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Co-Operation Between Actors in Dual Training Programmes: Conditions for Success in the Mexican Tourism Sector

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Abstract

Context: For many years, dual training programmes have been transferred from German speaking countries to other countries. It has been repeatedly pointed out that this transfer is made particularly difficult by the need for co-operation between numerous different stakeholders. Despite various transfer activities, however, the scientific findings on the topic to date are rather limited.

Approach: This study therefore identifies and discusses the principles for successful co-operation in the Mexican vocational training system in the tourism sector. Two research questions are addressed, the first following a deductive research approach and the second an inductive one: 1) Which of the principles for successful co-operation named in the research literature can also be found in Mexico? 2) Which other or further principles are relevant in the Mexican context? The tourism sector in Mexico is especially suitable as an object of investigation as, over a number of years there has been an intensive implementation of dual training structures here. Based on 70 expert interviews with the various stakeholders in three regions of Mexico, principles for successful co-operation were developed.

Findings: The findings show that a large number of interacting principles are necessary for successful co-operation between the players. A total of 18 principles were identified in the categories of relationships, control efforts and embedding. Seven of these principles had not been explicitly identified in the existing scientific literature. Some examples of the new

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principles identified are: Regarding the "relationships" category, the findings identified the identification and selection of partners as a previously non-existent principle. The aspect of contracts at an international and national level was also recognised as an independent principle from our data, which can be assigned to the category "control". Internal security is also an important aspect for the learning centres and can be subsumed under the category of embedding. The newly generated principle of the length of the practical phases can also be categorised as embedding.

Conclusions: These principles are discussed and interpreted both in the context of existing scientific approaches and specifically in the Mexican context. The work reveals the high degree of interdependence between the principles. Individual principles can therefore not be considered in isolation. The review and extension of the principles can provide important stimuli for both VET transfer research and educational governance research.

Keywords: Vocational Education and Training, VET, Dual Training, Actors' Co-Operation, Mexico, Tourism Sector

1 Introduction

Globally, an intermediate skill level is often seen as the standard for vocational qualifications (OECD, 2018). At an international level, there are growing efforts to implement a dual training system based on the German, Austrian and Swiss models (Barabasch et al., 2021; Gonon, 2014). The aim is to modernise the respective national vocational education and training (VET) systems and promote the local economies (Wiemann & Fuchs, 2018). Implementation of dual training is seen as an option for providing qualified skilled personnel needed in realising this aim (Gessler, 2017a).

In Mexico, efforts are also being made to modernise the VET system in line with the German dual system. For this reason, the upper secondary VET system was reformed in the 2010s and a Mexican dual system (*Modelo Mexicano de Formación Dual*, MMFD) was introduced, which aims to combine practical learning in companies with theoretical learning in vocational schools. As part of the implementation of the dual Mexican system, two new training programmes were created for upper secondary level in the tourism sector, which is economically important for Mexico: "Hospitalidad turística" (tourist hospitality) and "Alimentos y bebidas" (food and beverages). In general, the dual programmes at vocational schools comprise at least one year of full-time schooling. After one and a half years, learners who perform particularly well can be recommended to companies (SEP, n.d.). VET alone offers young people little prospect for a successful entry into working life; thus, many still prefer to study further, as upper secondary education with a vocational orientation is not highly valued by society (Clement et al., 2021; Wiemann, 2020). As universities in Mexico also show a strong

interest in including practical phases, they offer dual concepts in degree programmes such as tourism management. German-speaking stakeholders (Germany, Austria, Switzerland) such as the German Mexican Chamber of Industry and Commerce (CAMEXA), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Federal Institute for Vocational Education and Training (BIBB) are involved in the reform process (Wiemann & Fuchs, 2018). There is also a co-operation agreement between Mexico and Germany and different dual training programmes have been put into practise (BIBB, 2015). Various dual concepts have now been developed and are being implemented by different organisations in Mexico, so there is no uniform dual programme (Vogelsang, 2024).

Against the background of these developments, it is of scientific importance to determine which criteria are relevant for a transfer. According to Fortwengel and Jackson (2016), the following criteria must be met for the German VET system to be transferred to other countries: Firstly, a willingness to train on the part of companies is required, as are vocational schools, which act as a second place of learning. Legal foundations are necessary; on the one hand, they form the framework for such a system, while on the other hand, the requirements for the recognition of qualifications are specified. Both scientific and experience-based knowledge should be used. Furthermore, co-operation between actors from the government, business and social partners is important. It is relevant that a holistic occupational profile takes centre stage during training. As a final criterion, the vocational training system should be seen potential students as a career-relevant measure.

As co-operation between the various stakeholders is especially important, this criterion forms the basis of the present study. Within the German dual system, various stakeholders interact with each other, in particular the government, companies, associations, chambers, trade unions and vocational schools (Fuchs et al., 2021). The Mexican VET system also involves a number of stakeholders who need to cooperate; however, no conditions for successful co-operation between actors in the Mexican VET system in the tourism sector have yet been specified, although joint action by participants is presented as central (BIBB, 2015). So far, however, no conditions for successful co-operation between actors in the Mexican VET system within the tourism sector have been mentioned, although joint action by participants is presented as central (Röhrer et al., 2024).

This study therefore aims to identify and discuss the necessary principles for successful co-operation in the Mexican vocational training system in the tourism sector. Two research questions are addressed, the first following a deductive research approach and the second an inductive one:

1. Which of the principles for successful co-operation named in the research literature can also be found in Mexico?
2. Which other or further principles are relevant in the Mexican context?

These two questions can therefore be used to answer the topic of the paper: How can successful co-operation between actors in dual training programmes in the Mexican tourism sector be achieved and strengthened? Our aim is therefore not to make a general comparison of the VET systems in both countries, but rather to focus on a specific aspect within international transfer research in the field of VET (Li & Pilz, 2023).

To this end, the state of research and the theoretical basis derived from it are outlined below before the method used is presented. This is followed by a presentation and discussion of the findings.

