

DUAL HIGHER EDUCATION IN CROATIA: A LONG WAY TO GO*

Marko Turk⁰⁰⁰⁰⁻⁰⁰⁰¹⁻⁹⁰⁶⁷⁻⁶⁷⁵⁷

¹ PAR University of Applied Sciences, Rijeka, Croatia
<https://doi.org/10.47833/2023.2.ART.003>

Keywords:

dual higher education,
higher education in Croatia,
regulatory framework analysis,
qualitative analysis.

Article history:

Received: 20 November 2023
Revised: 28 November 2023
Accepted: 2 December 2023

Abstract

The paper aims to present the dual higher education regulatory status in Croatia. It delineates the distinction between dual education and dual higher education, highlighting the latter's absence in Croatia's framework despite a robust vocational model at EQF levels 3 and 4. The analysis illuminates policy gaps and suggests aligning terminologies, amending legislative acts, and phased implementations to bridge these gaps. It underscores the need for policy adjustments to meet workforce demands and European standards, signifying a critical area for Croatia's educational enhancement.

1 Introduction

What is the dual higher education regulatory status in Croatia? is the main research question that this paper will start with.

Before diving into an introductory elaboration of the higher education system in Croatia, it would be essential to set the framework for further discussion. Based on the initial literature review analysis (Ordemann, 2023; Maier, 2022; Sirbu et al., 2022; Cobos Rius et al., 2021; Hesser, 2018; Pogatsnik, 2018; Kovacs&Toroko, 2016; Jørgensen, 2012; Kivinen&Nurmi, 2009), according to the founding idea from the 1970s, dual study programmes are characterised by combining at least two places of learning - the higher education institution (HEI) which highlights *theory* and the training or workplace, stresses *practice*. Within this model, employability is approached from the perspective that knowledge and skills relevant to a specific field of competence should also be developed alongside a range of graduate attributes commonly referred to as soft skills. Therefore, students acquire cooperative skills, critical thinking, synthesising different knowledge contexts, applied problem-solving and adjusting to a characteristic work culture. Dual schemes combine work-based education and training, which is different in European countries. Considering the advantages and positive outcomes of work-based learning, extending the "dual" apprenticeship schemes in the EU appears to be a desirable target, particularly for countries without such schemes. Dual schemes in higher education may have different formats, such as apprenticeship, internship, entrepreneurship or others, which may be an advantage to address different types of business areas or company sizes.

While there are many different systems and definitions of dual (higher) education across Europe, EU4Dual Alliance[†] emphasises the main characteristics of a dual studies programme.

* This study is a product of the EU4DUAL European University Alliance, started in 2023, based upon the Erasmus+ program. Projekt ID: 101089937.

† EU4Dual is a new alliance of European universities for dual education established in 2022 that lays the foundations for the jobs of the future, encourages the development of the green economy, and supports healthy living. The main goal of the Alliance is to establish a European university for dual higher education. This model of higher education combines higher education teaching with practice in companies where students can apply the skills and knowledge they have acquired as part of the study program in the workplace. The EU4Dual alliance consists of Duale Hochschule Baden-Württemberg (Germany), Mondragon Unibertsitatea (Spain), FH JOANNEUM Gesellschaft mbH (Austria), ESTIA Institute of Technology

Those are 1) repeated succession of theoretical and practical phases and continuous reflection; 2) practical phases go beyond the usual scope of a professional internship, both in terms of time and in terms of specification of the content; 3) acquisition of competencies defined in the curriculum takes place at both learning locations; 4) strong relationships which undertake the training obligation to ensure full integration into the curriculum, including via participation in research and suitable opportunities for students; 5) quality procedures which bind the student, university and company equally; 6) employment relationships for students with the companies where they train. Having that in mind, this paper will present how the dual higher education model is represented within the Croatian higher education system based primarily on its national regulatory framework.

