulgarian PHEI to perform internships in Bulgarian travel agency.

Involved PHEIs and companies from Serbia and Bulgaria agreed that digital internships are to be performed in English language. Again, for each particular student personal user space with all relevant documents was created. The courses were made through the DIMPS project platform and access was provided to students, teachers and mentors. In this particular case mentors from both Serbia and Bulgaria were included in order to ensure the compliance with the internship standards of each participating institution.

All registered students completed their assignments at expected time and uploaded required material to the platform. The mentor from the Bulgarian PHEI and supervisors from the companies assessed the quality of performed student's work and achievement of the learning outcomes. The enrolled students presented satisfactory levels of the expected disciplinary knowledge. Additionally, virtual internships in international environment provided students with the appropriate level of academic-related generic competences. Accordingly, all enrolled students were granted with ECTS credits that were automatically recognized in their home institutions.

3. DISCUSSION

This paper describes the methodology and web-based platform used for introduction of digital internship in professional higher education studies among Balkan countries. Developed methodology for internship

.

designing, monitoring and evaluation made DIMPS platform suitable for partner PHEIs from Serbia and Bulgaria. DIMPS piloting revealed that this type of work-based learning provides the students with the same discipline-related knowledge and academic-related generic competence learning outcomes as the real traditional work experience. Thus, this mode of learning could be considered suitable for incorporation into professional study programs.

The assignment of work-based tasks that can be performed digitally and remotely, with the development of adequate monitoring, can significantly facilitate student's learning outcome achievement. Importantly, digital internships might be excellent solution for the inclusion of students that cannot participate in traditional internships due to financial, geographical reasons, or disabilities etc. Therefore, the development of a digital internship model and platform would improve the internship process in professional studies per se. Further, it will increase inclusivity, thus contributing to the overall improvement of professional higher education process quality.

Students are not the only partner in the virtual exchange that benefit from this action. The virtual internship platforms as DIMPS provide the employers opportunity to overcome geographical limitations and reduce dependency on the labour supply of a particular geographical area. Accordingly, companies gain larger flexibility as no geographical relocation of workers is required; companies do not need to relocate the student, he/she can remain at home [1]. Clearly, there are some professions where digital internships are not feasible, or instead a hybrid model should be introduced where a part of the internship would be done using the digital internship platform. These are typically manual professions, such as health services, metallurgy, carpentry, construction, etc.

Although the internship concept in PHE is mainly focused on reaching the discipline-related knowledge as a major learning outcome, development of generic competences during work-based learning is an emerging issue. Until recently, it was questionable whether higher education should be responsible for the development of students' generic competences. Nowadays, the only question concerns whether all academic courses should provide students with training in generic competences [5]. The fact that the Organization for Economic Cooperation and Development (OECD) claimed that the development of what they call "21st century skills", "employability skills", "soft skills" or "generic skills" is an international priority goes in favour of such estimation [6].

The DIMPS platform is fully compatible with the development and assessment of the academic generic skills that include writing skills, problem-solving skills, the ability to identify the relationship between theory and practice, presentation skills, research skills and language skills. In addition to the academic generic skills, there is a large list of soft skills that can be considered as internship learning outcomes. It is quite difficult to assess if these outcomes are achieved, as this list of soft skills includes: interpersonal communication, adaptability, time-management, planning, teamwork, professional judgment, independence, positive attitudes (e.g., self-confidence, openness, respect, proactive attitude, conscientiousness) [7], [8]. For accomplishment of some soft skills, such are time-management skills or independence, the virtual internship model seems to be superior compared with the traditional internship. This is because to that fact that students are not limited by the working hours and have to develop good time-management and planning skills and avoid procrastination issues. However, the virtual internship is considered to some extent inferior to the traditional internship when it comes to the development of some soft skills. These are interpersonal communication skills, adaptability, teamwork skills, professional judgment, positive attitudes, speaking, persuasion (sales), customer service, leadership, and listening.

Importantly, virtual internships are a great tool for the internationalization of the work-based learning. The significance of practical work experience in a professional and international environment is emerging in a context of increasing global economic connectivity and interdependence. The importance of international experience during higher education was highlighted in The Leuven Communiqué, adopted on 29th of April 2009. by the Ministers responsible for higher education in Bologna process participating countries. According to their prediction in the year 2020, at least 20% of graduating in the European Higher Education Area should have a study or training period abroad [34]. However, cross-boarding internships require a substantial amount of finance and time flexibility that limits number of

.

learners that are able to fully take benefits of international internships [9] . Therefore, it is proposed that virtual mobility activities are good way of preparing students for the work placement that will result in a more fit-for-purpose matching of students and companies [9]. The results obtained during DIMPS piloting confirmed this attitude. DIMPS platform provided safe and easy way for students to achieve international experience even under COVID19-related travel restrictions.

Throughout the history, Bulgaria, Greece and Serbia were strongly interconnected forming common cultural, economic and educational area. Nowadays, a need for the internalization and inclusivity of higher education process in all three countries is quite obvious. We believe that implementation of digital internship into professional higher education will result in higher mobility between these countries, but also will further increase international visibility of their educational system.

4. REFERENCES

[1] U. Rintala, 'State of the art in support of virtual placements: A study carried out in the framework of the EU-VIP project', 2010.

[2] E. M. Aucejo, J. French, M. P. Ugalde Araya, and B. Zafar, 'The impact of COVID-19 on student experiences and expectations: Evidence from a survey', *J Public Econ*, vol. 191, p. 104271, Nov. 2020, doi: 10.1016/j.jpubeco.2020.104271.

[3] C. R. Dexeus, 'The Deepening Effects of the Digital Revolution', *The Future of Tourism: Innovation and Sustainability*, pp. 43–69, Jan. 2019, doi: 10.1007/978-3-319-89941-1_3.

[4] Senay Boztas, 'Automated holidays: how AI is affecting the travel industry', *The Guardian*, London, Feb. 17, 2017. Accessed: Apr. 27, 2022. [Online]. Available: https://www.theguardian.com/sustainable-business/2017/feb/17/holidays-travel-automated-lastminute-expedia-skyscanner

[5] L. Treleaven and R. Voola, 'Integrating the development of graduate attributes through constructive alignment', *Journal of Marketing Education*, vol. 30, no. 2, pp. 160–173, Aug. 2008, doi: 10.1177/0273475308319352.

[6] 'Enhancing employability Report prepared for the G20 Employment Working Group with inputs from The International Monetary Fund 2016'.

[7] L. Y. Y. Luk and C. K. Y. Chan, 'Students' learning outcomes from engineering internship: a provisional framework', *Studies in Continuing Education*, Apr. 2021, doi: 10.1080/0158037X.2021.1917536.

[8] C. K. Y. Chan, E. T. Y. Fong, L. Y. Y. Luk, and R. Ho, 'A review of literature on challenges in the development and implementation of generic competencies in higher education curriculum', *Int J Educ Dev*, vol. 57, no. 1, pp. 1–10, Nov. 2017, doi: 10.1016/j.ijedudev.2017.08.010.

[9] Communique of the Conference of European Ministers Responsible for Higher Education, 'The Bologna Process 2020 - The European Higher Education Area in the new decade', 2009. Accessed: May 04, 2022. [Online]. Available: www.ehea.info

.