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Collective Skill Formation Regimes in Times of Covid-19: A Governance-Focused Analysis of the German Dual Training System

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Abstract

Context: Covid-19 poses major challenges for vocational education and training (VET), as VET—in contrast to general education—is closely linked to the economic system and cannot escape the impact of current economic restrictions. Additionally, strict infection control regulations, as well as temporary school and company closures, inhibit the teaching of practical skills at the workplace. Rapid action by the responsible actors is essential to ensure that VET can take place even under these difficult conditions. It can be assumed that both the complex decision-making processes and the multiplicity of actors involved in collective training systems complicate or delay the reaction to this exogenous shock. Using the example of the German dual training system, this explorative article aims to examine the ability of collective training systems to deal with the challenges posed by the pandemic.

Methods: Based on a document analysis, various publications (e.g., press releases, reports) by central actors of the German dual system were reviewed, which provided information about the provision of training activities as well as the measures taken or required to counteract the pandemic-related consequences for dual apprenticeships. This corpus of literature was expanded by scientific studies and publications from national or international institutions related to VET. Following a governance-analytical and actor-centred perspective, the

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documents were analysed with regard to the indications they provide about the realised coordination of action between the actors, the realised processes and outcomes, as well as the levels affected within the VET system.

Findings: The way of dealing with the crisis demonstrates that the German dual system is influenced by the actions of various actors at multiple levels. Actors who are involved in the decision-making processes share common interests, resulting in a strategically bound cooperation among them. However, influence or power from bottom-up seems to be rather limited, as not all of the actors considered in this study are included in essential governance processes. Despite the comprehensive reactions to the pandemic, problems and optimisation needs are also apparent, e.g. with regard to vocational orientation or the support of vocational schools.

Conclusion: Despite its complexity, the dual system as a collective training model is capable of acting and adapting to face the challenges posed by the pandemic. This may also be due to the historically entrenched corporatist structures within the dual system: Even in times of crisis, the trust in this historically evolved institutional framework leads to a high degree of accountability and cooperation among the decisive actors.

Keywords: Collective Skill Formation Systems, Dual Training System, Germany, Educational Governance, Covid-19, Vocational Education and Training, VET

1 Introduction

As an exogenous shock, Covid-19 affects almost all areas of life. Significant income and job losses have been recorded (International Labour Organization [ILO], 2021a; Organisation for Economic Co-operation and Development [OECD], 2021a), resulting in severe social consequences, especially for already disadvantaged population groups (e.g., Committee for the Coordination of Statistical Activities, 2021). In addition, the pandemic has a significant impact on education and training (Avis et al., 2021; Azevedo et al., 2021; German Office for International Cooperation in Vocational Education and Training, 2022; OECD, 2021b; United Nations, 2020) and threatens to negatively affect the educational and employment opportunities of the younger generation (ILO, 2020a, 2020b, 2021b). Moreover, the teaching of practical learning content and the realisation of work based learning have been severely restricted by both infection protection regulations as well as temporary school and company closures (ILO & World Bank, 2021; OECD, 2021c). Already in spring 2020, in her scrutiny of dual apprenticeships at the international level, the OECD (2020) was warning of possible influences on training activities (for the European Union: See Cedefop, 2020b). The

relationship between knowledge capital and economic growth (Hanushek & Woessmann, 2020) means that economic losses can be expected in the medium to long term.

Since VET is typically organised in a strongly national-specific way (Bosch, 2017; Lewis, 2007) and also closely linked to the economy (Bosch & Charest, 2008; Hall & Soskice, 2001), the question arises of how VET systems in the respective countries deal with the challenges posed by the pandemic. In this context, different starting points of VET systems can be identified, which are often discussed in relation to typologies (Pilz, 2016, 2021). Busemeyer and Trampusch (2012) distinguish between four different skill formation systems (liberal, segmentalist, collective and statist). It seems reasonable to assume that these skill formation systems each have a different scope of action due to their respective underlying characteristics. Since training activities in statist systems predominantly take place at state-run schools and training centres, the state should be able to implement corresponding measures quickly. Meanwhile, in the segmentalist model, training companies must implement their training activities individually, in compliance with the hygiene and protection guidelines laid down by law. In liberal VET systems, however, many of the individuals who usually demand VET could increasingly opt for general education courses or not seek any (vocational) qualification at all, due to the already low level of company and public commitment to VET.

Finally, in collective training systems, the planning and provision of VET involves several actors. In general, decision-making processes in collective systems are highly complex (Aerne & Bonoli, 2021; Emmenegger & Seitzl, 2020; Oliver, 2010). This raises the question of the extent to which such a complex system can react quickly while taking into account the interests of all actors involved. Or, in other words: Whether the structural—and in the context of their dual apprenticeship programmes often positively connoted—characteristics of collective systems (Busemeyer & Trampusch, 2012; Culpepper, 1999; Hoeckel, 2012) tend to become an obstacle in times of crisis, as they prevent flexible and quick action.

Using the German dual training system as an example of a collective training model (Busemeyer & Trampusch, 2012), this paper attempts to examine how collective training systems deal with the challenges posed by the pandemic from a governance-theoretical point of view. For this purpose, central structural features of the dual system as well as the pandemic-related developments on the German training market are presented, in order to firstly illustrate the initial situation. Afterwards, the theoretical lens of this study is explained. Based on a document analysis and with a particular focus on the first year of the pandemic, both the measures taken by the actors as well as their positions and demands are described and interpreted. Finally, this paper discusses to what extent the actors in the dual system coordinate their actions and the extent to which the dual system as a collective training model has the capacity to react quickly and flexibly to the challenges posed by the pandemic, despite its structural complexity.

2 The German Dual Training System During the Pandemic

The following section briefly outlines the German dual system with the key features of a collective training model (detailed in Busemeyer & Trampusch, 2012; Cedefop, 2020c; Deisinger & Gonon, 2021; Fürstenau et al., 2014; Pilz & Fürstenau, 2019) as well as the developments on the German training market.

The primary learning venues in the dual system, are the vocational school and the training company. The theoretical content relevant to the specific occupation is mainly taught in blocks or part-time at the vocational schools. The practical learning part of the apprenticeship takes place in the training company and covers about two thirds of the total training period. The state and its subordinate ministries at national and federated state level, the Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training* [BIBB]), the employers' associations as well as the trade unions, are involved in the development of school and company curricula. The underlying consensus principle leads to a high level of acceptance of the standards among all stakeholders involved. Admission to dual apprenticeship is linked to a training contract with the training company.