Higher education in Croatia has a three-cycle study model, including undergraduate, graduate and postgraduate levels. The Croatian system has a binary structure comprising the professional and university profile of study programmes and institutions. Unlike higher education institutions that conduct university programs up to the doctoral level, professional studies are primarily delivered at universities of applied sciences at the undergraduate and graduate levels and as short-cycle professional studies. Correlated with the European Qualification Framework, universities of applied sciences in Croatia operate study programs from EQF level 5 to EQF level 7. Professional studies primarily focus on the labour market and immediate workforce participation, leading to the acquisition of primarily professional competencies. University study programmes qualify students to develop and apply scientific, artistic and professional achievements and lead to the continuation of academic education. According to the *Act on Higher Education and Scientific Activity* (2022), higher education institutions (HEIs) are universities, faculties, art academies and universities of applied sciences. By exception, a public higher education institution established for military, police and diplomatic education can be established as an organisational unit of the competent state administration body (Agency for Science and Higher Education of the Republic of Croatia, 2023). Types and levels of study programmes delivered at the HEIs in Croatia are also prescribed by the Act, as mentioned above. University studies are organised and delivered at universities and comprise 1) undergraduate university studies, 2) graduate university studies / integrated undergraduate and graduate university studies, 3) post-master specialist university studies, and 4) doctoral studies. Professional studies are organised and delivered at universities and universities of applied sciences and consist of 1) short-cycle professional studies, 2) undergraduate professional studies, and 3) graduate professional studies. It would be important to emphasise that professional studies might be delivered at both types of institutions - universities and faculties which deliver university studies and professional studies, as well as universities of applied sciences, which deliver only professional studies.

2 Method

This paper uses the qualitative content analysis for the regulatory framework analysis, which has included laws and regulations within the higher education system in Croatia. Qualitative content analysis is a robust research method for regulation analysis by systematically examining and interpreting the content within legal frameworks. Bengtsson (2016) emphasised that the method involves meticulously scrutinising texts, documents, or policies to discern patterns, themes, and underlying meanings. In regulations analysis, content analysis unveils the nuances, language intricacies, and implicit intentions within legislative texts. By categorising, quantifying, and analysing, the researcher unveils trends, evaluates the effectiveness of regulations, and identifies areas for improvement or potential inconsistencies. Researchers decode the regulatory landscape by offering insights into laws' intent, impact, and implementation. Content analysis provides a structured approach to navigating the complexities of legal texts, enabling a deeper understanding of regulatory

(France), Savonia University of Applied Sciences (Finland), Neumann János Egyetem (Hungary), Malta College of Arts, Science and Technology (Malta), Koszalin University of Technology (Poland) and PAR University of Applied Sciences / PAR Polytechnic (Croatia).

frameworks and facilitating informed decision-making for policymakers, stakeholders, and researchers involved in shaping or assessing regulations (Patton, 2002).

Two main acts regulating the entire higher education system - the *Act on Higher Education and Scientific Activity* (2022) and the *Act on Quality Assurance in Science and Higher Education* (2022) - were analysed for this study. The Act on Croatian Qualification Framework (2021) and the Act on Vocational Education (2009) were also analysed for broader insight.

This paper's qualitative content analysis involves an in-depth examination of textual data to uncover underlying meanings, themes, and patterns. Keywords are pivotal in this process, serving as anchors that guide the analysis (Patton, 2002). They act as entry points into the text, allowing me to identify, categorise, and interpret information effectively. Through the strategic selection of keywords, I navigated the vast expanse of data and extracted significant phrases, terms, or concepts that encapsulate the essence of the content. Patton (2002) emphasises that keywords are building blocks, forming clusters or categories representing recurring ideas or themes within the text.

Moreover, keywords function as indicators, signalling connections between different text sections or highlighting shifts in meaning and emphasis. They provide a lens through which researchers can explore the depth and breadth of the content, enabling a structured and rigorous analysis that goes beyond surface-level observations (Patton, 2002). Ultimately, keywords are the cornerstone of qualitative content analysis, enabling researchers to unravel complexities, identify patterns, and derive meaningful insights from textual data.

This paper defines four keywords for the qualitative content analysis: dual (higher) education, work-based learning, apprenticeship and internship.