2 State of Research and Theoretical Basis

Most publications have focussed on the transfer of VET from the perspective of German companies in Mexico (Clement et al., 2021; Pilz & Wiemann, 2021; Valiente et al., 2020; Wiemann & Fuchs, 2018). However, there are few publications that analyse both the implementation and the results of co-operation, which puts the principles of collaboration at the centre, because results can only be achieved if there is successful collaboration (Paeßens et al., 2023; Vogelsang et al., 2021, 2022). For example, Callan and Ashworth (2004, p. 60) write: "Successful training partnerships regularly review how well the partnership is meeting industry needs. (...) Building trust will be central to the success of the training partnership". There are studies on "(...) steps to take to ensure 'successful' partnerships" (Davies & Hentschke, 2006, p. 211), but it has been pointed out that within VET research there is a need for further research in this regard (Callan & Ashworth, 2004).

For the discipline of VET in particular, empirical findings are available that demonstrate the required principles. Billett et al. (2007) conducted interviews with ten social partnerships in Australia to determine the required principles. According to Billett et al. (2007), there are three ways in which joint, coordinated action among VET stakeholders can begin. Basically, some form of communication must take place for relationships to (further) develop (White, 2008). Billett et al. (2007, p. 5) suggest "community partnership" as a possibility for network co-operation. Due to identified challenges and concerns, such as youth unemployment or a shortage of skilled labour locally, companies or local administrative units are looking for ways to counteract these deficits; thus, similar strategies must be aligned with local needs (Rageth & Renold, 2019).

An "enacted partnership" (Billett et al., 2007, p. 5) is also conceivable. This form of co-operation is deliberately promoted by both governmental and non-governmental organisations to pursue political goals. The emergence of such partnerships takes place outside the local administrative unit and does not result directly from a locally perceived challenge (Billett & Seddon, 2004). In contrast to the first type, this type of partnership is formed by actors outside the municipality who nevertheless have influence (e.g., the national government). To

achieve the defined goals, stakeholders on the regional level must be involved and mobilised (Billett et al., 2007).

The last type of co-operation cited by Billett et al. (2007, p. 5) is the "negotiated partnership". This type of partnership is based on local interests or an overriding (national) concern and is built on co-operation between local stakeholders and central authorities. The objectives are negotiated jointly; however, the local partners have a strong negotiating position and can therefore enforce the co-operation on their own terms (Billett et al., 2007).

These statements reveal that "each partnership had its own birth story, which accounted for the decision processes leading to its establishment" (Seddon et al., 2004, p. 135).

From the above it is obvious that the motives for co-operation partnerships, and the initiation of co-operation are closely related. As noted by White (2008), the various actors influence co-operations through steering. A study by Provan and Kenis (2007) also makes clear that the results of networking can only be understood if the mode of operation is comprehensible. The actions of the participants and their relationships with each other must therefore be analysed in order to draw conclusions about the necessary principles for successful co-operation.

Governance concepts are receiving increasing attention in VET research in order to analyse the approach of the actors (e.g., Oliver, 2010). The aim of governance research is to gain an analytical understanding of regional networks, as regional actor networks are difficult to define (Wilkins & Mifsud, 2024). This research approach aims to analyse the interaction between the various stakeholders and the various levels, for example state or society, that generate products such as education, through joint action.

To better understand the actions of those involved, Kussau and Brüsemeister (2007; see also Altrichter, 2010) developed a concept that can be used to analyse the various influences in governance. This concept is based on seven categories through which such an analysis can be carried out: "Actors and actor constellations", "Interdependence", "Multi-level model", "Observation, influence and negotiation", "Hierarchy, market, community, networks", and "Governance regime".

The category "Actors and actor constellations" analyses how the participants influence each other and what effects the respective actions have. This results in an order that can be depicted as a network, for example (Altrichter, 2010; Kussau & Brüsemeister, 2007, p. 26).

"Interdependence" (Kussau & Brüsemeister, 2007, p. 27) refers to the mutual dependence of those involved. For example, a goal can only be achieved because partners provide resources that others do not have at their disposal, thus, a division of tasks is conceivable. On the one hand, this interdependence offers an opportunity for action; on the other hand, it can also give rise to conflicts or disputes. Examples of this may include that the motivation to work in the network could decrease, but also the attempt to transfer one's own responsibility to others. In the same way, existing standards and legal requirements can determine interdependence.

Kussau and Brüsemeister (2007, p. 31) recognise the "multi-level model" as an independent category. According to this, various system levels must be considered within which the organisations can act or must coordinate, which in turn may trigger processes as well as effects at other levels. The different rights of disposal, which give rise to opportunities for influence or decision-making powers, should not be ignored. The multi-level model thus makes it possible to draw conclusions about the interdependencies of the individual organisations.

Through "observation, influence and negotiation" (Kussau & Brüsemeister, 2007, p. 37), it is possible to differentiate between the forms of coordination. The actors can observe each other and thus influence the actions of others. Participants may act differently if they know that they are under observation. Influence means that resources such as money or certain characteristics such as power also influence co-operation. At the same time, and among other things, it is possible to enter negotiations with one another to reach joint agreements. Due to existing hierarchical structures, there are asymmetries that are particularly important when it comes to observation and influence.

The category "hierarchy, market, community, networks" (Kussau & Brüsemeister, 2007, p. 39) can be used to visualise coordination in a social context. Within the hierarchy, some actors are above others and have decision making powers. The market includes individual actors who observe it to draw conclusions. Resources may also be used as a means of exchange. A community is characterised by effective action; there are strong ties or shared convictions between the participants. Collective action is the premise within a network. The "governance regime" according to Kussau and Brüsemeister (2007, p. 41), is intended to present "action coordination in an overall context", as mixed forms of action coordination are possible. Both country-specific and socio-cultural influences play a role. Education policy measures may also have an impact on the governance regime (Altrichter, 2010).

This illustration makes it clear that the actions of organisations are influenced by various factors. In addition, Seddon et al. (2004) state that the history of a partnership also has an impact on governance.

The work of Billett et al. (2007) can serve as a further starting point for the study. This is because Billett et al. (2007) include various forms of co-operation in their study based on their origins (community partnership, enacted partnership, negotiated partnership), so that a further perspective becomes clear. It also becomes clear that the concepts presented in the previous sections can have an influence on the principles. The five principles identified by Billett et al. (2007) and explained in detail below in the presentation of the findings, are: 1. "Building and maintaining shared purposes and goals", 2. "Building and maintaining relations with partners", 3. "Building and maintaining capacities for partnership work", 4. "Building and maintaining partnership governance and leadership", 5. "Building and maintaining trust and trustworthiness".

