Developing countries need practical VET systems that will meet the needs of the economic sector. Ukraine is making efforts to introduce a dual system of vocational education and training and has already faced many challenges in this process. This study highlights the difficulties faced by Ukraine during the implementation of the dual form in VET, and the problems of other countries in this process. The purpose of this study is the analysis of the main principles of the transfer of the dual VET form through the prism of the problems that Ukraine has faced. The study is based on such authentic sources as articles, international studies that made it possible to structure the knowledge base to describe the object of the study. The findings show that direct transfer or implementation poses numerous challenges and difficulties and shows that close cooperation between all stakeholders as well as shared awareness and commitment of all participants in education is paramount for successful VET transfer. It is concluded that it is necessary to clearly and systematically consider the issue of direct implementation of the German dual VET experience in another country with the obligatory preliminary study of specific challenges and specific resistance factors.

**Keywords:** challenges; dual VET system; transfer; TVET.

**INTRODUCTION**

For a long time, in the German-language research discourse topics primarily related to the impossibility of transmitting the German dual system dominated. Various representatives of professional pedagogy have already expressed serious doubts about whether the dual system can be integrated into other socio-economic and cultural contexts and have looked for possible reasons for this. The transferability of the German dual vocational training system is questionable, primarily because it was too complex to transfer with its history, vocational concept, and political, institutional, and legal requirements.
Then, why is the political public now praising the dual system as a model of success and suggesting that the dual system can be transferred to other countries. The demand for the German dual system is now greater than ever. From the point of view of interstate cooperation, the Federal Republic of Germany is the largest donor for the promotion of vocational training now. The export of vocational training represents a market of the future that should be developed with the help of new business models (Heller, Grunau & Duscha, 2015).

It should be emphasized that for quite a long time, professional training was out of international interest and out of scientific discourse (Pilz, 2017). The global economic crisis of 2007/2008 changed the situation dramatically. International programs and research obtaining now are Learning for Work (OECD, 2010), Youth and Skills: Putting Education to Work (UNESCO, 2012), Skills Beyond Schools (OECD, 2014) or “Engaging employers in internship opportunities: how to do it locally” (OECD and ILO, 2017). This attention has led to leaps in national development and legal reforms: the state is once again involved in vocational training, for example through the creation of regional vocational training centres (such as Chile) or the creation of specialized authorities (such as Botswana and Kenya); dual education models are implemented locally (e.g., Slovakia, Uruguay, Namibia and Nigeria) or developed and tested with national validity (e.g., Malaysia, Mexico, Paraguay and Spain); dual education is enshrined by law as a standard model of vocational training in secondary education (for example, Serbia and Kazakhstan), there are established dual models legally open to all educational institutions (for example, Peru). All approaches face the challenge of expanding the vocational training system and at the same time establishing high quality standards in order to counteract the general negative image in society. Many countries cooperate with German institutions and programs, including the German Society for International Cooperation, Sequia, BBB, the German Office for International Cooperation in Vocational Education and Training (GOVETI), the Federal Ministry of Education and Research (BMBF).

Despite this, it can be said that the discussion about the international transfer of vocational training from Germany is structured only to a limited extent and is not defined in a unified way. Nebulous education policy and academic discourse are often characterized by conjecture, hearsay, and often dead ends. It is necessary to take a closer look at the different actors in the discourse for a better understanding of the whole process.

The procedure of borrowing dual education should be considered from two different points of view: German suppliers and recipient countries. For us, the point of view of recipient countries or cooperation countries is relevant. They are attracted by advertising and seek quality support by implementing a dual structure, but the German side cannot always provide full support due to capacity reasons (Abdelkafi, 2019). This is one of the reasons why the topic of transfer of vocational training has undergone such violent ups and downs in the debate in recent years.

LITERATURE REVIEW

There is a great deal of literature on the topic of the transfer of the dual VET system to other countries. Wibowo, Myau-Lyau, Christy, Albert showed what challenges and obstacles Indonesia faced in implementing a dual form of education. Stockmann in his work emphasizes that we should not expect a quick transfer of VET, and it happens only with the support of the German side and the interest of the other. Oeben and Klumpp’s paper outlines success factors and obstacles regarding a transfer of the dual VET system from Germany to Tunisia. Toepper, Zlatkin-Troitschanskaia, Kühling-Thees describe lessons learned from attempts to transfer dual VET to different countries. Barabasch, Bohlinger, Langthaler, Fahle, Pilz and Wiemann, in their studies show the problems faced by different countries in this process and are still
confident in the possibility of introducing a dual form of education in interested countries, but only with an understanding of all the necessary elements of the introduction and understanding of this process only as a system. The analysis is based on a generalization of numerous pilot studies carried out in many professional (vocational and technical) educational institutions in Ukraine. The results show that it is advantageous to implement its various elements outside of Germany. Buchynska, Davlikanova, Ishchenko, Lylyk, Chaikovska, Yashkina’s analytical report on the results of the second year of the pilot project using dual education shows the main problems that Ukraine has managed to solve, or that she has just solved. In Ukraine Kulalayeva characterized the elements of a dual form of education that should be introduced into the professional training of future specialists. She noted the socio-economic factors, the presence of which requires the use of a dual form of education by professional education in Ukraine (Kulalaieva, 2018).

