



THE ANALYSIS OF THE IMPORTANCE OF IMPLEMENTING A DUAL EDUCATION SYSTEM FOR THE DEVELOPMENT OF BUSINESS CAREERS AMONG YOUNG PEOPLE

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ABSTRACT

The development of dual education is becoming an increasingly important aspect of the modern education system, especially in the domain of higher education. The aim of this research is to examine students' views on the integration of the dual education system at faculties. Dual education, which combines theoretical knowledge with practical experience through cooperation with the economy, can potentially improve students' competencies and increase the possibility of getting employment faster. In order to understand the importance of implementing such a system into the existing education system for the development of future business careers among young people, a survey was conducted among students of various faculties in the Republic of Srpska, in the city of Bijeljina. The research results provide information on the overall awareness of young people about the importance of dual education, but also how such a way of education can contribute to their future business careers. For the purpose of data processing and analysis, the statistical package SPSS and various tests such as descriptive statistics, Mann Whitney U independent samples tests and Kruskal-Wallis test were used. The findings of the study can serve as a basis for further improvement of educational policies and programs which aim to integrate dual education into higher education system.

Introduction

In Bosnia and Herzegovina, dual education is not part of a formal system yet, but there is interest and efforts in this direction. In 2020, as part of the Erasmus+ project, the Chamber of Commerce of the Brčko District of Bosnia and Herzegovina and the University of East Sarajevo organized a roundtable titled "The development of dual education in the Brčko District of Bosnia and Herzegovina". The aim of this event was to identify the directions for the development of dual education in the Brčko District of Bosnia and Herzegovina, especially in secondary schools and higher education. This initiative aimed at improving the relationship between education and labor market so as to ensure a qualified and skilled workforce, thus contributing to the economic development of the country (Privredna komora BiH, 2023).

Furthermore, in June 2020, a roundtable was held in Bijeljina as part of the Erasmus + project, titled "The strengthening of capacity in the development of dual higher education in Bosnia and Herzegovina". The goal was to define the directions for the development of dual education in the Republic of Srpska, but also to align the University's study programs with the needs of the economy of the city of Bijeljina, connecting the economy and agriculture of Semberija and the education system as a whole. As a conclusion, it was emphasized that there were legal grounds for the introduction of dual education in secondary schools, but the need for greater commitment was emphasized in order to integrate dual higher education into the education system. The need for stronger government support was particularly emphasized in order to expand this practice. Also, the need for better cooperation between business organizations and higher education institutions for the purpose of improving student practice through dual higher education was

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recognized. The implementation of this model would provide students with greater employment opportunities after graduation, thus encouraging young people to stay in the country and emigration would decrease (University of East Sarajevo, 2023). Next, in January 2022, the first Dual Education Forum within the Erasmus+ project was organized, bringing together representatives of companies, higher education institutions and education policymakers, with the aim of presenting the dual education model in the country. The project aimed to improve student competences through the development of a generic dual education model and legal framework. Dual education has great potential for professionally-oriented learning that suits the needs of the labor market and supports the economic development of the community (University of Sarajevo, 2023).

In 2020, in the Republic of Srpska, the Center for Dual Education and Educational Policies was established within the Chamber of Commerce of the Republic of Srpska, in accordance with the amendments to the law concerning secondary education. The Chamber of Commerce is responsible for conducting the training of mentors of practical classes, checking the conditions for student education with employers, and maintaining a register of student education contracts with employers. The aim of the establishment of the Center is the cooperation with relevant institutions and employers for the purpose of efficient implementation of dual education and practical classes with employers, with a focus on linking the education system and the business sector (Privredna komora RS, 2023). In accordance with the abovementioned, the aim of this research is to understand the perception and attitudes of students about the dual system integration into the current education system. More specifically, the aim is to identify students' experiences, attitudes and expectations regarding this educational model in order to comprehend its importance better. In view of this, the main question in this research relates to how students experience dual education, what the advantages and challenges of this educational model are and whether students want it in its full form.

Based on the issues and the aim of the study, the following basic hypotheses were defined:

H1: Students who believe that dual education can increase their opportunities to gain practical experience also believe that they can understand the theoretical knowledge acquired during their studies better.

H2: Upper-year students have a more positive attitude towards the dual education system compared to lower-year students.