Following White (2008), the three categories, "relationships", "control" and "embedding" can be described as fundamental to co-operation. The "relationships" category contains the principles that strengthen the connection between the participants, such as regular dialogue or mutual trust. The "control" category lists principles that focus on the actions of the participants. The last category, "embedding", includes the influences of the environment, which affect both "relationships" and "control". In the following section, the various principles are taken up again to bring them together in an overall concept. The model will then form the basis for further analysis.

Three different principles could be assigned to the "relationships" category: "Building and maintaining relationships", "intensity of contact" and "trust". In addition, Gessler's (2017b) concept, focusing specifically on co-operation within VET, is helpful in showing the different types of co-operation. Although he only examines co-operation between learning venues, his approach can be useful for various types of co-operation in VET, taking into account the various relationships according to White (2008). The concept of Dyer and Chu (2011), which includes mutual trust, should also be mentioned.

The following principles could be categorised within the "control" category: "Negotiation of common goals", "motivation of all participants", "governance", "resources and financing" and "network size". All the selected concepts offer explanatory patterns for action within a network. Motivational psychology provides insights into how activities can be explained in order, for example, to achieve goals. The governance concept by Kussau and Brüsemeister (2007) also provides additional explanations of the control within a multi-level model.

The following principles can be assigned to the third category "embedding": "Location of partnerships", "flexibility", "organisational structure of partners" and "institutions and recognition of certificates and qualifications". Accordingly, these are external factors that influence the links between the actors.

The previous explanations have resulted in a model with three categories, each of which contains different principles (see Figure 1). All three categories are very closely related to each other and influence each other to some extent, although the individual principles are not weighted in this model.

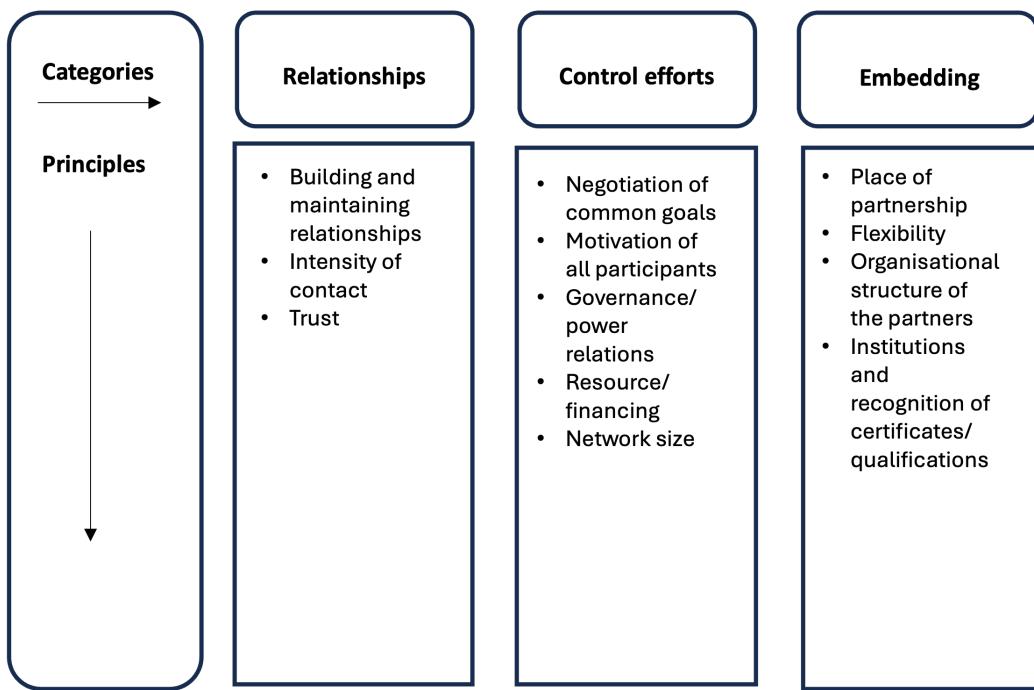


Figure 1: Categories and Principles for Successful Co-Operation (own compilation)

3 Method

Due to the enormous size of Mexico, a regional focus had to be adopted. A total of three study regions were selected: Quintana Roo, Baja California Sur and Estado de México. Tourism is particularly important in these three regions because:

Quintana Roo is the destination of 42% of all air travellers, Mexico City (Estado de México) receives 21 %, while Los Cabos (Baja California Sur) receives 10 % of all arrivals (CNET, 2020). Cancún and Los Cabos have one of the highest average hotel occupancy rates in Mexico (over 75%) (CNET, 2019). Mexico City is also important due to the location of many national and international actors.

To find as many different opinions as possible about VET in Mexico, interviews with experts were used as the main method of data collection. To be able to pursue the research interest in a more differentiated way, the expert interview was chosen as an instrument of qualitative social research, because the experts have specialised knowledge and experience. Intensive internet research was carried out to identify the relevant people. The organisations were also contacted by telephone in advance to check the suitability of the organisation and

the experts, and thus enable targeted contact to be made. In addition, contact was made with other experts using a snowball method.

A total of 70 different experts were interviewed using semi-structured interview questionnaires. Due to the Covid-19 pandemic, 50 interviews could only be conducted via video or phone calls. As international, national and regional co-operation is the focus of this study, various groups of experts of different nationalities were interviewed. The affiliation of the experts to the organisations was also mixed (see Table 1).

Table 1: Experts Interviewed by Affiliation

Mexican authorities	Companies	Vocational training organisations	Mexican organisations	German-speaking organisations
7	24	12	10	17

With one exception, the interviews with German-speaking experts were all conducted in German. The other interviews were conducted in Spanish. Interviews lasted between 20 and 134 minutes. The total data material amounts to around 4.335 minutes.

To ensure the transparency of the methodology in particular, the interviews were transcribed in full and analysed qualitatively using the MAXQDA computer programme. In addition, a supplementary document analysis was conducted. This approach therefore corresponds to a mix of methods that is considered particularly important for intercultural studies (Bowen, 2009; Hitchcock & Nastasi, 2014).