A look at the German training market in 2020 shows that the close link between the training and employment systems can also be quite problematic for both young people and companies (see also Luethi & Wolter, 2020; Maier, 2020; Muehlemann et al., 2020). Oeynhausen et al. (2020) estimate that there were pandemic-related declines in apprenticeship supply (-41,500; -7.3 per cent), apprenticeship demand (-39,200; -6.7 per cent) and training contracts (-47,400; -9.2 per cent) up to the reporting date (31.09.2020).¹ In addition, matching problems² on the training market became apparent, as its indicator reached a peak in 2020 (Oeynhausen et al., 2020; for 2021, see Schuß et al., 2021). Nevertheless, a European comparison shows that Germany's youth unemployment rate is still at a relatively low level (Eurostat, 2022). This could be a first indication of the ability of the actors in the dual system to react appropriately and quickly to the pandemic-related restrictions for VET, in spite of the complex decision-making processes.

3 Theoretical Lens of the Study

This paper refers to issues of educational policy steering, which are often discussed in the context of educational governance (Altrichter, 2010; Oliver, 2010). In particular, this research perspective includes several reference disciplines, and attempts to understand *"how regulation and performance of school systems is achieved, sustained and transformed under the*

1 Even though there was a slight improvement compared to the previous year, the declining trend at the training market continued in 2021 (Schuß et al., 2021).

2 Matching problems occur in particular when both the numbers of vacant apprenticeship places and unplaced applicants are high.

perspective of coordination of action between various social actors in complex multilevel systems" (Altrichter, 2010, p. 148; emphasis in the original). Accordingly of particular interest, is the coordination of action or cooperation between different actors, realised in a VET system, the extent of which can range from a pure "information exchange" through "coordination" to "collaboration" (Emmenegger et al., 2019, p. 32). As central governance processes, Oliver (2010, p. 263) names "goal-setting", "decision-making", "resource mobilisation", "instruments & implementation" as well as "feedback". "Coherence", "inclusiveness", "adaptability" and "accountability" are the outcomes of these processes, which emerge from the specific action of the relevant actors (Oliver, 2010, pp. 262f).

Viewing VET systems from an institutional theory perspective, a dynamic understanding of institutions suggests that they are "continuously created and recreated by a great number of actors with divergent interests, varying normative commitments, different powers, and limited cognition" (Streeck & Thelen, 2005, p. 16). The state, or its subordinate ministries and institutions, the employers and business associations, as well as the trade unions are the central actors in a VET system (Busemeyer & Trampusch, 2012; Hall & Soskice, 2001): They interact with each other and influence the design of a VET system on the macro, meso or micro level (Bürigi & Gonon, 2021; Pilz, 2016). Nevertheless, the different interests of the actors involved may also lead to conflicts in cooperation (Emmenegger et al., 2019).

In addition, VET systems are subject to a permanent process of change in the short, medium or even long term (Cedefop, 2018). In political science, this is also known as institutional change, whose specific design is subject to certain limitations against the background of path dependency (Mahoney & Thelen, 2010; Streeck & Thelen, 2005). Regarding the structure of the German dual system as the path, a link to the concept of collective skill formation (Busemeyer & Trampusch, 2012) emerges. In the sense of path dependency, the inclusion of diverse actors often results in a high level of coherence and inclusiveness, but the complex processes of decision-making may limit its adaptability (Oliver, 2010; Rauner, 2008).

4 The Reactions of the Actors in Response to the Pandemic

Since this paper follows an actor-centred approach, the reactions to the pandemic will first be described from the perspective of the principal actors in the dual system (see above). The focus here is on the national level in order to draw both a holistic and coherent picture of the situation. Afterwards, the measures taken or demanded by the actors will be discussed in terms of their underlying coordination of action, the realised processes and outcomes, as well as the levels affected within the dual system (see Chapter 5).

Similar to Busemeyer (2009), since no empirical evidence is available in this regard yet, various artefacts of the central actors were evaluated within the framework of a document analysis. In particular, German press releases, position papers, regulations, guidelines and

reports of the respective actors were included in the document analysis. In accordance with the focus on the national level, primarily those publications were taken into account that originate from the national umbrella organisations of the various actors and can thus be regarded as representative for Germany in general. This corpus of literature was expanded by relevant empirical studies, as well as other relevant publications from national and international institutions related to VET (e.g., BIBB, Cedefop).

Out of the document analysis it became apparent that the reactions of the individual actors often address similar issues. This includes in particular the financing of training, the realisation of training activities, the promotion of digitisation and the need for support in vocational orientation. Hence, at the end of the following subchapters, the actions of the respective actors are also set in relation to these issues. In addition, the usual differentiation of actors into state, trade unions and companies as well as business associations (Busemeyer & Trampusch, 2012; Hall & Soskice, 2001) was too restrictive here. This is primarily due to the fact that the pandemic also has a significant impact on the learning activities in schools: Since teachers are also organised into trade unions, the teachers' associations were identified as another group within the trade unions. Furthermore, both student and parent associations actively participated in the pandemic-related discourse: Even if they are typically neither involved in concrete decision-making processes nor seriously discussed in the literature on VET governance (see also Pilz, 2021), this group of actors was included in this study, as they also have an impact on the dual system as potential apprenticeship applicants (e.g., Fürstenau et al., 2014). Along with a deeper insight into the training activities and the resultant coordination of action, the inclusion of this actors' perspective also provides the opportunity to produce a critical analysis of the efficacy of the measures adopted.

4.1 The State's Reactions to the Pandemic

In Germany, as educational policy is made at the level of the federated states it is not consistent across the country. In this paper only those measures are presented that have been implemented at the national level and thus are mandatory or at least serve as a guideline for all federated states. For this purpose, regulations, guidelines, reports and press releases of national institutions were primarily taken into account. These include the Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs* [KMK]), the Bundesministerium für Bildung und Forschung (*Federal Ministry for Education and Research* [BMBF]), the Bundesministerium für Arbeit und Soziales (*Federal Ministry of Labour and Social Affairs* [BMAS]), the Bundesagentur für Arbeit (*Federal Employment Agency*), and the Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training* [BIBB]).

With the outbreak of the pandemic in Germany, there were nationwide temporary closures of all schools in March 2020, accompanied by a sudden switch to digital distance learning. The gradual resumption of face-to-face teaching took place at different times and to a varying extent (Anders & Kuhn, 2020). In order to avoid crowded school buildings, most federated states gave priority to graduation classes, to ensure their participation in the final examinations (Cedefop, 2020a). To reduce the risk of infection for both learners and teachers, hygiene guidelines were developed which, among other things, intended to enable alternating teaching of learning groups in face-to-face and distance modes (KMK, 2020a, 2020b). Until today, the responsibility for implementing the hygiene guidelines is still up to the schools (KMK, 2020a, 2021). However, on the basis of federated state-specific infection protection regulations and occupational health and safety standards (e.g., BMAS, 2021a), training companies as well as other educational institutions (e.g., inter-company vocational training centres) are responsible for the implementation of hygiene guidelines.