The main goal of the article is the analysis of articles, international studies and the structuring of the knowledge base to describe the object of research, the problem and the main principles of transferring a dual form of education and highlighting the problems faced by Ukraine.

**METHODOLOGY**

Based on document analysis, various publications (e.g. press releases, reports) of central actors in the German dual system were reviewed. This body of literature has been expanded by scientific studies and publications by national or international institutions related to VET and the introduction of dual education. This study combines empirical survey results from Germany and other countries to identify significant challenges for this transfer.

**MAIN RESULTS**

In their study of the transfer of vocational education and training to Asia, Stefan Hummelsheim and Mikaela Baur define “export” as copying or duplication, while the term “transfer” implies more variation and adaptation. For most countries, the concept of VET transfer is understood as a flexible adaptation that assimilates German system of education with the traditional culture and modern social and economic conditions of the receiving country. Duplication of the dual form of education requires a high level of flexibility to move between the organization of vocational training and general education according to its clear learning criteria and systems of education and assessment of skills (Oeben, 2021).

Even the claim to convey the dual system as a whole in an adapted form can cause a dissonance of expectation and the obtained result. It would be more appropriate to explain the system with its central elements, gain a deeper understanding of it and start a process of consultation with the partner country to develop individual solutions based on the respective needs (BiBB, 2017).

To make dual vocational training work, many factors must be combined. A practical management system, effective administrative structures and mechanisms for ensuring quality and innovation are as important as young people interested and motivated to learn.

Events show that it is worth taking an impartial, but not uncritical, look at the topic of research on the international borrowing of dual vocational training.

Countries that seek to introduce a dual form of education should take into account five main principles, on which the process of integration must be based on: (1) cooperation between the state and the economy in the understanding of the responsibility of social partnership and participation in professional training, (2) learning in the process of work, (3) adoption of
national standards, (4) qualifications of professionally trained vocational training personnel (in companies and schools) and (5) points of the system of dual vocational training (Toepper, Zlatkin-Troitschanskaia, & Kühling-Thees, 2021).

Most studies and discussions on the nature and competence of German VET cooperation have already shown that it is necessary to assume the impossibility of transferring a specific VET model. Due to the heterogeneity of the initial situations in some countries, it can be assumed that the implementation of a specific universal VET model is impossible, therefore quite often the dual VET system is considered as a reference model (Oeben, 2021). If previously it was planned to completely (in an adapted form) transfer the dual VET system, now it is planned to transfer only system elements and successful features to the current educational system. Similar results were found in the studies of external experts who evaluated GIZ projects and in which a critical “transfer balance” was drawn up regarding the implementation of the dual VET model based on the German dual VET system (Toepper, Zlatkin-Troitschanskaia, & Kühling-Thees, 2021). These assessments showed that the considered projects were only marginally sustainable. There are studies that show that VET transfer projects often remain independent decisions of the recipient country. It is reasonable to conclude that a quick and short-term transfer of VET should not be expected, and that the transfer can only take place with the participation and cooperation of both countries (Stockmann, 2014).

We will try to outline some of the obstacles to the transition of dual form of education. First of all, it must be remembered that the dual system in Germany developed over centuries, and created its own structures and institutions. Other European countries have other institutions, other traditions, other models of governance and social partnership as well, which have also developed over decades and are deeply rooted in the fabric of society. Any form of transfer of system elements must take into account the institutional framework conditions and in no case must make them absolute. In other words: it is always about identifying points of common interest in individual countries and states, which contribute to the introduction of elements of the dual system and are compatible with the tradition and social model of these states (Fahle, 2020).

If dual vocational training systems can help reduce youth unemployment, it is only in the long run. In the short term, dual vocational training can only contribute to reducing frictional unemployment, but not structural unemployment. Developing dual VET systems is not only time-consuming, but extremely complex due to sponsorship requirements and association mandates.