4 Presentation and Discussion of the Findings

In this chapter, the results of the investigation are presented in the structure of the principles as shown in Figure 1. As not all principles can be discussed in detail in this paper, the ones extracted from the literature are limited to a few examples. For each category, therefore, only a limited selection of principles is presented in detail and linked to the findings. The selection was made with the aim of focussing on as many different principles as possible that represent different levels of co-operation. In addition, the richness of the material collected was taken into account when making the selection. Due to the complexity of the topic and to make it easier to understand, the selected principles are discussed directly in the context of the literature. Some new principles emerged from the material. These new principles are introduced at the end of the chapter.

4.1 Category "Relationships"

A German-speaking representative of a commercial education provider describes the importance of the category "relationships" for co-operation as follows: "There is a potential partner landscape with various entities that need to be cultivated and addressed" (I_38).

Relationships also play an important role in successful co-operation in the Mexican VET system. For relationships to be established, the "identification and selection of suitable partners" (Billett et al., 2007, p. 5) is crucial. Both German-speaking and Mexican stakeholders emphasise the relevance of cooperating with suitable partners, as this is the only way co-operation can be successful.

- *Building and maintaining relationships* is an important principle of the "relationships" category, which, according to the interviewees, can take different forms. For example, face-to-face meetings contribute to the success of partnerships, particularly in building and maintaining relationships with local stakeholders.

According to most interviewees, goodwill and commitment are vital to further promote co-operation. In addition, both German-speaking organisations and those based in Mexico, believe that open and direct communication must be a high priority. Communication is particularly important when students complete their practical phase in the companies. Among other things, it can be clarified in which areas of work the students will be deployed. The importance of a tourism association is emphasised, through which, it is possible to exchange experiences from the training programme.

However, the interviewees also identified challenges: For example, one German-speaking organisation states that communication between companies, VET providers and the Ministry of VET is difficult if partners must wait a long time for answers, or if their own concerns and doubts are not addressed (I_21). Another German-speaking organisation cites the lack of data transparency as an obstacle and adds that sharing information is a sensitive issue for companies. The companies do not want to provide insights into internal company information. For this reason, the expert states that it is very difficult to obtain the desired information from other companies, for example, about how they present dual programmes in Mexico (I_19). Another German-speaking interviewee reinforces this view by saying: "We are still miles away from having the kind of partnership-based exchange [between the actors] that we know in Germany" (I_36).

As the results show, "relationship building and relationship maintenance" are also important for successful co-operation in the Mexican VET system (Billett et al., 2007). Although the principle is considered fundamental in academic discourse, other aspects such as harmonious co-operation are more likely to be mentioned as being of importance in strengthening

the relationship between the actors (Billett et al., 2007; Posselt et al., 2012; Stockmann & Silvestrini, 2012). However, our findings show that personal meetings and sharing experiences and challenges are also important aspects.

- *Trust* is mentioned by the interviewees as another important principle for co-operation. The German-speaking interviewees especially, emphasised the importance of this principle. In their opinion, co-operation with the Mexican organisations can only be successful if there is a corresponding level of trust. A German-speaking expert explains:

I think a very important point is trust. In Latin America, I can come up with the best product, but if people don't trust you, they won't do it. I can explain and tell them really, really great things, but it has to come from someone they know and with whom they already have positive experience.
(I_30)

According to a business-related interviewee, there is a great deal of openness and tolerance on the part of the Mexican actors (I_13). According to two German-speaking interviewees, they are trusted by the Mexican partners because they are perceived as "neutral or honest brokers" (I_12, I_13). However, one German-speaking development co-operation interviewee points out that contributors cannot be trusted blindly. For this reason, visits are made on site, or interviews are conducted with local representatives (I_15).

Trust also plays a role at national and regional level. For example, a Mexican tourism association reports that the vocational training organisations trust them because they know what information and connections the association has. A Mexican authority refers to its commitment to transparency and the work it has done to date, which is why other organisations would respond positively to it (I_25).

For both German-speaking and Mexican-based organisations, trust is built on a close relationship with certain people with whom they have already worked a lot and have had a positive experience. It is therefore beneficial if the respective contact persons are not regularly exchanged. As a result, both German-speaking and Mexican interviewees cited continuity and time as decisive factors in promoting trust. Regular dialogue is also relevant, and constant communication is regarded as necessary. A German-speaking commercial interviewee explains:

If you talk to each other regularly, then you sometimes have a deeper exchange with each other, then you get into positive and negative phases, so then there is this friction, then sometimes it goes well and sometimes badly, and over these valleys, which you then somehow sail over, there is somehow a level of trust. (I_19)

Two interviewees cite contracts as fostering trust. One Mexican authority, for example, says that trust is gained due to the existing legal basis (I_29). VET providers use contracts to ensure that the companies exist and that they are reliable co-operation partners.

To summarise, the principle of "trust" is therefore crucial for successful co-operation in Mexico. Trust is the only way to build strong relationships at all levels between the parties involved and ensure long-term co-operation (Stockmann & Silvestrini, 2012). This principle is particularly important for Mexico, as the social and embeddedness perspective (Dyer & Chu 2011), with trust based on social interactions with partners being of particular relevance here. The process-based perspective is also relevant in Mexico in promoting trust (Dyer & Chu, 2011). The temporal aspect is therefore crucial, as the roles of the parties involved can be understood more intensively over longer periods of time.

In addition to the two principles outlined in more detail, our study also found evidence of the relevance of the *intensity of contact* principle and thus all the principles illustrated in the literature in the Mexican tourism sector as shown in Figure 1.

4.2 Category "Control Efforts"

Control is cited in the literature as an important category for co-operation. As already outlined, various principles can be included under this category.

- The *negotiation of common goals* is consistently seen as being of prime importance in the context of control. The stakeholder groups at all three levels (international, national, regional) cite specifically the training of skilled labour as a common goal. Dual programmes at upper secondary level and at tertiary level are seen by many interviewees as a solution to the shortage of skilled workers. The implementation of dual programmes is therefore based on a specific need, as one interviewee stated: "When the pressure is so high that you just have to do something" (I_13).

Other related motives are mentioned, such as reducing youth unemployment, creating added value for the region, or promoting the teaching-learning process in vocational training institutions.