H3: There is a statistically significant difference in students' perception that dual education can provide them with a higher level of self-confidence for their future job and career among students from different faculties.

1. Review of literature

The dual education system allows students to apply the acquired theoretical knowledge straightaway in practice, while developing practical skills presently in the workplace or in the organization. The main goal of dual learning is to synchronize the efforts of educational institutions and employers in order to improve the quality of professional development of students. In the dual education system, students are educated not only in academic institutions, but also in industrial enterprises, companies and organizations. This change in content implies that students simultaneously follow practical classes in industrial environments and theoretical classes in university or institute environments, ensuring the exchange of knowledge and skills throughout the entire educational period, which contributes to the efficiency and effectiveness of the application of what has been learned (Mukhtasar et al., 2022). Kravchenko et al. (2020) conducted a study of international best practices in the implementation of dual education, with a particular focus on identifying the strengths and weaknesses of this system, as well as analyzing the issues that arise during the implementation of the elements of the dual education system. By analyzing various studies from different countries, the authors developed a matrix that illustrates the implementation of dual education. Based on the results of the SWOT analysis, which included the strengths (S), weaknesses (W), opportunities (O) and threats (T) of the existing concept of specialists' training in a dual form, the researchers drew conclusions and formulated recommendations for the improvement of this system (Kravchenko et al., 2020).

In Serbia, the dual education program started as a pilot project in 2018 and received formal approval via the Law on Dual Education. Via SWOT analysis, a systematic comparison of the costs and benefits of the aforementioned program from the perspective of companies was carried out. Preliminary results indicate

heavy ratio of total costs to total benefits, with noticeable variations in net costs among individual companies. More specifically, larger companies are perceived to realize more significant benefits at lower costs, while the opposite dynamics is observed in smaller companies. Adopting innovations in higher education, and even the integration of the dual system, can be of great use for the whole country, ensuring its alignment with European education (Bolli et al., 2021; Marinkovic et al., 2022).

The advantages of dual education is that young people enter companies, as is the case with the German education system. It is essential to develop cognitive competences and ensure flexibility to adapt to technological changes. However, although the German dual system can be used as a model, it is necessary to emphasize that vocational skills need to be complemented with academic knowledge. The German dual education system has attracted the attention of many countries, especially in southern Europe. Although such a system is expected to be able to solve the issue of integrating young people into the education and training sector, focusing solely on two "learning places" is limited. The German vocational education system includes more working principles than the dual education setting itself. The structure of the German system is more complex than it seems, including the significant transition system and full-time work in vocational education and training courses, along with education. It has been noted that the assessment of "good practice" has to be relativized in light of these structural issues and recent academic changes in the German education system (Hanushek, 2012; Deissinger, 2015).

The German system of skill development, especially the dual system of vocational education and training, stands out as the basis of the German model in political and economic discussions on two key grounds. On the one hand, the training of skilled workforce has supported a specific path of development of diversified and high-quality production from the beginning. On the other hand, the dual system represents one of the most important fields for the German corporate governance system. The paper develops ideas about fundamental changes in the conditions of the German vocational education system during the second half of the twentieth century, which resulted in an increase in the level of education and a shift in the education careers of young people towards higher education (Blossfeld, 1992).

Dual education, which combines vocational education in schools and on-the-job training in companies, has been implemented in Denmark and Germany. This model, recognized for its workforce adaptability, faces challenges during the economic crisis. Companies are less motivated to provide training, creating a problem for young people and a shortage of qualified workforce. Different approaches to solving this problem are being researched in the Netherlands and Austria, whereby the importance of accepting all forms of qualifications on the labor market is emphasized. Training at companies is of high priority in Germany and Denmark. The solutions include the support for training at a company or relinquishing full control over training places to the market, with the presence of risk of a shortage of places for all interested parties (Koudahl, 2010). The benefits of dual training are confirmed by educational institutions, noticing better results and reduced extension of the duration of studies among such students (Pogátsnik, 2021).