A particular challenge for policymakers is determining whether such a program can be implemented and the need for advance planning. Before changing the vocational training system, it is vital to analyse the existing educational culture and industry to determine what parts need to be changed and what successful initiatives in other countries can serve to develop the proposed system. In addition, a sociological understanding of the purpose of vocational training in society is needed. The public sector must make an effort to understand the diverse needs and aims of each industry and determine where dual programs can or cannot contribute to the advancement of educational and productive systems (Stockmann, 2014).

Cooperation between the numerous actors involved in the management of the Dual VET Program (essentially government institutions, the corporate world and trade unions) is also one of the main challenges for the successful implementation and development of such a program. Numerous studies have highlighted the need to develop the capacity for organization, participation and cooperation among all actors involved in solving the problem of the relationship between the demand and supply of skills in the labour market (Wibowo et al., 2021).

The government should cooperate with industry and vocational education in order to
improve the qualifications of workers and solve the problem of uneven distribution of technical and vocational education and training institutions in the country.

One of the key challenges for the implementation of the German VET model is the search for common principles between the two systems. The dual form of Vocational education should be included in the national work culture and labour legislation in order to become the basis of special vocational and technical education with specific features of a certain country.

An obstacle to the implementation of dual training is also companies that must balance the benefits of increased production with well-trained workers and the costs of training (Langthaler, 2017). In developing countries, with competitive labour markets, turnover is often a problem. Companies in developing countries often only adopt the core of the German dual system of VET (practical training in the use of modern technologies) in order to reduce the duration of training programs. Almannie’s research provides a critical look at the practicality of VET programs in Saudi Arabia and other developing countries and reports on the obstacles encountered in transferring VET to Saudi Arabia:

Managers and leaders at the workplace do not actively participate in the work of training centres. Fear of change, lack of confidence, lack of management support, work environment factors, management practices and training overload. Among others, lack of practice facilities, lack of connections between schools and companies, poor education system and lack of teacher qualification (Wibowo et al., 2021).

Wieland presented an article on the possibilities and limitations of the transfer of the German dual VET system. It reports, for example, that the lack of willingness of companies to provide training and the low acceptance of vocational education in society are among the main obstacles to the introduction of dual systems.

The main element of dual training is companies that want to work as training companies. Even if many companies emphasize their social commitment to training young people in order to create the conditions for their successful entry into the workforce, the calculation of economic benefit will usually be at the forefront. This is all the more true for countries where dual education is just being introduced, and companies have not been involved in such a system.

One of the main challenges for employers is that they will bear the primary financial responsibility for much of the training process, including direct and indirect costs, staff training, technology and administration. Corporations are not used to hiring and training apprentices. Companies do not want to invest in the education of young people. Most of the talented graduates leave the organization after graduation, as qualified specialists are in high demand in the labour market.

It is important that the dual VET system in Germany is based on a functioning market. In Germany, large enterprises are the most important group in terms of training providers, accounting for 53 % of the total. Publicly subsidized training courses are provided by private schools (10 %), chambers of commerce (6 %), professional associations (5 %), adult education centres and trade unions (up to 3 %) (Langthaler, 2015).

Dual vocational training needs a lot of medium-sized and small companies as partners. However, in many partner countries, these companies are more likely to be afraid of competition and unwilling to participate in inter-firm cooperation. But without small and medium-sized companies, we cannot talk about the introduction of a dual form of education as a universal approach to meet all the needs of the economic sector.

It is also necessary to recognize this fact politically and ask the question of what catalysts are needed so that the training activities of companies can turn into comprehensive and sustainable support for apprenticeships, which have become an integral part of the vocational training system. How can a dual form of education attract companies?
Creating incentives for companies to encourage and support them and this brings us to another problem with dual education: it needs to be funded by the triad of companies, the public sector and students.

The financial participation of companies is directly related to the social recognition of apprenticeships: trainees are considered to be cheap labour, which brings us to another problem, the negative perception of parents towards dual education and the low social status of the VET system in many countries. Unlike Germany, other countries have not yet created a socially recognized and well-trained class of skilled workers and artisans. In this context, the included studies showed that the perception of VET institutions as a suitable alternative to academic education is also quite low (Oeben, 2021).

Another cornerstone is the quality of training of vocational teachers and masters. During the introduction of professional and technical education according to the dual form of education and the reform of education, the resource limitation of teachers was defined as the main factor for quality teaching. It is necessary to create bases for the training of VET teachers at universities or at advanced training courses. Strategies and natural processes to establish and maintain mentoring programs must be adopted. This can be accomplished through expanding the teaching knowledge base, rewarding mentors, enhancing information technology.