At the beginning of the new school year in summer 2020, all federated states returned to regular classroom teaching, adapted to the infection situation. In the case of emerging Corona outbreaks with a justified risk of infection, school closures should be avoided, and instead individual classes or cohorts should be sent into quarantine (KMK, 2020b). Wearing mouth-nose protection in class was initially recommended (BMBF, 2020a). Due to rising infections, the schools were closed again at the end of 2020 and, with the use of testings, gradually reopened in spring 2021.³

The national programme "Ausbildungsplätze sichern"⁴ (*Securing training places*) was initiated to enable young people to "start, continue and also successfully complete vocational training in the new training year 2020/2021" (BMBF, 2020b; translation by the author). In particular, the programme aims to motivate small and medium-sized enterprises (SME) affected by the pandemic to continue or even expand their training activities, with the help of financial incentives, such as "training bonus", "training bonus plus", "training salary subsidy" and "takeover bonus" (BMBF, 2020b; translation by the author). In addition, the temporary takeover of training by other training providers or training companies within the framework of contractual or collaborative training, can be funded (BMBF, 2020d). In order to avoid a further decline in the training market in 2021, an extension and expansion of the programme (e.g., higher bonus payments and an extension of eligibility to companies with up to 499 employees) was announced in March 2021 (BMBF, 2021a). In addition, training companies also have the option of declaring short-time work⁵ for their trainees.

3 At the beginning of the school year 2020/2021, the high importance of delivering face-to-face teaching was once again emphasised (KMK, 2021). The hygiene guidelines at the schools are continuously adapted to the current infection situation and the vaccination progress in the society (see also Kuhn, 2022).

4 For a detailed explanation of the different bonuses as well as the conditions and criteria for eligibility in all funding guidelines, see the announcements of the Bundesministerium für Bildung und Forschung (BMBF, 2020b, 2020d, 2021a).

5 Short-time work is intended to reduce companies' personnel costs in times of significant work shortages and thus to preserve jobs and training places (Bundesagentur für Arbeit, 2020). The use of short-time work for apprentices is recommended as a last resort (Cedefop, 2020a). According to the studies by Ebbinghaus (2021) as well as Biebeler and Schreiber (2020), only a small proportion of trainees were on short-time work by the end of 2020, except in those sectors that were severely affected by the pandemic (in particular: Hospitality).

The expansion of the digital infrastructure in the education sector is another part of the German government's strategy. In addition to the *DigitalPakt Schule*⁶, the "Sofortausstattungsprogramm" (*Programme to facilitate the immediate equipping of schools*) was launched in July 2020 for the school-bound acquisition of digital devices via schools. In particular, these should be made available to socially and economically disadvantaged learners, to ensure their participation in distance learning (BMBF, 2020c). In the course of the ongoing pandemic, further supplementary agreements were made, namely the "Supplementary agreement on the financing of IT administration at the schools" as of November 2020 (BMBF, 2020e; translation by the author), and the "Supplementary agreement on the acquisition of digital devices on loan for teachers" as of January 2021 (BMBF, 2021b; translation by the author).⁷

The ongoing revisions of training regulations (see also BIBB, 2014) for 2020 were continued, despite the pandemic (BIBB, n.d.). The Bundesinstitut für Berufsbildung also reported that the BIBB Board is still working on the revision of training regulations. Apart from the predominantly digital cooperation between the involved actors, no pandemic-related influences on decision-making at the curricular level can be identified.

Typically for collective systems, the state tries to bring the interests of the various actors together and implements various measures, especially financial ones, to enable or support the implementation of dual apprenticeships in both school and company contexts—whether by promoting digitisation in schools or by setting framework conditions and hygiene guidelines, which, as a consequence, have to be implemented at federated state or local level. The example of the national programme *Ausbildungsplätze sichern*, co-developed by the Allianz für Aus- und Weiterbildung (*Alliance for Initial and Further Training* [AAW]) (AAW, 2020, 2021), shows that the actions of the state are not exclusively characterised by top-down processes. Moreover, the financial support for training companies in the form of bonus payments is a novelty, as the state has so far largely refused to finance in-company training (Busemeyer, 2009). Thus, in the course of the pandemic, there are also indications of tendencies towards a centralised or statist VET system. In particular, these are indicated in the partial financing of both learning venues as well as the setting of framework conditions, but are probably primarily due to the urgent need for action caused by the pandemic.

6 The DigitalPakt Schule 2019–2024, which was already adopted before the pandemic, is a national funding programme for the promotion of the digital infrastructure in schools (see also KMK, 2019).

7 The three supplementary programmes are each budgeted at 500 million Euro. According to a press release by the Bundesministerium für Bildung und Forschung (BMBF, 2022), the following funds had already been called up by the end of December 2021: 495 million Euro (Programme to facilitate the immediate equipping of schools), 11 million Euro (Supplementary agreement on the financing of IT administration at the schools) and 300 million Euro (Supplementary agreement on the acquisition of digital devices on loan for teachers).

4.2 The Employers' and Business Associations' Reactions to the Pandemic

For this group of actors, the focus of the analysis was on press releases, websites and statements that are related to the company-based element of dual apprenticeships. In addition to the Deutscher Industrie- und Handelskammertag (*German Chamber of Industry and Commerce* [DIHK]) and the Zentralverband des Deutschen Handwerks (*German Confederation of Skilled Crafts* [ZDH]) as central umbrella organisations of the business associations or Chambers, the Bundesvereinigung der Deutschen Arbeitgeberverbände (*Confederation of German Employers' Associations* [BDA]), as the umbrella organisation of employers, was also taken into account.⁸ The findings of studies which provide an insight into in-company training activities were also included.

Due to the loss of important communication channels between training companies and potential applicants (e.g., training fairs), some of the companies surveyed in June 2020 feared problems in recruiting new trainees (ZDH, 2020). The Bundesvereinigung der Deutschen Arbeitgeberverbände emphasised the need for vocational orientation to continue, for instance through career guidance via schools and digital offerings, as well as providing insights into company practice (BDA, n.d.-b). Furthermore, the Bundesvereinigung der Deutschen Arbeitgeberverbände also appealed to companies not to stop their training activities and instead to adhere to vocational training in their "very own interest" (BDA, n.d.-a; translation by the author). Regarding vacant apprenticeship places in December 2020 as well as the coming training year 2021, the Bundesvereinigung der Deutschen Arbeitgeberverbände and the Deutscher Gewerkschaftsbund (*German Trade Union Confederation* [DGB])⁹ jointly repeated this appeal in December 2020 and also encouraged students applying for training places (BDA, 2020). While these actors are usually seen as opposition (e.g., Emmenegger & Seitzl, 2020; Hall & Soskice, 2001), the common interest in the dual system seems to intensify their cooperation during the pandemic.

On their websites, the Zentralverband des Deutschen Handwerks and the Deutscher Industrie- und Handelskammertag provide companies with extensive information on how to deal with the crisis, including how to organise training. Furthermore, the Chambers operate digital apprenticeship portals to provide support in both vocational orientation and apprenticeship placement. This also highlights the importance of the Chambers in the dual system, whose influence can also be seen in the organisation and implementation of final examinations (Cedefop, 2020a).