According to a study by a group of authors that analyzes educational reforms in Canadian schools over the last century, with an emphasis on changes in special and regular education, it is recommended that all teachers be fully aware and informed about the needs of all students. Many obstacles to school reforms are considered, and the evolving roles of key actors in school culture - teachers, students and parents - are analyzed. The conditions for successful changes are emphasized, recommending the achievement of a balance between interests, policies, principles and practices. Furthermore, the need for transformation out of dual systems into a unique education system accessible to all students is emphasized. The importance of a careful approach to their role and responsibility in achieving student success is stressed. Obtaining this goal is not easy, considering the traditional division between regular teachers and special education teachers. However, overcoming this barrier is essential for true educational transformation (Lupart & Webber 2002).

The study by Oller et al. (2017) presents an innovative model for providing feedback to faculty evaluators. The goal is to improve the reliability of the evaluation process and support the professional development of a faculty as an educator. Direct observation and assessment of medical students and residents is considered optimal for evaluating clinical competencies and final student evaluation. The development of a faculty has been identified as a key barrier in the evolution of a competency-based education approach. The faculty needs to be provided with the feedback on the quality of evaluations and data on their performance as educators. Regular monitoring of performance data, with a variety of topics and exercises, reflects the faculty's interest in the process. This faculty development model provides a

practical framework for achieving more effective evaluations, increasing awareness of evaluation trends, and facilitating independent changes in teacher behavior (Oller et al., 2017).

The aspects of dual education system in the advanced higher education institutions of the Republic of Kazakhstan, including the ranking of best universities for the implementation of this system and its role in the formation of student personality are analyzed in the article by Tastanbekova and his co-authors. The importance of raising awareness of students' educational and professional activities through dual education, as well as the development of key competencies at different levels, is emphasized. The importance of the practical orientation of the system, which includes solving real production problems and participating in scientific and practical conferences, is also highlighted. In addition, the article provides recommendations for the introduction of dual education, the classification of professional development resources and skill development, as well as the principles of structure formation and content of educational programs (Tastanbekova et al., 2021). The article analyzes the main ways of implementing dual education for the vocational training of future qualified workers, emphasizing the coordinated interaction between the educational and industrial spheres. The goals of introducing this manner of training include overcoming the shortcomings of traditional methods, with an emphasis on connecting theory and practice, education and production, and improving the quality of training given the employers' requirements. The structural components of dual education are revealed, including the cooperation of politicians, business and social partners, the development of the legislative framework, professional development of students and the involvement of qualified staff in pedagogical activity for the purpose of improving educational standards (Uroqovich & Eshdavlatovich, 2023).

2. Methodological framework of the research

This study examines the attitudes of students at three faculties about the dual education system and their views on future career development. The survey was sent to 165 active student addresses, with a total of 90 responses received. The respondents comprising the target group of this research are students of the Faculty of Business Economics in Bijeljina (FPE), Faculty of Education (FP) and Faculty of Law in Bijeljina (FL). The questionnaire is structured and the questions are designed according to the Likert scale. The questionnaire also contains questions of demographic nature in order to collect basic data about the respondents, such as gender, year of studies and the faculty they attend. The SPSS statistical package was used for data processing.

For the purpose of this research, descriptive statistics were used to analyze the basic characteristics of the sample, as well as to describe the mean values. Given that the answers offered in the questionnaire follow the logic of the Likert scale, such as 1-strongly disagree, 2-disagree, 3-neutral attitude, 4-agree, 5-strongly agree, the test results were verified using non-parametric tests. Several variables are defined in the paper relating to: demographic variables (gender, the faculty attended by students, year of study), as well as variables related to students' perception of dual education. Demographic variables are coded so that, for example, years of studies are numbered as follows, 1-first year of study, 2-second year of study, 3-third year of study, 4-fourth year of study and 5-master's degree. The variables related to gender and the faculty attended by students are similarly defined. As for the variables related to dual education, they were measured using a five-point Likert scale:

- DE (dual education) – measures the overall awareness of students about the importance of dual education. The term dual education is explained in more details in the accompanying letter of the questionnaire so that students can be informed about the terminology at that moment if they did not have the opportunity to do so before.
- SC (self-confidence and a sense of independence) – measures the subjective feeling of students to what extent the dual education experience could provide them with self-confidence and a sense of independence.
- EM (employment) – measures the level of students' subjective belief in employment after completing their studies through dual education, higher values indicate greater belief of students in getting employment after the dual education program.
- WS (working/studying) - measures the level of students' subjective belief in the possibility of studying while working in the real sector.
- PJ (preparation for job) - examines the extent to which dual education can prepare students for the labor market through its program.