In addition to the qualitative content analysis, one semi-structured interview with the Ministry of Science and Education Directorate for Higher Education representative was conducted. The interview was an extended, in-depth clarification method for the regulatory content analysis results. The interview was recorded via the Zoom platform, transcribed and authorised by the Ministry representative.

The semi-structured interview has served as a crucial extension to regulatory content analysis, offering an invaluable opportunity to delve deeper into the intricacies uncovered through the analysis process. While content analysis allows for systematic exploration and categorisation of textual data, it might need to capture the full depth of context, nuances, or underlying motivations embedded within regulatory content. The intention was to engage directly with stakeholders involved in the regulatory process. Also, it facilitates a more comprehensive understanding of the findings by providing a platform for in-depth clarification, validation, and contextualisation of the analysis results. The interview allows for open-ended discussions, enabling one to elaborate on the regulatory content, clarify ambiguities, or shed light on the practical implications of the regulatory measures. The personalised interaction enriches the data by providing additional insights and validates and triangulates the findings derived from content analysis, ensuring their accuracy and reliability. Overall, integrating the semi-structured interview enhances the robustness and depth of regulatory content analysis results, enriching the insights and contributing to a more nuanced interpretation of the data.

3 Results

The research results suggest that within the context of the Croatian education system, it is crucial to differentiate primarily between dual education and dual higher education, as this distinction is conditioned by the educational levels where such types of education are implemented.

Dual education is a form of vocational education (EQF 3 and EQF 4) that combines learning in a vocational education institution, within a business entity, or at the workplace. Emphasis is placed on high-quality collaboration between education and the world of work. Competencies required by the workforce are effectively acquired by enhancing learning outcomes and standardising education.

An essential feature of dual education is the socialisation of students in a real work environment. Throughout their education, students learn in simulated and actual conditions of business processes, significantly increasing their employment opportunities. The primary goal of dual education is to enable young individuals to comprehensively acquire the necessary skills to perform their jobs efficiently, innovatively, independently, and in collaboration with others, thereby meeting the workforce's needs and contributing to a booming economy by creating a young, qualified workforce. The main motivational driver for the involvement of economic entities is the training of future employees at a high level.

As such, this education model in Croatia has a tradition spanning several decades. It has transformed depending on the (too frequent) educational reforms within the national educational system. However, the core model has remained relatively the same, emphasising high-quality collaboration between education and the world of work.

Dual higher education, as a model initially presented in the introduction of this paper, only exists within the Croatian regulatory framework for higher education. Both analysed legislative acts do not recognise dual higher education, as confirmed in an interview where a participant stated, *"That term does not exist in Croatian regulations on higher education, and I consulted with the cabinet as part of the preparation for this interview, and it was not considered during the enactment of the new Higher Education Act that came into force last year."* Furthermore, the research participant added, *"So, we have not even reached the phase where this was considered. You have to consider that, as a country, we started considering vocational dual education quite late, which are connected processes. So, it has just started as a pilot at the vocational level. When it reaches a phase integrated into the secondary education system, I think that is when we can take a stance on dual higher education."*

Additionally, the analysis of keywords has shown certain terminological deviations in the (higher) national education system compared to the European context. This was further confirmed through the conducted interview. For instance, work-based learning, apprenticeship, and internship have different applications than in European educational practices. In the national context, work-based learning (Cro. *učenje temeljeno na radu*) is used for all professional practices within the higher education system. The term internship (Cro. *stažiranje* or *pripravništvo*) is applied when a student, after completing their studies, has to work in a professional environment for a year and pass the state professional exam. The third term, apprenticeship (Cro. *naukovanje*), is exclusively used in secondary vocational education and implies apprentice learning in a master workshop or industry.