At international level, the clarification of the mission is closely linked to the definition of objectives. For several German-speaking organisations, listening to each other is relevant within such processes: It must be made clear what support the Mexican participants would like from the German-speaking partners. In return, the German-speaking organisations must explain what they can achieve. Ultimately, it is crucial that a common consensus is found.

In the tourism sector, however, a joint definition of objectives only exists between vocational training institutions and companies; companies do not train skilled workers together.

Instead, they are in competition with each other and there is a fear of a brain drain and poaching of skilled employees.

Both German-speaking and Mexican dialogue partners point out that concerns can change, and that continuous follow-up is therefore beneficial. However, it is not only the follow-up that is relevant, but also the appreciation of what has been achieved together so far. For this reason, interim results and recognition of successes are important.

The above shows that it is necessary for stakeholders in the Mexican VET system to define common goals (Billett et al., 2007; Mitchell, 1998; Stockmann & Silvestrini, 2012). Goals must be defined at international, national and regional level. In addition to securing a supply of skilled labour, the various interviewees named other motives for co-operation in the VET sector, thus, consensus is crucial in being able to work together successfully (Billett et al., 2007; Kassberg & Dornberger, 2022; Mitchell, 1998; Provan & Kenis, 2007).

However, the results of the study also show that the players in a group (German-speaking organisations and companies) are in competition with each other, particularly at international and local level. The existing competition results in diverse motivations and different definitions of common goals. A distinction therefore be made as to whether different actors (e.g., companies and VET organisations) or a single group of actors (e.g., only companies) are considered. This finding in the Mexican context therefore further differentiates the perspective of Billett et al. (2007).

- *Governance* is cited by the interviewees as another important principle for successful co-operation in Mexican VET. One German-speaking expert proclaims:

For me, governance means that you are not alone. Then you have to talk to each other, coordinate, somehow bring processes together and create a standardised picture. Or at least somehow make them compatible. That is of course a very difficult process. (I_19)

One German-speaking interviewee considers co-operation in Mexican VET to be complex, as many stakeholders are involved (I_13). A Mexican authority is also of this opinion because Mexico is very large in terms of area, many learners attend upper secondary level and all participants in the individual states must be coordinated (I_29). The authority reveals:

Implementing a public education policy in Mexico is about millions of people. We have more than five million learners in upper secondary education in 32 states. That is enormous. This means that the difficulties of this size ... lie in coordination with the states. (I_29)

However, the actors who play a central role are in the level above all the individual federal states, because "[t]he real music actually plays in the federal states" (I_12). The interviewees cite several factors for successful co-operation and joint action: Good coordination is required to promote co-operation. To strengthen coordination, round tables are mentioned, among

other things, at which the various participants meet and share their experiences. However, in the opinion of one VET authority, the joint work must not impair or hinder the processes of the other stakeholders involved (I_57).

As the results of the study show, *governance* is also a principle that must be considered: The joint action of the various actors at the different levels results in a common product: The training of skilled labour (Billett et al., 2007). Governance is therefore an important principle in the Mexican VET system in understanding the actions, influences and roles of those involved (Kussau & Brüsemeister, 2007; Oliver, 2010).

– *Resources and funding* are also important for successful co-operation in the Mexican VET system, as these are required for the implementation of dual programmes.

Various German-speaking organisations have supported Mexican stakeholders with financial resources in recent years, however, German-speaking interviewees noted critically that in the past, financial resources from German-speaking organisations were not used correctly in the area of international VET. The implementation of dual programmes should not take place in all regions at the same time, but those involved should concentrate on individual regions. One German-speaking interviewee explains:

If you use any funds from over there [from German-speaking countries], then you shouldn't distribute them with a watering can, but rather invest where there is already something, to make it even better. Not where there is nothing. Where there's nothing, there's a reason why there's nothing. There is nothing and there will be nothing. (I_33)

Financing also plays an important role at national and regional level, as Mexican companies do not contribute financially to the financing of trainees. A German-speaking representative of the development co-operation organisation comments:

[A] birth defect from the beginning of dual training in Mexico is this: The state pays a scholarship to the students (...) [W]hen companies get used to the fact that it was free, at some point they ask themselves why it is no longer free. And in the long run, the state doesn't have that much money to pay for it. (I_22)

This statement is therefore very relevant, as the previous scholarships were recently cancelled. Human resources should also be mentioned in connection with financial resources. Co-operation is only possible if sufficient capacity is available. German-speaking contributors complain that the Ministry of Education has too few staff for dual programmes and their further development due to cost-cutting measures. Sufficient financial resources are also required for teachers, as they play a key role in the co-operation programme, and the Mexican teachers receive a relatively low salary. A German-speaking business-related interviewee criticised

this: "In Mexico, a teacher like that can't even live on their salary. (...) The man absolutely has a second job, usually a third job, so that he can feed his family" (I_36).

For co-operation between learning venues to be successful, it is also important for vocational training organisations to be adequately equipped. Co-operation fails if companies use the latest technology, and the necessary equipment is lacking in the VET organisations. One German-speaking dialogue partner stated: "There are no equipped vocational schools. There is nothing. I have visited umpteen vocational schools, (...) what they have there is not enough. It brings tears to your eyes" (I_33).

The funding period also plays a role in successful co-operation: Two German-speaking interviewees consider it a hindrance if projects in VET are designed by German-speaking organisations for a period of around three to six years and are not continued beyond that (I_19, I_22). One vocational school summarises the need for available resources as follows:

I think that in Mexico we lacked the clarity that the dual model cannot be built if we do not provide human, technological and financial resources; if we realise that we need resources and allocate them, that is also part of our success. (I_8).

It is clear from the above that a variety of resources are required in Mexico for collaborations to be successful (Stockmann & Silvestrini, 2012). In the context of material resources, financing plays an important role, in other words, who bears or does not bear which costs (Billett et al., 2007).

As discussed in the academic discourse, we were also able to find all the principles in our study, including those of *motivation of all those involved* and *size of the network*, which are not explained in detail here.

4.3 Category "Embedding"

As described above, various principles can be categorised as "embedding". In general, a German-speaking representative involved in development co-operation notes regarding the implementation of dual programmes in Mexico: "What is important for successful co-operation is that we work through the existing circumstances. We have to take them in, we have to understand them. We often cannot change them" (I_22).