The companies surveyed in a study by Burdack (2020), were looking for flexible and company-specific solutions to continue practical training, while complying with infection protection regulations. For this purpose, the companies surveyed implemented training procedures

⁸ The DIHK, the ZDH and the BDA are also partners in the Allianz für Aus- und Weiterbildung.

⁹ The DGB is an umbrella organisation of eight individual trade unions, which are covering all branches and economic sectors in Germany.

that were called "rolling procedure", "block procedure" or "shift training" (Burdack, 2020, p. 2; translation by the author). These procedures have in common that trainees are alternately trained face-to-face in fixed small groups as well as at fixed times, to meet the requirements of infection protection by separating them in time and space. In addition, home schooling with the help of video tools, was used to enable a close exchange between trainees and trainers. The necessary digital devices were provided by the companies for both trainers and trainees; however, since the digital teaching of training contents takes longer than face-to-face training, special challenges were anticipated with regard to the quality of training and examinations. However, even though many training companies continued their training activities (e.g., DIHK, 2020; Jobstarter, 2020), sector-specific and firm-specific conditions (e.g., with regard to work processes or company size) could lead to different training practices. In the context of in-company training, this relates, for example, to the use of digital devices and media, which have been used much less frequently in the crafts and hospitality sectors than in the areas of industry and commerce as well as in the public service (Biebeler & Schreiber, 2020). In addition, the study by Biebeler and Schreiber (2020) shows that the pandemic-related shift of training activities into home office has been carried out in particular by larger companies and those training companies that concentrate on knowledge- and computer-based activities in the fields of "public service" and "industry and commerce" (see also Ebbinghaus, 2021). For smaller companies as well as training companies in the hospitality and craft sectors, where the focus is on customer or service-oriented and practical activities, the use of home office in contrast seems to be an exception.

As far as the digitisation of in-company teaching-learning processes is concerned, this does not seem to be feasible in the same way for all companies. Despite both the resulting and the generally existing restrictions (e.g., due to company closures), the difficult economic situation and the developments on the training market during the crisis, many companies were maintaining their training activities. Besides the possibility to receive bonus payments as part of the programme *Ausbildungsplätze sichern*¹⁰, for some companies this is probably due to the necessity of covering their demand for skilled workers, which also in non-crisis times encourages companies to invest in dual apprenticeships. Cooperation with other stakeholders is particularly evident in the context of the measure *Ausbildungsplätze sichern*, the joint effort to conclude training contracts with the help of broad (digital) offers in the context of vocational orientation¹¹ and the completion of final examinations (for more details, see also AAW, 2021).

¹⁰ Recently published figures by the Bundesagentur für Arbeit (2022) show that by 23th March 2022 a total of 75.373 applications for bonus payments (training bonus: 25.556, training bonus plus: 49.453, takeover bonus: 364) and 23.557 applications for training salary subsidy (from August 2020 to December 2021) had been positively decided. At the same time, most of the payments were directed to companies with up to 249 employees—larger companies tend to be the exception.

¹¹ As an example, reference can be made to the "Summer of Vocational Training" in 2021, where the partners of the Allianz für Aus- und Weiterbildung have initiated several promotional days to inform parents and young people about dual apprenticeships, to offer them advice and to bring training companies and potential applicants together (e.g., BMAS, 2021b; see also AAW, 2021).

In addition to shared interests and goals with the other partners in the Allianz für Aus- und Weiterbildung, this also indicates that employers and business associations are adapting their activities to the government's guidelines, but at the same time they are involved in shaping them.

4.3 The Trade Unions' Reactions to the Pandemic

Among this group of actors, in the main it was press releases as well as statements by the Deutscher Gewerkschaftsbund (DGB), the Gewerkschaft Erziehung und Wissenschaft (*Trade Union Education and Science* [GEW]), the Bundesverband der Lehrkräfte für Berufsbildung (Federal Association of VET Teachers [BvLB]) and the Deutscher Lehrerverband (*German Teachers Association* [DL]) that were utilised.¹²

In April 2020, the Deutscher Gewerkschaftsbund published a position paper addressed to the German government (DGB, 2020a), which put forward various proposals for securing apprenticeship places, some of which were also included in the programme *Ausbildungsplätze sichern*. According to the Deutscher Gewerkschaftsbund, this programme sends an important signal for the training market, and also shows that "social partnership in training works" (DGB, 2020b; translation by the author). In response to the continuing difficulties in the training market, in August 2020 an appeal was made to companies to invest more in training, despite the pandemic, particularly to ensure that young people with lower secondary school leaving certificates were still being offered opportunities (DGB, 2020d). Furthermore, a warning was issued that the quality of training in schools or in training companies, should not be allowed to suffer because of the crisis (DGB, 2020d, 2021). Due to the decline in newly concluded training contracts, in October 2020 it was also emphasised that besides short-term financial support for companies, structural changes such as a training guarantee based on the Austrian model¹³ are needed (DGB, 2020c; see also GEW, 2020c).

In a survey conducted before the summer holidays 2020 (Bödeker & John, 2020), the state associations of the Bundesverband der Lehrkräfte für Berufsbildung stated that the transition to digital teaching was more successful than originally expected. However, various problem areas became apparent; manifested, among other things, in the lack of digital equipment for schools, teachers and learners. Furthermore, the extreme variation in digital competence of teachers and learners, reveals the necessity for further training and instruction in digital learning. In addition, the significantly higher workload for teachers in connection with the rapid transition to digital teaching, as well as legal issues (e.g., data protection on digital learning platforms) were identified as problematic (see also BvLB, 2020b; GEW, 2020a). There

¹²The DGB and the GEW are also partners in the Allianz für Aus- und Weiterbildung.

¹³Within the framework of the Austrian training guarantee, young people who have not found a training place can instead complete their first year of practical training in a training centre. In case the trainees still do not find a training place after one year, the practical training can in principle also be completed in the training centre (see also Wieland, 2020).

were oft-repeated demands for a short-term improvement of the conditions for teachers and students at schools (e.g., health protection, further training on digital teaching, and the management of the IT area) as well as reliable and long-term solutions for digitally supported face-to-face, distance or hybrid teaching in times of the pandemic (BvLB, 2020b; DL, 2020c; GEW, 2020b). These demands were also reflected in the "10-point plan for teaching with (and after) Corona" (DL, 2020a; translation by the author). Among other things, as early as July 2020 this plan called for the weekly testing of teachers and students. However, the testing was not implemented until the cautious return to face-to-face teaching in March 2021.