4 Discussion

Based on the presented results, the status of dual higher education in Croatia might be best described as a *terra incognita*. The research delves into the absence of specific provisions for dual higher education within Croatia's regulatory framework for higher education. This absence, highlighted through a thorough analysis of legislative acts, including the Act on Higher Education and Scientific Activity (2022) and the Act on Quality Assurance in Science and Higher Education (2022), poses a significant gap in accommodating educational models aligned with the evolving demands of the workforce. The lack of explicit recognition of dual higher education suggests a potential disconnect between educational policy and the need for modern, industry-aligned learning approaches at the tertiary level.

In contrast to the absence of explicit provisions for dual higher education, the analysis underscores dual education's presence and historical evolution within vocational education at EQF levels 3 and 4. Croatia has demonstrated a commitment to vocational education that integrates theoretical learning with practical experience in vocational education institutions and real work environments. The model emphasises the acquisition of competencies directly relevant to the workforce, boosting pupils' employability through hands-on experience and simulated business processes. However, while this system has shown promise within the vocational realm, its extension to higher education levels remains unaddressed within the regulatory framework.

The research highlights terminological discrepancies in Croatia's educational terminology compared to broader European contexts. The variations in terminologies related to work-based learning, apprenticeship, and internship, as revealed through keyword analysis and confirmed in interviews, present challenges in alignment with European educational practices. Harmonising terminologies with European standards might be a crucial step forward to ensure better alignment and enhance international collaboration.

The absence of explicit provisions for dual higher education in Croatia's regulatory framework suggests a need for strategic considerations in educational policy. Policymakers, educators, and stakeholders should propose research-based recommendations to bridge this gap. Suggestions include amending existing legislative acts to accommodate dual higher education models, aligning terminologies with European standards, and initiating phased implementations based on successful experiences from the European context. This approach could foster a more integrated and responsive educational system catering to academic rigour and industry relevance.

The analysis illuminates the regulatory landscape of dual higher education in Croatia, emphasising the existing gaps, strengths, and areas for improvement. By exploring these facets, the discussion sets the stage for informed policy decisions and strategic interventions to align Croatia's higher education system with contemporary workforce demands and European educational standards.

5 Conclusion

The research into the regulatory status of dual higher education in Croatia sheds light on a critical gap within the country's higher education framework. The absence of explicit provisions for dual higher education indicates a divergence between educational policies and the evolving needs of the workforce, highlighting an area that demands attention and strategic alignment. Croatia's dedication to vocational education at EQF levels 3 and 4, integrating theoretical learning with practical experience, has been a cornerstone of the educational system. This commitment underscores the importance of hands-on experience and simulated business processes in enhancing students' employability. However, while this vocational model has thrived, extending similar principles to higher education still needs to be addressed within the regulatory framework.

Terminological disparities in educational terms such as work-based learning, apprenticeship, and internship pose alignment challenges compared to broader European contexts. Harmonising these terminologies could facilitate better integration and collaboration within the European educational landscape.

The absence of explicit provisions for dual higher education in Croatia's regulatory framework calls for strategic considerations in educational policy. Recommendations could involve amending existing legislative acts to accommodate dual higher education models, aligning terminologies with European standards, and initiating phased implementations based on successful vocational education experiences.

This analysis reveals the regulatory landscape, emphasising gaps, strengths, and avenues for improvement in Croatia's higher education system. By addressing these aspects, policymakers, educators, and stakeholders can make informed decisions to align the educational system with contemporary workforce needs and European educational standards. Bridging this gap could lead to a more responsive and integrated higher education system that balances academic rigour and industry relevance. However, the national higher education system implementing the dual model has a long way to go.