- *Flexibility* is emphasised as essential for successful co-operation in Mexico. Vocational training authorities and vocational training organisations are forced to continuously inform themselves about the needs of companies and possibly to update the course content. The training programmes and the respective curricula of vocational schools and dual universities play an important role in this context. Various vocational training organisations conduct analyses to determine whether additional training courses should be included. Dual universities in particular, seek to clarify the

needs of companies and have formed so-called "Consejos de Vinculación", that are committees in which those responsible discuss curricula. However, these conferences only provide advice; the universities ultimately decide on possible adjustments to or revisions of the curricula. However, several companies also criticise the slowness of the VET authorities and VET institutions, which do not react quickly enough to new trends in the sector, and if learners are not trained in line with current requirements, they are not attractive to companies within the dual programmes.

A Mexican organisation also illustrates the need for flexibility in dealing with regional differences in tourism specialisation: "(...) that the person [from a university] has the right level, that there is a match between the curricula and what we see, which is the trends or the demand of the destination" (I_50).

Thus, the principle of "flexibility" is closely linked to the principle of "place of partnerships". Particularly emphasised is that the involvement of the private sector is important in designing curricula in line with current market requirements (Stockmann & Silvestrini, 2012). Flexible adaptation of the programmes is also necessary to be able to react to changes within the industry (Callan & Ashworth, 2004; Stockmann & Silvestrini, 2012).

- The final principle, the *institutions, and recognition of certificates and qualifications*, was described by the interviewees as being of fundamental importance. In Mexico, institutions play an important role in successful co-operation. Mexico has a law, the "Acuerdo Secretarial", which serves as the basis for dual programmes at upper secondary level, and therefore also recognises dual forms of training. According to a German-speaking commercial expert, the passing of the Acuerdo Secretarial has provided a major impetus (I_16).

Although the law applies to the entire upper secondary level, German-speaking experts say that there are varying implementation models in Mexico because the stakeholders each implement their own concepts. One interviewee from the field of development co-operation said: "One of the problems at the moment is that we have 26 different dual models in Mexico, because everyone here does what they like" (I_22).

A Mexican authority also confirms this, as the various vocational schools have promoted their own dual programmes, which may be recognised based on a standard from the Ministry of Education (I_29). Many states have therefore taken advantage of certain freedoms (I_36). According to a German-speaking interviewee, it makes sense to set a framework for what is dual and what is not (I_19).

However, it is not only the existing institutions that are considered important by the interviewees, but also the national recognition of qualifications (I_29). The legal basis for this

exists in Mexico and contributes to the promotion of co-operation, as is also described in the international literature (Mitchell, 1998).

In addition to the findings presented here, indications of the relevance of the principles in the Mexican tourism industry were also found regarding the *location of the partnerships* and, to a much lesser extent, the *organisational structure of the partners*. We therefore did not consider the last aspect any further in the area we analysed.

4.4 Expansion of the Set of Principles

The findings to date document that the principles of co-operation derived from the literature are also relevant in Mexico's tourism industry in a context-specific manner. However, the material also revealed some previously undiscussed principles. These new principles can be assigned to the three categories "relationships", "control" and "embedding".

Regarding the "relationships" category, the findings identified the *identification and selection of partners* as a previously non-existent principle. Both German-speaking and Mexican stakeholders emphasise the relevance of cooperating with suitable partners, as this is the only way that collaboration can be successful. However, the search for suitable participants and the associated knowledge of the actor constellation is made more difficult for the German-speaking organisations by the diversity of possible Mexican participants. According to one German-speaking interviewee, it is also a challenge for the Mexican participants to correctly assess the roles of the respective German-speaking organisations (I_19). Various interviewees therefore stated that a stakeholder analysis was necessary. For example, according to German-speaking participants, the Mexican trade unions are a difficult co-operation partner and are perceived as a hindrance (I_22, I_30). Within the tourism sector in Baja California Sur and Quintana Roo, the employers' organisation plays no role and is also not perceived as beneficial at the regional level (I_8, I_58).

The statements make it clear that there are numerous potential partners in the Mexican VET system, but not all of them appear to be suitable for successful co-operation. Valiente et al. (2021, p. 1) write as a justification for the exclusion of trade unions: "Policymakers (...) institutionalised dual apprenticeships without introducing changes in the labour law to avoid political resistance from trade unions, leaving the labour rights of students unprotected". As a result, reciprocity is important in the Mexican vocational training system; there must be reciprocity for collaborations to be seen as beneficial. Although "building and maintaining relationships" is a central element in VET in Billett et al. (2007, p. 5), there is no explicit reference to the "identification and choice of partners". Callan and Ashworth (2004) also do not list this as an important condition. Only in Australia, do all researchers recognise successful collaborations; while international views of experts—such as the comparison of the involve-

ment of different organisations in the German dual system—are not considered (Billett et al., 2007; Callan & Ashworth, 2004).

The aspect of *contracts at an international and national level* was also recognised as an independent principle from our data, which can be assigned to the category "control". At international level, contracts are concluded between the co-operation partners for the implementation of dual concepts. One example of this is the co-operation agreement between Mexico and Germany, in which Germany pledges its support for the implementation of dual programmes. Agreements may also be concluded between commercial actors and vocational training organisations or other organisations. However, German-speaking interviewees do not agree on whether written agreements promote or hinder co-operation. According to one German-speaking commercial training provider, "this contractual side (...) is the be-all and end-all", in which the tasks and available resources are clear (I_12). On the other hand, two German-speaking interviewees criticised the fact that the signing of contracts at international level was used primarily for image purposes, but that in practice more support was needed (I_19, I_33).

The interviews show that the principle of "contracts at international and national level" (Billett et al., 2007, p. 5) cannot be distinctly clarified. This principle has not yet been mentioned in academic discourse, and, as the statements of the interviewees are ambivalent, may be newly introduced, but its significance must be interpreted as only partially relevant (therefore indicated in brackets in Figure 2).

However, if only vocational training institutions and companies are surveyed the two learning venues at the pedagogical level, there is clear support for written agreements (*contracts between the learning venues*). In Mexico, the two learning centres conclude contracts with each other so that the learners can complete practical phases in the companies. One aim is to establish the status of a student as a learner and not as an employee. The contracts between the two learning centres are usually very general and, in addition to the legal basis, contain statements on the duration of the practical phases and the services the company provides to the learners, such as free meals.