- PE (practical experience) - examines the extent to which dual education can provide students with opportunities to gain practical experience.
- TK (theoretical knowledge) - refers to measuring the level of agreement with the statement that the dual education system can provide students with better understanding of the theoretical knowledge acquired at universities.
- LFT (limitation of free time) - measures the respondents' perception of how much dual education limits their free time. Higher values indicate greater limitations on free time.
- BC (business careers) - measures the respondents' perception of how much dual education can contribute to the development of their future business careers.

3. Research results

The research results show that the respondents from the sample on average have a positive attitude towards the dual education model, because the estimated level of the overall perception of students has a value above the neutral mean. Based on the analysis of the sample, it is concluded that 71% of the students belong to the Faculty of Business Economics in Bijeljina, 22% of students of the Faculty of Pedagogy and 7% of students of the Faculty of Law in Bijeljina. By gender, female students record a participation of 76%, and male students 24%. Concerning the years of study, the highest percentage of participation in the survey is recorded by first-year students (30%), followed by second-year students (26%), third-year students (26%), fourth-year students (12%) and master's students (7%). Descriptive statistics results show that the majority of students (40%) rated their opinion on the impact of dual education on their future career with a score of three, while a significant percentage of students (52.3%) rated it with a positive score (4 and 5), which indicates that students believe that dual education would provide better prospects for their future business career development. These data suggest that, although there is a certain level of awareness of dual education among students, there is also space for further improvements.

Table 1: The results of descriptive analysis - attitude towards the dual education system for future career

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	4.4	4.4	4.4
	2	3	3.3	3.3	7.8
	3	36	40.0	40.0	47.8
	4	33	36.7	36.7	84.4
	5	14	15.6	15.6	100.0
	Total	90	100.0	100.0	

Source: the author's research

The data analysis shows that the majority of students (52.2%) believe that dual education could significantly affect their self-confidence and the sense of independence in the future. However, 47.8% believe that dual education would not help in improving their sense of self-confidence and independence.

Spearman's correlation test. In order to test hypothesis H1, the Spearman's correlation test was used in the paper. Spearman's test is a nonparametric test that does not require the data to be normally distributed, which makes it suitable for data collected using Likert scale. Likert scales often result in ordinal data, which means that the ranking or order make sense, but the differences between the ranks are not necessarily consistent. Spearman's correlation measures a monotonous relationship between two variables. This means that the test examines whether there is a consistent increase or decrease in one variable in relation to the other, regardless of the specific form of that relationship. In this case, we are interested in whether students who have a high score on the PE variable also have a high score on the TK, which is a monotonous relationship.

H1: Students who believe that dual education can increase their opportunities to gain practical experience (PE) also believe that they can understand better the theoretical knowledge gained during their studies (TK).

Table 2: Spearman's correlation test

			PE	TK
Spearman's rho	PE	Correlation Coefficient	1.000	.712**
		Sig. (2-tailed)	.	.000
		N	90	90
	TK	Correlation Coefficient	.712**	1.000
		Sig. (2-tailed)	.000	.
		N	90	90

** . Correlation is significant at the 0.01 level (2-tailed).

Legend: PE – practical experience - measures students' attitudes about how much the introduction of dual education can increase the possibility of gaining practical experience, TK – theoretical knowledge – measures students' attitudes about how much they believe that the integration of the dual education system into the existing system can contribute to a better understanding of the acquired theoretical knowledge, N – total sample.

Source: the author's research

Spearman's correlation coefficient of 0.712 indicates a strong positive relationship between PE and TK. This means that students who believe that dual education can increase their opportunities to gain practical experience (PE) also believe that they can understand better the theoretical knowledge acquired during their studies (TK). Hypothesis H1 is accepted on the basis of these results.

Mann Whitney U test. To test hypothesis H2, Mann Whitney U test is used, i.e. a non-parametric test used to test differences between two independent groups. In the case of hypothesis H2, Mann Whitney U test is used to examine differences in attitudes towards dual education between upper-year students (third, fourth year students and master's students) and lower-year students (first and second year students of the first cycle of studies). The significance of group differences was determined at $p < 0.05$ level.