The demands for "more autonomy" as well as a "reduction of bureaucracy" (BvLB, 2020a; translation by the author) attest to structural problems that limit the (short-term) ability of individual vocational schools to act. In this context, it should be mentioned that the schools generally have very little freedom and scope for action, which is mainly due to their financial dependence on the local school authorities. One example in the context of the pandemic is the much-discussed purchase of air filter systems for schools, which usually cannot be afforded from the schools' own budgets, thus severely restricting the schools' ability to act on their own responsibility in matters of infection protection. Consequently, the rejection of a nationwide purchase of air filter systems for schools in September 2020 by the Kultusministerkonferenz was also met with criticism.¹⁴ From the perspective of the teachers' associations, this would have been a necessary purchase to fulfil the duty of care towards employees and learners (DL, 2020b). Mindful of the upcoming final examinations, in January 2021 the Bundesverband der Lehrkräfte für Berufsbildung was already warning that the restrictions on training activities resulting from the long school closures must be taken into account in both the school-based and the Chambers' final examinations (BvLB, 2021).¹⁵

In particular, this group of actors aims to ensure and optimise the (digital) provision of VET both in school and company contexts. Their demands relate to structural aspects of the dual system, the actual design of training activities, as well as the financing of better framework conditions for schools, learners and teachers. At the same time, the demands made by the trade unions also illustrate that the measures taken by the state (see above) were not sufficient (e.g., with regard to the demands for air filter systems) or that their implementation on the meso and micro level had reached its limits in some cases (e.g., due to data protection regulations).

¹⁴ This example also demonstrates the central role that state institutions at the national level (here: KMK) play in the context of the pandemic, and which actually stands in contrast to the educational federalism that is usually pursued.

¹⁵ This once again highlights the special position of VET, since here, unlike in general education, the Chambers as another actor besides the state are also involved in conducting the final examinations.

4.4 The Reactions to the Pandemic by Those Requiring Training

In addition to relevant studies, press releases by the umbrella organisations of potential trainees and their parents were included. Specifically, these umbrella organisations are the Bundesschülerkonferenz (*National Student Conference* [BSK]) and the Bundeselternrat (*National Parents Council* [BER]).¹⁶ More VET specific, the Jugendorganisation des Deutschen Gewerkschaftsbundes (*Youth Organisation of the German Trade Union Confederation* [DGB-Jugend]) can be identified as another actor within this group, as it represents the interests of trainees.¹⁷ Keeping in mind the implemented measures (see above), most demands referred to political decisions or developments during the pandemic and emphasised the need for further action. However, similar to the demands of the teachers' associations, their implementation was lacking.

In the context of the gradual resumption of face-to-face teaching at schools after the initial lockdown in spring 2020, clear and long-term concepts were requested that included teacher, parent and student representation in the decision-making processes (BSK, 2020a). Besides a rapid and non-bureaucratic expansion of the digital infrastructure at schools as well as the assurance of protection against infection, further needs for action were also identified: These included instigating flexible arrangements for dividing up learning groups, ensuring inclusion for young people with special needs, and avoiding further school closures (BER, 2020a; BSK, 2020b, 2020d). In addition, the Bundesschülerkonferenz called for sustainable and mandatory "media education and media literacy" (BSK, 2020c; translation by the author) to be included in both the curricula and the competency profile of teachers. This assessment was also shared by the Bundeselternrat, which made additional demands, including regulations on the digital accessibility of teachers, the implementation and expansion of digital learning environments and forms of licensing, as well as their legal anchoring in school laws (BER, 2020b). In course of the publication of the "Corona training study" by the DGB-Jugend and the identified problems (e.g., the lack of preparation for exams or the gaps in teaching), both the DGB and the DGB-Jugend warned that the quality of training in schools or in training companies, should not be allowed to suffer because of the crisis (DGB, 2021; DGB-Jugend, 2021a). To this end, the DGB-Jugend urged the chambers to regularly monitor companies' compliance with legal standards (e.g., the obligation to release trainees from work for attending lessons at the vocational school) (DGB-Jugend, 2021a). Furthermore, the DGB-Jugend advocated for a higher commitment of companies in vocational training (DGB-Jugend, 2020,

¹⁶The inclusion of parents (by proxy through the BER) is also due to the fact that apprentices are legally represented by their parents until they reach the age of 18.

¹⁷The DGB-Jugend is an independent youth association and represents the interests of all trade union members up to the age of 27 (DGB, n.d.). However, as the umbrella organisation of all youth trade unions, the DGB-Jugend is at the same time affiliated to the DGB and its department "Jugend und Jugendpolitik" (*Youth and Youth Policy*) (DGB, 2018). The Bundesjugendausschuss (*Federal Youth Committee*), whose representatives, according to the DGB constitution, participate in the DGB-Bundeskongress (*DGB-National Congress*) in an advisory capacity, is the most important body of the DGB-Jugend and decides on the operational guidelines of its affiliated youth trade unions (DGB, n.d., 2018).

2021b) as well as a legally fixed training guarantee, the unlimited employment of trainees after successful completion of their apprenticeship, and a comprehensive "digitisation and financing offensive" (DGB-Jugend 2021a; translation by the author).¹⁸

In their search for an apprenticeship, young people encountered a variety of obstacles, such as cancelled interviews or internships (Eberhard et al., 2021). The results of Barlovic et al. (2020, 2021) show that many young people are still interested in taking up an apprenticeship even in times of crisis, but they also wished for more support, for example, with regard to vocational orientation in schools, contact persons and job applications. In addition, more than half of the respondents thought that there were not enough training places available, which ultimately led to a less optimistic assessment about their chances of finding a training place (Barlovic et al., 2020, 2021). This underlines that, in addition to the quantitative provision of training places, it is at least as important to provide young people with comprehensive information and guidance in the context of vocational orientation (see also BSK, 2020d).

In conclusion, neither trainees and students nor their parents, were sufficiently included in decision-making processes (see also BSK, 2020e). Even though this becomes particularly obvious in the context of the pandemic, this represents a general phenomenon in the governance of the dual system (e.g., Emmenegger et al., 2019; Pilz, 2021). At the same time, this could indicate a structural weakness of collective training systems, as urgent needs for reform and action resulting from experiences at the micro level barely find their way into educational decision-making. Nevertheless, the active participation of students, trainees and parents in the pandemic-related discourse as well as their demands offer important feedback and highlight ongoing problems, especially with regard to the quality of training activities at both learning venues, the digitisation of teaching-learning processes and its implications (e.g., data protection issues, teacher training), the offers of vocational orientation as well as financial aspects (e.g., training salary, necessary investments in digitisation). Thus, in principle, there are also linkages to the measures, positions and demands of the other actors. However, it is noticeable that the demands voiced by those requiring training in particular share similarities with those voiced by the teachers' associations. Regarding the coordination with other stakeholders, the dialogue between the Kultusministerkonferenz, the teachers' organisations, the Bundesschülerkonferenz, and the Bundeselterrat in November 2020 (GEW, 2020d) also indicates that at least there was an information exchange with further actors. However, on the basis of the measures that were taken, their impact appears to be relatively slight, which could also indicate existing shortages with regard to the joint representation of interests by this group of actors.