The relevance of the contracts between the learning locations in Mexico is officially recognised: Learners can only take part in practical phases by means of written agreements. However, the importance of these contracts has not yet been discussed further in academic discourse and has therefore not been identified as an important principle for successful co-operation. It is possible that the importance of the principle of contracts between learning venues has not yet been discussed in academic discourse because these contracts are embedded very differently in the existing VET context in each country (Li & Pilz, 2023; Pilz, 2017).

Internal security is also an important aspect for the learning centres and can be subsumed under the category of embedding. The importance of this principle applies in the case of Mexico but is likely to have similar effects on co-operation in other countries. It is not only the

location of the vocational training centre that plays a role in safety, but also the physical route taken by learners to reach the centre, which can also be "life-threatening" due to insecurity (I_30). Outbreaks of violence with weapons in schools are a prominent topic in academic discourse (e.g., Kolbe, 2020). However, this aspect is not mentioned as an important principle for successful co-operation, but merely described. However, according to the relevant statements in the interviews, the aspect is an important principle and should be explicitly mentioned.

The newly generated principle of the *length of the practical phases* can also be categorised as embedding. As there are various dual concepts in Mexico, the practical phases vary in length and the number of hours to be completed varies, with the period varying from one to twelve months. Longer practical phases are considered worthwhile by the private sector. A hotel personnel manager explains:

I always say (...) that it would be worthwhile for all degree programmes to extend the duration of the internships in the hotel departments, because that way the students can be more involved in the business and they can get a picture of all the processes that are interconnected, not just in one department, but with all the departments working hand in hand. (I_37)

Although the length of practical phases is discussed in academic discourse (Stockmann & Silvestrini, 2012), this has not yet been defined as an independent condition for successful co-operation.

The newly developed principle of *special treatment of minors* can also be categorised as embedding. Some companies do not want to accept minors in order to avoid any consequences under labour law. However, various representatives of vocational training organisations state that practical phases for minors are permitted, but it is important to make it clear that this is a teaching-learning relationship. For minors to be able to complete practical phases, it is not only the acceptance of the companies that is important, but also the support of the parents. A representative of a vocational school explains:

In Mexico, it is (...) practically new what is meant by dual education. Parents say: 'How can my underage child go to work when the Mexican constitution says that minors cannot work?' (...) The idea is to sensitise parents through conversations by telling them: 'You know what, it's a preparation for your child so that in the future, when they finish school, they will be able to stay and have a secure job'. (I_23)

It has long been known in Mexico that employment of someone who is underage can lead to problems. However, the study once again emphasises the need for an independent principle to ensure "(...) that minors may also benefit from dual training" (I_23).

Unforeseen environmental influences can also be defined as a principle under the category of embedding. The Covid-19 pandemic had a significant impact on co-operation in Mexico. According to several interviewees, dual programmes could not be implemented or there

were delays in implementation. According to German-speaking education providers, inter-personal relationships were impaired by the Covid-19 pandemic, as personal contact was not maintained. At regional level, there was a great deal of dissatisfaction regarding dual training, especially at the beginning of the pandemic, because the practical phases had to be cancelled, and it was not possible to predict exactly when the learners would return to the companies. "Unforeseen environmental influences", such as a Covid-19 pandemic or even environmental disasters or political unrest, are another principle to be observed.

To summarise, the results show that the principles discussed in the literature in general are also important for the VET system in Mexico. In addition, seven new principles are derived from our data relating to the Mexican tourism sector. Therefore, the model developed at the beginning (see Figure 1) needs to be adapted, at least for the Mexican context (see Figure 2; the principles that support the findings of the scientific discourse appear in normal letters and the new principles in italics).

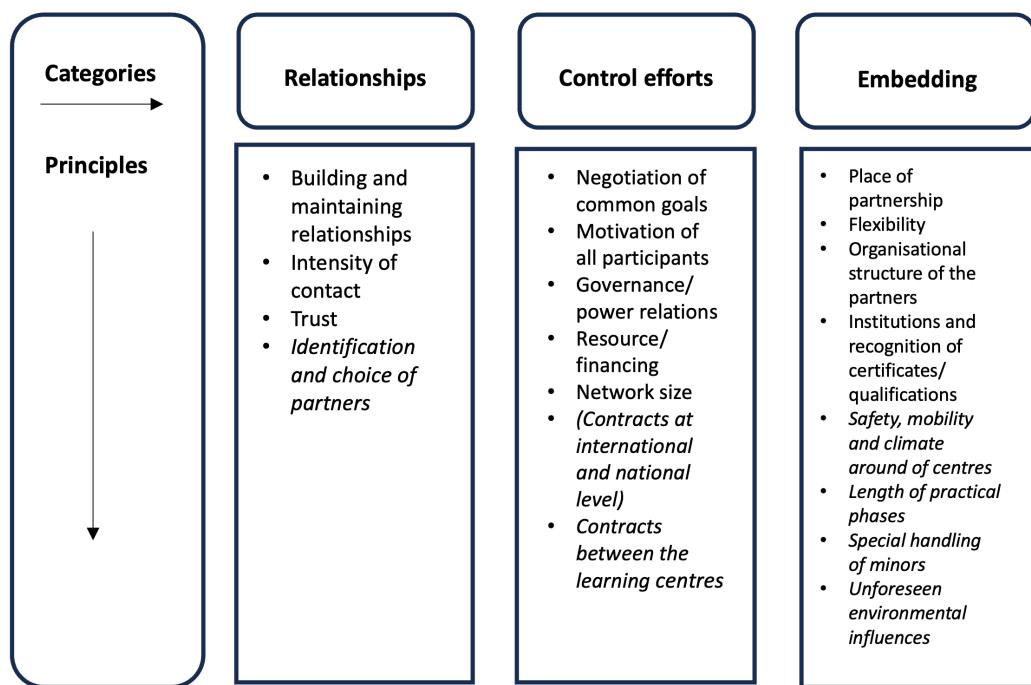


Figure 2: Expansion of the Principles for Successful Co-Operation

5 Conclusion

Our analysis was able to shed light on which of the principles for successful co-operation in the context of dual training identified in the research literature are also found in Mexico. It was also possible to clarify which other or further principles are relevant in the Mexican context. Thus, on the basis of the empirical findings, it was possible to discuss how successful co-operation between actors in dual training programmes in the Mexican tourism sector is represented. Finally, the findings presented can now be discussed with regard to the limitations, scientific and practical implications.