H2: Upper-year students have a more positive attitude towards the dual education system compared to lower-year students.

Table 3: Test statistics results

Null Hypothesis	Test	Sig.	Decision
The distribution of „In your opinion, what is your position on whether the system of dual education can ensure a faster and better development of students' business careers?“ is the same across categories of „year_study“.	Independent-Samples Mann-Whitney U Test	0.396	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Source: the author's research

The p-value of 0.396 is greater than the significance level of 0.05, which indicates that the difference in attitudes towards the dual education system between upper-year students and lower-year students is not statistically significant. This result may suggest that attitudes towards dual education are not significantly different between students in different years of study (lower and upper years), at least in terms of their perception of the contribution of dual education to the development of business careers.

Kruskal-Wallis test. This test is a non-parametric test used to compare more than two independent groups when the data do not meet the rules of normal distribution or when the data are ordinal. This test is an extension of Mann Whitney U test for more than two groups, and this test is precisely used in the paper to test hypothesis H3.

In the case of H3, Kruskal-Wallis test will serve to determine whether there is a significant difference in the perception that dual education provides a higher level of self-confidence for the future between students from different faculties (FPE - Faculty of Business Economics Bijeljina, FP - Faculty of Education and FL - Faculty of Law).

H3: There is a statistically significant difference in students' perception that dual education can provide them with a higher level of self-confidence for their future job among students from different faculties.

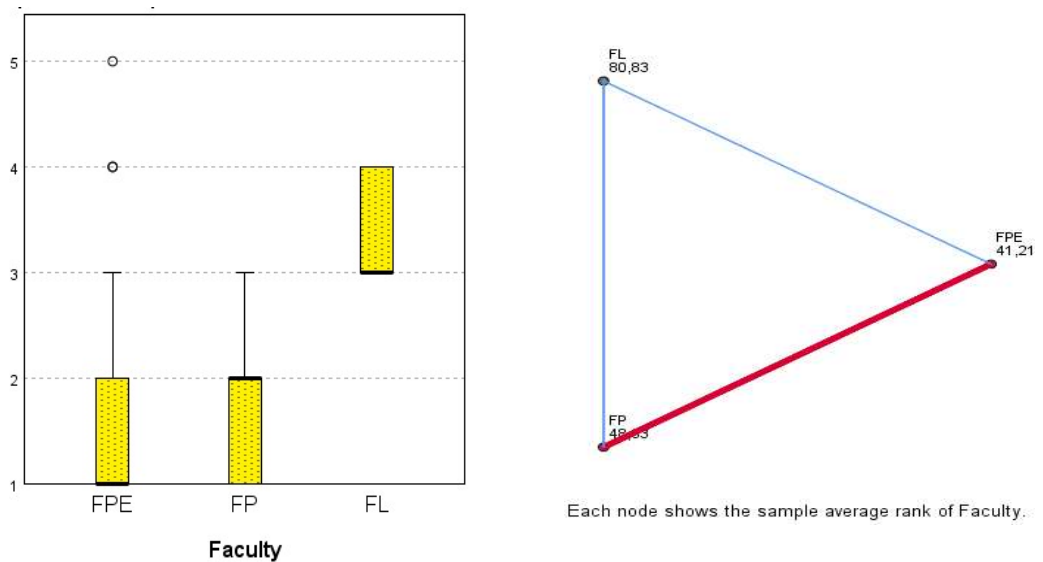
Table 4: Test statistics results

Null Hypothesis	Test	Sig.	Decision
The distribution of „students' subjective sense of the extent to which a dual education experience could provide them with self-confidence and a sense of independence“ is the same across categories of „Faculty“.	Independent-Samples Kruskal-Wallis Test	0.001	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Source: the author's research