References

- [1] Act on Higher Education and Scientific Activity Ministry of Science and Higher Education, 2022, Official Gazette, 119/2022, Retrieved from: https://narodne-novine.nn.hr/clanci/sluzbeni/2022_10_119_1834.html

- [2] Act on Quality Assurance in Science and Higher Education, 2022, Official Gazette, 151/2022, Retrieved from: https://narodne-novine.nn.hr/clanci/sluzbeni/2022_12_151_2330.html
- [3] Act on Croatian Qualification Framework, 2021, Retrieved from: <http://www.kvalifikacije.hr/sites/default/files/documents-publications/2017-09/The%20CROQF%20Act.pdf> (5/10/2023)
- [4] Act on Vocational Education, 2009, Official Gazette, 30/2009, Retrieved from: https://narodne-novine.nn.hr/clanci/sluzbeni/2009_03_30_652.html (17/10/2023)
- [5] Bengtsson, M. : How to plan and perform a qualitative study using content analysis, NursingPlus Open, 2016, Vol. 2., pp. 8-14, DOI: <https://doi.org/10.1016/j.npls.2016.01.001>
- [6] Cobos Rius, H., Curto Reverte, A., Sabrià Bernadó, B. & Fortó Areny, J.: Dual training in higher education - A professional development course. International Journal for Cross-Disciplinary Subjects in Education (IJCDSE), 2021, Vol. 12(2), pp. 4460-4467, DOI: [10.20533/ijcdse.2042.6364.2021.0545](https://doi.org/10.20533/ijcdse.2042.6364.2021.0545)
- [7] Hesser, W.: Implementation of a dual system of higher education within foreign universities and enterprises (1st ed.), 2018, Helmut Schmidt University. Retrieved from: https://epub.sub.uni-hamburg.de/epub/volltexte/2020/96655/pdf/Duale_Hochschulausbildung_ENG_N_180605.pdf (15/10/2023)
- [7] Jørgensen, C. H.: Linking the dual system with higher education in Denmark – when strength become weakness. Roskilde University, 2012, Retrieved https://rucforsk.ruc.dk/ws/portalfiles/portal/37293532/Paper_Christina_Jorgensen_for_Nordyrk_conference_2012_in_Roskilde.pdf
- [9] Kivinen, O. & Nurmi, J.: Different but equal? Assessing European dual HE systems. Higher Education, 2010, Vol. 60, pp. 369–393, DOI: <https://doi.org/10.1007/s10734-009-9305-y>
- [10] Kovács, Z. & Török, E.: Dual system for renewing Hungarian higher education. International Journal of Education and Learning Systems, 2016, Vol. 1, pp. 81-85. Retrieved from: https://www.researchgate.net/publication/299398253_Dual_System_for_Renewing_Hungarian_Higher_Education (17/10/2023)
- [11] Maier, T.: Advanced further training or dual higher education study: a choice experiment on the influence of employers' preferences on career advancement. Journal for Labour Market Research, 2022, Vol. 56(4), pp. 1-15, DOI: [10.1186/s12651-022-00309-4](https://doi.org/10.1186/s12651-022-00309-4)
- [12] Ordemann, J. : Higher education graduates, vocational qualification, and income. Is higher education worthwhile for dual qualifiers?, Zeitschrift für Erziehungswissenschaft, 2023, Vol. 26(3), pp. 1-27, DOI: [10.1007/s11618-023-01157-9](https://doi.org/10.1007/s11618-023-01157-9)
- [13] Patton, M.: Qualitative Research and Evaluation Methods, 3rd ed., 2002 Thousand Oaks, CA: Sage.
- [14] Pogatsnik, M.: Dual education: The win-win model of collaboration between universities and industry. International Journal of Engineering Pedagogy, 2018, Vol. 8(3), pp. 145-152. Retrieved from: <https://www.learntechlib.org/p/207436/> (14/10/2023)
- [15] Sirbu., O., Covaş, L., Stih, L. & Solcan, A.: Development of the dual higher educational model based on company needs. Eastern European Journal for Regional Studies, 2022, Vol. 8(1), pp. 30-49, DOI: [10.53486/2537-6179.8-1.03](https://doi.org/10.53486/2537-6179.8-1.03)
- [16] The Model of Dual Education in Croatia, Ministry of Science and Education of Croatia, n/a. Retrieved from: <https://mzo.gov.hr/UserDocImages/dokumenti/Obrazovanje/StrukovnoObrazovanje/ReformaStrukovnog/StrukovniKurikulum/Model%20hrvatskoga%20dualnog%20obrazovanja.pdf> (25/10/2023)