¹⁸ Although the DGB-Jugend is an independent youth organisation, it can be assumed that its direct influence on education policy issues and decision-making processes is rather limited. It is also unclear to what extent the influence of the DGB-Jugend reaches within the DGB and to what extent it is perceived as an independent association by other actors. In the context of the Allianz für Aus- und Weiterbildung, the DGB-Jugend appears to be at least primarily represented by the DGB and is thus not directly involved as an independent partner in the steering committee of the Allianz für Aus- und Weiterbildung (for a listing of the AAW-Partners, see for example AAW, 2020).

5 Discussion

In the following, the reactions of the various actors, described above, will be examined from a governance-analytical perspective, with specific regard to the coordination of actions between the actors, the realised processes and outcomes, as well as the levels affected within the VET system.

A localisation of the actors' actions on a specific impact level is only possible to a limited extent. Instead, interdependencies are indicated here insofar as many of the measures adopted at the macro level (e.g., *Sofortausstattungsprogramm*) have a direct influence on the individual educational institutions (meso level) and thus also on the level of teaching-learning processes (micro level). On the basis of the experience gathered at the micro level, specific demands were also addressed to actors on the macro level. These concerned, for example, the digital equipment of educational institutions, but also structural aspects such as a higher level of autonomy for vocational schools. Although the measures and demands of the individual actors may differ in their concrete design (see Chapter 4), they still refer to similar problem areas and areas of action (in particular the promotion of digitisation, as well as the financing and implementation of training activities and vocational orientation). This could also be due to the fact that these are central issues that concern both access to dual apprenticeships and the implementation of training activities. At the same time, they are severely affected by the pandemic and highlight a need for optimisation that is perceived by all actors—albeit with different emphases. However, regarding the inadequate and belated fulfilment of many of the demands expressed by teachers', parents' and students' associations in particular, influence or power from bottom-up seems to be rather limited. Nevertheless, even in times of crisis, it became apparent that the dual system is influenced by the actions of various actors at multiple levels. Although all of these levels are based on specific constellations of actors and logics of action, they are strongly interlinked in the sense of "*cross border coordination*" (Altrichter, 2010, p. 150; emphasis in the original).

In the sense of inclusiveness and coherence (Oliver, 2010), the recognition and approval of all actors involved in the dual system are essential conditions for the success of initiated reforms (see also Busemeyer, 2009; Fürstenau et al., 2014). The need for cooperation between the various actors is particularly evident in the context of the Allianz für Aus- und Weiterbildung as well as the measure *Ausbildungsplätze sichern*. As a "Corona-Taskforce" (AAW, 2020, p. 2), the partners of the Allianz für Aus- und Weiterbildung, pursued the common goal of stabilising both the training and the labour market, despite pandemic-related restrictions (see also AAW, 2021). This example clearly indicates overlaps between the individual actors' interests, which ultimately precipitate a strategically conditioned collaboration between them. However, the demands of the teachers' associations and those requiring training show that collaboration was not always achieved, and that essential governance processes (e.g., decision-making, resource mobilisation; see Oliver, 2010) did not include all actors.

Depending on the actors' perspective, the form of cooperation may be primarily an information exchange or maximally a coordination—this becomes particularly clear with regard to the demands from the teachers' unions as well as from the Bundesschülerkonferenz and the Bundeselternrat, who primarily reacted to the measures taken, as well as to the infection levels.

Despite the far-reaching interventions of the state and although the bonus payments have already created incentives to increase company engagement in training, the problem of matching training place applicants to training places, together with the decline in the apprenticeship market in 2020 and 2021 also show that the dual system cannot be fully steered and may find itself at the mercy of its own momentum (see also Bosch & Charest, 2008; Busemeyer, 2009). There are also indications that the restrictions in information exchange between employers and those requiring apprenticeships create difficulties in vocational orientation and recruitment. These also affect the apprenticeship market and testify to a limited coherence within the dual system and this seems also to have been recognised by the Allianz für Aus- und Weiterbildung, whose partners in March 2021 have agreed to expand (digital) opportunities for vocational orientation and recruitment for the new training year 2021, for example by expanding digital information, counselling and placement services for prospective trainees and companies (AAW, 2021).

Despite all the existing problems and optimisation needs, the continued training activities and final examinations under pandemic conditions, the continued revision of training regulations, the program *Ausbildungsplätze sichern* and the existing (albeit declining) supply of training places, indicate a short-term adaptability of the dual system. In this context, reference can also be made to the funding of contractual and collaborative training, which is part of the programme *Ausbildungsplätze sichern* (BMBF, 2020d) and provides temporary flexibility in continuation of training for companies in precarious situations.¹⁹ Thinking about path dependency, this short-term adaptability may also be due to the historically entrenched corporatist structures within the dual system and the trust that actors have in this institution (Lange, 2012). Accordingly, even in times of crisis, the dual system as a collective training model appears to be a resilient and historically evolved institutional framework that encourages actors to cooperate and to fulfil their joint responsibility in the dual system, thus leading to a high degree of accountability and responsiveness (see also Aerne & Bonoli, 2021; Fürstenaue et al., 2014; Lange, 2012). This is interesting insofar as this path dependency usually implies that processes of reform, and thus also adaptability, may be perceived as being difficult and time consuming to achieve (see also Busemeyer, 2009). Furthermore, the pandemic has led to a break in the previous structures of the dual system: Contrary to the state's usual restraint from financing the company-based part of apprenticeships (see also Busemeyer,

¹⁹ However, a statistic published in April 2022 shows that only 42 applications for funding of contract and collaborative training have been approved so far (Knappschaft Bahn See, 2022).

2009; Cedefop, 2020c), the state explicitly provided monetary support for training companies as part of the programme *Ausbildungsplätze sichern* and has even expanded this support in 2021 (BMBF, 2021a). Whereas in the past there was discussion about the introduction of a training place levy, financed by companies that do not provide training (Busemeyer, 2009), this time the state itself is providing financial incentives and is thus actively trying to influence what happens on the training market.

Simultaneously, the financial subsidies to training companies decided at the national level as well as the various supplementary agreements to finance the digital infrastructure at schools also show that the state has a central steering function in times of the pandemic, which—at least in times of crisis and primarily due to the urgency of action—forces its actions and indeed shows characteristics of a statist system. Nevertheless, within the dual system, the state still depends on the engagement of companies, as they ultimately provide the training places and thus also make an important contribution to the integration of young people into the labour market. Consequently, even in times of the pandemic, the state is obliged to take into account and to combine two fundamentally different institutional logics (Labour Market Logic vs. Educational System Logic) (e.g., Bonoli & Emmenegger, 2020).

However, there is usually no short-term or radical change within this institution (see also Streeck & Thelen, 2005). Against this background, a certain institutional inertia becomes particularly clear in the context of demands for more school autonomy, the implementation of a training guarantee, as well as greater participation of student and parent representatives in decision-making processes. To what extent these demands will lead to a gradual transformation of the dual system (Mahoney & Thelen, 2010; Streeck & Thelen, 2005) is still to be seen.