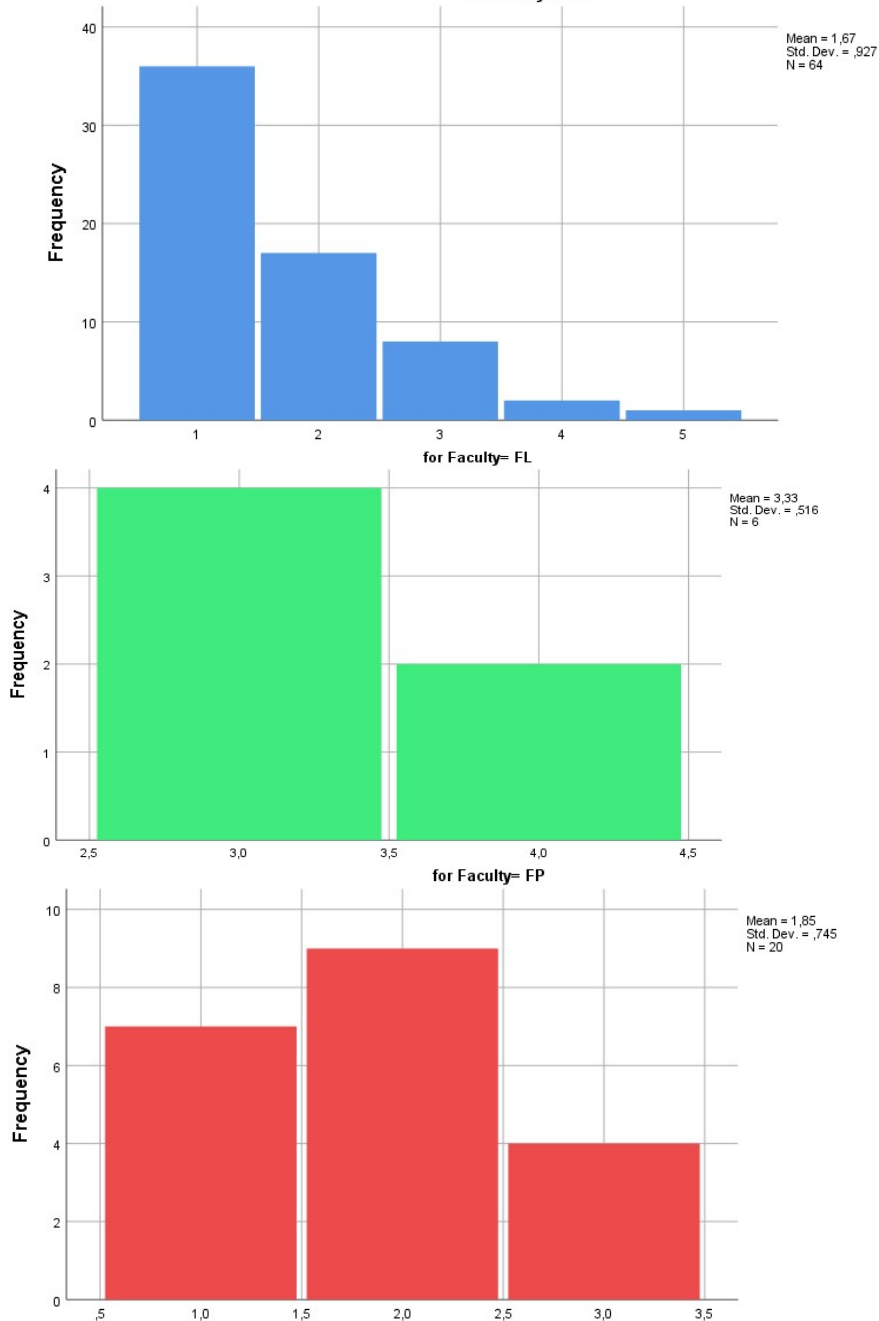
Chart 1: Independent samples of Kruskal-Wallis test and pair comparisons of faculties



Source: the author's research

The p-value of 0.001 is considerably lower than the significance level of 0.05, which means that there is a statistically significant difference in students' perceptions that dual education can provide them with self-confidence and a sense of independence among students from different faculties. Considering that p-value is less than 0.05, we reject the null hypothesis, which further means that there is sufficient statistical evidence that there is still a significant difference in perceptions among students from different faculties. Hypothesis H3 is thus confirmed.

Chart 2: Histograms - the perception of students from different faculties from the sample on the impact of dual education on the increase of students' self-confidence for future work and career
for Faculty= FPE



Source: the author's research

The lowest average score for the variable measuring the perception that dual education enables and creates self-confidence for future work was recorded by FPE students (1.67), while the highest average score was given by students of the Faculty of Law (3.33). Therefore, law students are convinced the most that the introduction of the dual education system will provide students with the opportunity to obtain

more self-confidence, because then they will be better acquainted with real problems in practice, which will motivate them to build practical experience they need for the future on time.