Further obstacles to the success of dual VET implementation in countries are that VET graduates do not meet the needs of the economy. The majority of school laboratories and equipment are obsolete. These flaws show that the accreditation requirements for vocational schools do not effectively address the unique characteristics to prepare skilled workers for employers (Buchynska, 2021). A low level of students’ basic competencies is observed. As shown by studies and reports by WWI, the dual system is part of an education system with a high degree of segregation, in which social origin still stands out as a determining factor in educational success (Langthaler, 2015).

However, examining the interpretation of the dual form of education, based on the work culture of the recipient country, makes it clear that the local context hinders the development of comprehensive dual training in the companies of these countries. The influence of some factors is difficult to separate from each other, as they are largely interdependent (Pilz, 2017). In particular, low willingness of companies to invest, hierarchical organization of work, partially low level of technology, high risk of turnover of trained employees and poor status of professional training make it difficult to focus on a dual structure from Germany.

It becomes clear that each country that seeks to implement dual education will have to develop its own version of this education in order to incorporate these principles into its structures and at the same time realize its tradition. Ukraine, where interest in the dual system has already passed the study stage and is at the stage of active implementation, also faced a large number of obstacles.

Separate dual educational programs are not being developed in Ukraine, as it is currently economically impractical. This can be explained by the high cost of program accreditation, the lack of a sufficient number of applicants who express a desire to study in a dual form or are informed about the existence of such a form of education, to form separate groups. In addition, there is a lack of sufficient training places provided by employers (Buchynska, 2021).

Difficulties that arose during the introduction of a dual form of education:

- Difficulties arise constantly with quarantine restrictions. These are difficulties in visiting the enterprise due to quarantine and the inability of some applicants to access Zoom and the lack of Internet in rural areas;
- Employers do not always inform educational institutions about the available number of places for training, vaguely express the criteria for selecting applicants, which complicates the organization of groups with dual-form of education. In addition, enterprises cannot always fully ensure the implementation of the curriculum;
– It is difficult for educational institutions to monitor the implementation of the training program at workplaces. Teachers do not have free access to enterprises, as well as such powers.
– Enterprises do not always pay enough attention to the student of education and there are no highly qualified mentors;
– Low level of explanatory work regarding its benefits among students and teaching staff. More than half of the employer-partners offer the possibility of internship at the production to pedagogical and scientific-pedagogical workers and they do not show interest.
– Applicants are dissatisfied with low wages at the enterprise.
– Employers do not understand all the bureaucratic nuances that educational institutions are obliged to follow, so excessive bureaucracy can negatively affect their decision to engage as partners. Some employers consider tripartite contracts not mandatory if there is a bilateral agreement with the educational institution and individual plans are the same for all applicants.

In Ukraine for 2021–2022 in institutions of higher education, there were no cases when the employer paid for the cost of training students for a dual form of education.

As in any country, we also have cases of refusal to study dual form of education. Among the reasons are the following:
– It is difficult to combine work and study;
– Lack of free time;
– The far distance of the enterprise from the place of residence of the acquirer.

These are key factors inhibiting the development of the national pattern of a dual form of education.

CONCLUSIONS

The issue of “dual system export” or transfer of dual vocational training has always played an important role in cooperation in the field of vocational training. It has already been proven several times that exporting a vocational training system in the sense of a “replica” to another country is neither possible nor reasonable, as experience has shown that this does not lead to structural sustainability. Vocational training in Germany, as in other countries, is characterized by cultural and structural changes. The German VET system is the result of a struggle between companies, associations, trade unions, chambers and government institutions to find a modern form of education. Vocational training has always been caught between the conflicting demands of the labour market and the education system (BiBB, 2017).

Therefore, it is impossible to answer the question of transfer without including them in the relevant socio-cultural and socio-economic context. Therefore, each VET system is unique, even if different systems are grouped into clusters with similar structural characteristics for the purpose of scientific comparison. Similarly, the issue of transfer should not be equated with the catchphrase “dual system export” (BiBB, 2017).

Countries wishing to introduce a dual form of education should not expect that the implementation structures developed within the framework of certain projects and which is an example of success in other countries will be ideal for your country. It is necessary to take into account the social, economic and political conditions of one’s country and to change and adapt the dual form of education in Germany to one’s needs. Given the difficulties associated with the transfer of vocational training, it can be argued that every change in the vocational training system, which is specific to the work culture, must cause various interactions with other social institutions.

The results show that direct transfer or implementation poses numerous challenges and difficulties and confirms that close cooperation between all stakeholders and shared awareness and commitment of all participants in education are paramount for successful transfer of VET.
Therefore, in the future, it is necessary to study how exactly countries deal with obstacles and the factors of successful implementation specifically for Ukraine.

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