5.1 Limitations of the Study

The study does not claim to depict the co-operation of actors in all economic sectors in Mexico. The tourism industry, for example, with its high degree of service-orientation and large number of companies, also differs from other sectors such as large-scale industry (Wiemann & Fuchs, 2018). We can only assume that in Mexico it seems possible to transfer the principles in an adapted form to other sectors with dual training practices. This is because the institutional framework conditions are generally largely identical here, especially in larger companies (Pilz & Wiemann, 2021; Röhrer et al. 2024; Wiemann & Fuchs, 2018), and thus offer a potentially suitable basis for transfer. However, additional intranational studies would be necessary to determine homogeneity.

Furthermore, only three tourism regions in Mexico were included in the study and the number of stakeholders surveyed was also limited due to resource constraints. It is also important to bear in mind that the training experts in companies and schools only know and personally perceive a limited part of the training activities. Regarding the problem of the influence of social desirability on the results, which frequently occurs in qualitative, internationally orientated research, very open and critical results can be reported. In addition, the survey of the different actors made it possible to compare the statements and thus to obtain a consistent picture. However, it is not possible to generalise the results without reflection. Furthermore, the research focus does not claim to analyse the transfer of vocational education and training in particular, or to compare the VET systems of both countries in general. Our findings are therefore only of limited significance in terms of their scope and focus. In the future, a link with studies on these fields of research, especially in the Mexican tourism sector, would make sense. In addition, the instruments used in this study could be used to research other countries in Latin America (Schrank, 2020) and worldwide in order to enable a complex international comparison based on constitutively collected data.

5.2 Scientific Implications

The principles for successful co-operation expanded here in the case of the Mexican tourism industry are relevant from a scientific perspective but may also be viewed critically. For example, Caves et al. (2019) criticise the development of "determinants" for the implementation of educational reforms, if these do not take into account the long-term impact processes. They write (Caves et al., p. 114): "Generally, we are missing a strong theoretical approach to explain implementation success and failure". Toepper et al. (2022) also criticise the lack of empirical evidence of such approaches. In contrast to the criticism, both theoretical approaches and empirical findings were used in our study. In the derivation of the model, the challenge of being able to use theoretical and empirical approaches for a comprehensive foundation becomes apparent, because there are no corresponding theoretical considerations for every principle inductively derived from the empirical material. Even for the newly developed principles, such as "length of practical phases", there are no homogeneous theoretical considerations that fully capture the principle. Therefore, our own research focus is at a medium level of abstraction and does not directly aim at independent and comprehensive theory building. However, as described at the beginning, the review and extension of the principles can provide important stimuli for both VET transfer research and educational governance research. In the area of transfer research, the aspect of inhibiting and facilitating factors for the most successful transfer possible is specifically addressed. In educational governance research, on the other hand, the principles can make the motives and power structures of the actors in dual training initiatives more transparent.

In summary, our findings show that the principles of Billett et al. (2007) are also fundamentally relevant in other industry and country contexts: Where further adaptations may be possible or even necessary. Caves et al. (2019, p. 113) critically note regarding the principles for the implementation of VET reforms: "[W]e should be wary of stagnation or repetition." This can also be applied to the principles for successful co-operation. Consequently, further research is needed to identify additional principles for successful collaboration.

In addition to the various principles, this work also reveals the high degree of interdependence between the principles. Individual principles can therefore not be considered in isolation. Caves et al. (2019) also write that interdependence is of great importance when it comes to the implementation of educational reforms.

Further research is also needed into the forms of co-operation. As Gessler (2017b) notes, precise results are only possible if long-term observations are made. It has already been documented in this study that the participants co-operate with each other to varying degrees; however, as the type of co-operation was not the direct research interest, no clear statements can be made. Nor can our study provide any information about the effectiveness of the various principles in a mutual comparison.

5.3 Practical Implications

Despite the limitations mentioned, our findings also provide indications regarding the optimisation of co-operation in dual training programmes in VET. The three categories (see Figure 2) already highlighted that the principles belong to different levels of control. Trust, for example, can only be established at an interpersonal level, while financial resources affect the organisational level of school and company and, in a broader sense, the state level. The principles identified are to be understood as points of reference in the implementation process and the further development of dual training programmes. Due to their degree of abstraction, they cannot serve as direct implementation instructions. Unfortunately, it is not possible to present examples of best practice on the basis of our study for reasons of data protection. However, practical implementation always requires consideration of the respective local context factors. Specific instruments are available for many principles to ensure successful support. For example, there are various practical guides on establishing trust (Waterford, 2024).

The study shows in detail, that the concepts or approaches developed in one country, such as the approach of Billett et al. (2007), cannot be adopted in practice without scrutiny for VET systems in other countries, because other principles may be relevant, depending on the context. For example, the principle of special treatment of minors is particularly important in countries with a risk of child labour. Nevertheless, it could be assumed that the countries of South and Central America would be the most suitable for transferring the results due to the cultural affinity and the similar institutional embedding of VET (ILO & Cinterfor, 2017; Puscus & Romero, 2024) in the sense of a largely similar approach (Pilz, 2012). Whether similar training cultures (Pilz, 2009) really lead to largely identical principles, however, remains to be shown by further country analyses.

To summarise, it is clear that this study raises further and new questions. However, the results presented here already document, that various principles are important when dual training concepts are introduced. As a result, the implementation of dual practices presents a particular challenge when they are newly introduced in a country (e.g., Gonon, 2014; Pilz, 2017). When interpreting our findings, however, it is important to bear in mind that our study focusses on the conditions for successful co-operation and not on the much broader question of whether VET transfer is fundamentally useful in the respective context. This is because it has been scientifically established that training concepts cannot be transferred from a donor country to a recipient country without adaptation (Li & Pilz, 2023; Meyne & Peters, 2022).

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Ethics Statement

The study was conducted in accordance with the etiquette standards of the University of Cologne (see: <https://uni-koeln.de/en/research/scientific-principles>), which are in line with the IJRVET ethics statement.

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