Discussion

The analysis of the empirical data thus far explains that dual education system is an advancement that brings together theory into practice so that the students have a chance of getting the necessary competencies in the actual working environment. The main advantages of the dual system are generally seen to be improving the employability and post-school readiness of the graduates. In nations like Germany and Denmark, where this paradigm is widely used, internships in businesses teach young people the practical side of production. On the basis of SWOT analysis of this system, it can be argued that the integration of educational institutions and employers helps secure better trained workforce and alleviate the problem of youth unemployment. A dual system was found in Germany to be important in ensuring that the economy remains highly productive and competitive and firmly brought out that companies are integral to the education process. Nevertheless, the application of dual system in other case studies such as in Serbia and in Kazakhstan reveals some drawbacks. The lack of sufficient motivation of smaller companies to take part on the program and high initial costs to employers is the main challenge. The need for an additional legislative framework and the involvement of all relevant stakeholders has also been noted in order to make this system sustainable. In addition, differences in the organization of work and education, as well as cultural factors, require the adaptation of the model in order to be effectively implemented. As the research of Tastanbekova et al. (2021) highlights, the dual system offers the opportunity to improve the links between education and the labor market. This is achieved by incorporating modern technologies and including practical problems in the curriculum. Practice has shown that the development of students' cognitive and technical competencies, along with their preparation for working in interdisciplinary teams, is the key to the long-term success of this system.

Although the German system serves as a standard for the functioning of this education system, research shows that its implementation in other countries must take into account specific local challenges and opportunities. For example, economic crises significantly affect the motivation of companies to participate in this system, as seen in the analyses from Denmark and Austria. At the same time, the success of the dual system in Serbia depends on raising awareness of its benefits and coordination between educational and industrial partners.

In this study, respondents expressed a positive attitude towards the implementation of the dual education system. This attitude of students confirms that the implementation of this system would be successful for the development of business careers among the young population after completing their higher education. First of all, respondents state that this type of education system would significantly improve their level of self-confidence in their future workplace. However, students of the Faculty of Law mostly believe that practice in a real work environment would contribute to a better level of self-confidence in the future. Statistical findings show that there is a strong connection between the acquisition of theoretical knowledge at faculties and practical experience in a specific work environment, which would mean that respondents believe that working in a specific company or other organizational form would contribute to a better understanding of the theoretical knowledge acquired at faculties. Also, what is encouraging is that there is a strong awareness of the need to introduce a dual education system equally for all students, both in higher and lower years of study. Internships enable law students to apply theoretical knowledge to real-life situations and understand how the legal system works. It gives them the opportunity to develop practical skills such as legal writing, communication and research. Also, through practice, they gain insight into the ethics of the profession and prepare for future career challenges.

Conclusion

The development of dual education represents a significant step towards improving the education system of the Republic of Srpska, providing students with the opportunity to gain practical experience along with theoretical knowledge. The research of students' attitudes towards this education model reveals various positive perceptions and recognition of the benefits and potential of dual education for the improvement of professional skills and the increase of employment opportunities after graduation. The research results show that students from different faculties perceive the advantages of dual education in a

different way, particularly in terms of acquiring self-confidence, independence, and better preparation for the labor market. Statistically significant differences in perception among students of different years of study and faculties confirm the importance of adjusting the programs to the specific needs and expectations of different groups of students.

With the support of all academic institutions and business entities, as well as by following the example of countries where such a system has already been developed, dual education can become a key element in the education policy of the Republic of Srpska, and the whole Bosnia and Herzegovina, ensuring a better synergy of theory and practice. The implementation of this system can contribute to reducing the gap between education and the labor market, allowing students to prepare for future careers better and contribute to the economic development of the country. On the basis of the research results, further research could focus on a comparative analysis of the attitudes of different groups of students in the Republic of Srpska and countries in the region. Furthermore, the monitoring of the dual education effects on career development is recommended, as well as the analysis of specific skills acquired by students through this education model. Additionally, the research could also envelop examining different approaches to the implementation of dual education in the countries with successful models, with the aim of adjusting and applying good practices.