6 Conclusion and Future Research

The pandemic had a significant impact on the training market, which is reflected on both the supply and demand sides. However, current forecasts indicate that the situation on the training market could improve from 2027 onwards (Dohmen, 2020; Maier, 2021). Regarding the realised coordination of action, not all actors are involved in the decision-making processes; however, the measures taken show that those actors involved in decision-making do cooperate. In the context of the pandemic, it is also evident that the dual system as a collective training model is capable of acting and adapting in the short term to face emerging challenges, despite its complexity. Regarding the adaptability (Oliver, 2010) of the dual system in the context of the digitisation of VET and the world of work, it is to be hoped that the digitisation processes accelerated by the pandemic (e.g., the use of digital devices and learning platforms, but also further training and instruction in digital learning for trainees, students, teachers and trainers) will find sustainable entry into company and school training

practices. With regard to the temporary school and company closures, the problems with distance learning and the possible impacts on the quality of training, the question arises, particularly in the contexts of block teaching and final examinations, to what extent the key objective of "vocational action skills" (Pilz & Fürstenau, 2019, p. 315) can be achieved under these difficult conditions. In particular, this affects apprentices in sectors that have been hit hard by the crisis (e.g., tourism or gastronomy), as due to the long-lasting company closures in these sectors, the teaching of practical learning content (e.g., customer dialogue) has been very limited or not possible at all. At the same time, this also raises the question of whether certain practical learning contents may be integrated into the school-based element of dual apprenticeships (e.g., OECD, 2021d). For vocational schools in technical fields, this could be realised, for example, through the acquisition of technical learning systems, as these enable a high degree of practical and experience-based learning (see also Faßbender & Pilz, 2020).

The aim of this paper was to provide an insight into the dual system and the way in which, as a collective training model, it has dealt with the pandemic so far. This was achieved by evaluating various documents. At the same time, this is to be seen as a limitation of this study, because these artefacts primarily represent the results of negotiation processes and cannot provide insight into the preceding decision-making processes and discussions between the actors. To gain deeper insights in this regard, further studies could, for example, conduct expert interviews with representatives of the respective actors. This might also help to further investigate the influence of the DGB-Jugend, the Bundesschülerkonferenz, and the Bundeselternrat. Nevertheless, the approach adopted in this paper has facilitated an analysis of the governance structures underlying the dual system, as it provides an indirect insight into the measures taken or demanded, the implementation of training activities, as well as the coordination of action between the central actors. The focus at the national level, which does not include individual, sector- and regional-specifics, opens up a starting point for further research projects to examine the coordination of activities between actors at a decentralised level (see also Emmenegger et al., 2019). Moreover, this study exclusively referred to the German dual system. Thus, full-time school-based VET programs as well as continuing education, as other important areas of the German VET system (Fürstenau et al., 2014), were not considered here. This reveals another research gap, which is also quite relevant with regard to the German educational federalism as well as the central role of the state in times of crisis. In addition, further international comparative studies could also examine and compare how other collective, statist, liberal or segmentalist training systems are dealing with the emerging challenges to VET posed by Covid-19.

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References

- Aerne, A., & Bonoli, G. (2021). Integration through vocational training. Promoting refugees' access to apprenticeships in a collective skill formation system. *Journal of Vocational Education and Training*. Advance Online Publication. <https://doi.org/10.1080/13636820.2021.1894219>
- Allianz für Aus- und Weiterbildung. (AAW) (2020). *Gemeinsame Erklärung der Allianz für Aus- und Weiterbildung: Gemeinsam den aktuellen Herausforderungen durch die Corona-Krise auf dem Ausbildungsmarkt begegnen—gemeinsam den Ausbildungsmarkt stabilisieren* [Joint declaration of the Alliance for Initial and Further Training: Meeting the current challenges posed by the corona crisis on the training market together—Stabilising the training market together]. https://www.aus-und-weiterbildungsallianz.de/AAW/Redaktion/DE/Downloads/allianz-fuer-aus-und-weiterbildung-2019-2021-neu.pdf?__blob=publicationFile&v=4
- Allianz für Aus- und Weiterbildung. (AAW) (2021). *Gemeinsame Aktion der Allianz für Aus und Weiterbildung zur Stärkung von Ausbildungsbetrieben und jungen Menschen in der Corona-Pandemie* [Joint initiative of the Alliance for Initial and Further Training to strengthen training companies and young people in the corona pandemic]. https://www.aus-und-weiterbildungsallianz.de/AAW/Redaktion/DE/Downloads/gemeinsame-aktion.pdf;jsessionid=9E962CD9E42A09146FC8C1850D5B3BD6?__blob=publicationFile&v=2
- Altrichter, H. (2010). Theory and evidence on governance: Conceptual and empirical strategies of research on governance in education. *European Educational Research Journal*, 9(2), 147–158. <https://doi.org/10.2304%2Ffeerj.2010.9.2.147>
- Anders, F., & Kuhn, A. (2020). *Fahrplan für die Schulöffnungen* [Timetable for school openings]. Deutsches Schulportal. <https://deutsches-schulportal.de/bildungswesen/schuloeffnung-das-haben-die-laenderchefs-entschieden/>
- Avis, J., Atkins, L., Esmond, B., & McGrath, S. (2021). Re conceptualising VET: Responses to Covid-19. *Journal of Vocational Education and Training*, 73(1), 1–23. <https://doi.org/10.1080/13636820.2020.1861068>
- Azevedo, J. P., Hasan, A., Goldemberg, D., Geven, K., & Iqbal, S. A. (2021). Simulating the potential impacts of Covid-19 school closures on schooling and learning outcomes: A set of global estimates. *The World Bank Research Observer*, 36(1), 1–40. <https://doi.org/10.1093/wbro/lkab003>
- Barlovic, I., Ullrich, D., & Wieland, C. (2020). *Ausbildungsperspektiven in Zeiten von Corona. Eine repräsentative Befragung von Jugendlichen* [Training prospects in times of corona. A representative survey of young people]. Bertelsmann. <https://doi.org/10.11586/2020052>
- Barlovic, I., Ullrich, D., & Wieland, C. (2021). *Ausbildungsperspektiven im zweiten Corona-Jahr. Eine repräsentative Befragung von Jugendlichen 2021* [Training prospects in the second year of corona. A representative survey of young people in 2021]. Bertelsmann. <https://doi.org/10.11586/2021043>
- Biebeler, H., & Schreiber, D. (2020). *Ausbildung in Zeiten von Corona. Ergebnisse einer empirischen Studie zu Auswirkungen der Corona-Pandemie auf Ausbildungsbetriebe* [Training in times of Corona]. Bertelsmann. <https://doi.org/10.11586/2020052>