References

1. Blossfeld, H. P. (1992). Is the German dual system a model for a modern vocational training system?. *International Journal of Comparative Sociology*, 33(3), 168-181.
2. Bolli, T., Caves, K., Pusteria, F., & Renold, U. (2021). New Dual Education Program in Serbia. Do Benefits exceed Costs for Participating Companies? *CES Studies*, 9. DOI: 10.3929/ethz-b-000477795.
3. Deissingner, T. (2015). The German dual vocational education and training system as 'good practice'? *Local Economy*, 30(5), 557-567. DOI: 10.1177/0269094215589311.
4. Hanushek, E. (2012). Dual education: Europe's secret recipe? *CESifo forum*, 13(3), 29-34.
5. *Jačanje kapaciteta u razvoju dualnog visokog obrazovanja u Bosni i Hercegovini*. (2023). Privredna komora Bosne i Hercegovine. Retrieved on November 18, 2024 from <https://komorabih.ba/jacanje-kapaciteta-u-razvoju-dualnog-obrazovanja-u-bih/>.
6. *Jačanje kapaciteta za implementaciju dualnog obrazovanja u Bosni i Hercegovini – DUALSCI*. (2022). Univerzitet u Sarajevu. Retrieved on November 8, 2024 from <https://www.unsa.ba/novosti/odrzano-forum-dualnog-obrazovanja-u-bih>.
7. Koudahl, P. (2010). Vocational education and training: dual education and economic crises. *Procedia-Social and Behavioral Sciences*, 9, 1900-1905. DOI: 10.1016/j.sbspro.2010.12.421.
8. Lupart, J., & Webber, C. (2002). Canadian Schools in transition: moving from dual education systems to inclusive schools. *Exceptionality Education Canada*, 22(2), 7-52. DOI: 10.5206/eei.v22i2.7692.
9. Marinkovic, T., Savic, B., & Stamenovic, M. (2022). Quality assurance and key performance indicators for dual higher education study programs—needs analysis for the development and implementation of higher education of dual study programs in Serbia. In *European Quality Assurance Forum. Shaping or sharing? QA in a value-driven EHEA*, 10-12.
10. Kravchenko, O. L., Borisjuk, I. Y., Vakolia, Z. M., Tretyak, O. M., & Mishchenia, O. M. (2020). Models of introduction of dual professional education. *International Journal of Higher Education*, 9(7), 94-106. DOI: 10.5430/ijhe.v9n7p94.
11. Mukhtasar, M., Begyor, S., Aleksandr, K., Farrukh, D., Isroil, U., Sodiqjon, K., & Akbarjon, A. (2022). Analysis of the Effectiveness of the Development of the German Education System in Our Country. *Journal of new century innovations*, 18(1), 168-173.
12. Oller, K., Mai, C., Ledford, R., & O'Brien, K. (2017). Faculty development for the evaluation system: a dual agenda. *Advances in Medical Education and Practice*, 8, 205-210. DOI: 10.2147/AMEP.S124004.
13. Pogátsnik, M. (2021). Dual education: connecting education and the labor market. *Opus et Educatio*, 8(3), 304-313. DOI: 10.3311/ope.466.
14. Tastanbekova, N., Abenova, B., Yessekeshova, M., Sagalieva, Z., & Abildina, G. (2021). Development of professional skills in the context of higher school dual education. *International Journal of Emerging Technologies in Learning (IJET)*, 16(10), 179-193. DOI: 10.3991/ijet.v16i10.19373.

15. Univerzitet u Istočnom Sarajevu. (2023). *Razvoj dualnog obrazovanja u Republici Srpskoj*. Retrieved on November 23, 2024 from <https://www.ues.rs.ba/la/2020/07/02/odrzan-okrugli-sto-razvoj-dualnog-obrazovanja-u-republici-srpskoj/>.
16. Uroqovich, T. U. B., & Eshdavlatovich, O. A. (2023). Dual education in the integrative macroenvironment of professional education. *Academia Repository*, 4(10), 77-81.
17. *Zakon o srednjem obrazovanju i vaspitanju*. (2023). Privredna komora Republike Srpske. Sl.glasnik 92/20. Retrieved on November 5, 2024 from <https://komorars.ba/centar-za-dualno-obrazovanje/>.