- na. Results of an empirical study on the impact of the Corona pandemic on training companies]. Bundesinstitut für Berufsbildung. <https://www.bibb.de/dienst/veroeffentlichungen/de/publication/show/16929#:~:text=Die%20Auszubildenden%20gingen%20zu%20gro%C3%9Fen,fehlte%20hierf%C3%BCr%20die%20technische%20Ausstattung>
- Bödeker, J., & John, E. G. (2020). Die beruflichen Schulen in der Corona-Krise: Bestandsaufnahme der Situation an den beruflichen Schulen [Vocational schools in the Corona crisis: Taking stock of the situation at vocational schools]. *Bildung und Beruf*, 3(8), 306–311.
- Bonoli, G., & Emmenegger, P. (2020). The limits of decentralized cooperation: Promoting inclusiveness in collective skill formation systems? *Journal of European Public Policy*, 28(2), 229–247. <https://doi.org/10.1080/13501763.2020.1716831>
- Bosch, G. (2017). Different national skill systems. In J. Buchanan, D. Feingold, K. Mayhew & C. Warhurst (Eds.), *The Oxford handbook of skills and training* (pp. 424–444). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199655366.013.20>
- Bosch, G., & Charest, J. (2008). Vocational training and the labour market in liberal and coordinated economies. *Industrial Relations Journal*, 39(5), 428–447. <https://doi.org/10.1111/j.1468-2338.2008.00497.x>
- Bundesagentur für Arbeit. (2020). *Corona-Virus: Informationen für Unternehmen zum Kurzarbeitergeld* [Corona virus: Information for companies on short-time allowance]. <https://www.arbeitsagentur.de/news/corona-virus-informationen-fuer-unternehmen-zum-kurzarbeitergeld>
- Bundesagentur für Arbeit. (2022, March 23). *Bundesprogramm Ausbildungsplätze sichern (Monatszahlen)* [Federal programme to secure training places (monthly statistics)]. https://statistik.arbeitsagentur.de/SiteGlobals/Forms/Suche/Einzelheftsuche_Formular.html?nn=20918&topic_f=ausbildungsplaetze-sichern-aps
- Bundeselternrat. (BER) (2020a, April 27). *GEW, VBE und BER: "Wirksamer Gesundheits- und Infektionsschutz Leitlinie für schrittweise Öffnung der Schulen"* [GEW, VBE and BER: "Effective health and infection protection guideline for gradual opening of schools"] [Press release]. <https://www.bundeselternrat.de/home/aktuelles/pressemitteilungen.html>
- Bundeselternrat. (BER) (2020b). *DigitalPakt Schule—was bedeutet er für die Bildungslandschaft?* [Digital pact for schools—what does it mean for the educational landscape?]. https://www.bundeselternrat.de/files/Dokumente/Tagungen/2020/Fachtagung%2002/Bundeselternrat_Reso_DigitalPakt-Schule_20200920_Potsdam.pdf
- Bundesinstitut für Berufsbildung. (BIBB) (2014). *Training regulations and how they come out* (6th ed.). <https://www.bibb.de/dienst/veroeffentlichungen/de/publication/show/7324>
- Bundesinstitut für Berufsbildung. (BIBB) (n.d.). *"Berufsbildungspolitisch nach vorne schauen". BIBB-Präsident Esser zu möglichen Auswirkungen der Corona-Krise auf die Berufsbildung* ["Looking forward in VET policy". BIBB-president Esser on the possible impact of the Corona crisis on VET]. <https://www.bibb.de/de/121473.php>
- Bundesministerium für Arbeit und Soziales. (BMAS) (2021a, January 21). *SARS-CoV-2-Arbeitsschutzverordnung* [SARS-CoV-2 occupational health and safety regulation]. <https://www.bundesanzeiger.de/pub/publication/5QH1uegEXs2GTWXXKeln/content/5QH1uegEXs2GTWXXKeln/BAanz%20AT%2022.01.2021%20V1.pdf?inline>
- Bundesministerium für Arbeit und Soziales. (BMAS) (2021b, October 28). *Erfolgreicher "Sommer der Berufsbildung"* [Successful "summer of VET"] [Press release]. <https://www.bmas.de/DE/Service/Presse/Pressemitteilungen/2021/erfolgreicher-sommer-der-berufsausbildung.html>

- Bundesministerium für Bildung und Forschung. (BMBF) (2020a). *Karliczek rät zum Maskentragen in Schulen* [Karliczek recommends wearing masks in schools]. <https://www.bmbf.de/bmbf/shareddocs/kurzmeldungen/de/karliczek-raet-zum-maskentragen-in-schulen.html>
- Bundesministerium für Bildung und Forschung. (BMBF) (2020b). *Bekanntmachung. Erste Förderrichtlinie für das Bundesprogramm "Ausbildungsplätze sichern"* [Announcement. First funding guideline for the federal programme "securing training places"]. <https://www.bmbf.de/foerderungen/bekanntmachung-3098.html>
- Bundesministerium für Bildung und Forschung. (BMBF) (2020c). *Zusatz zur Verwaltungsvereinbarung DigitalPakt Schule 2019 bis 2024 ("Sofortausstattungsprogramm")* [Supplementary agreement to the administrative agreement on the digital pact for schools 2019 to 2024 ("Programme to facilitate the immediate equipping of schools")]. https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2020/07/3089_bekanntmachung.html
- Bundesministerium für Bildung und Forschung. (BMBF) (2020d). *Zweite Förderrichtlinie für das Bundesprogramm "Ausbildungsplätze sichern"* [Second funding guideline for the federal programme "securing training places"]. <https://www.bmbf.de/foerderungen/bekanntmachung-3217.html>
- Bundesministerium für Bildung und Forschung. (BMBF) (2020e). *Bekanntmachung der Zusatz-Verwaltungsvereinbarung "Administration" zum DigitalPakt Schule 2019 bis 2024* [Announcement of the supplementary administrative agreement "administration" on the digital pact for schools 2019 to 2024]. https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2020/12/3271_bekanntmachung.html
- Bundesministerium für Bildung und Forschung. (BMBF) (2021a). *Änderung der Zweiten Förderrichtlinie für das Bundesprogramm "Ausbildungsplätze sichern"* [Revision of the second funding guideline for the federal programme "securing training places"]. https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2021/04/3579_aenderung-der-bekanntmachung.html
- Bundesministerium für Bildung und Forschung. (BMBF) (2021b). *Bekanntmachung der Zusatz-Verwaltungsvereinbarung "Leihgeräte für Lehrkräfte" zum DigitalPakt Schule 2019 bis 2024* [Announcement of the supplementary administrative agreement "digital devices on loan for teachers" on the digital pact for schools 2019 to 2024]. https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2021/02/3388_bekanntmachung
- Bundesministerium für Bildung und Forschung. (BMBF) (2022, March 4). *Weitere Beschleunigung des Digitalpakts nötig* [Further acceleration of the Digital Pact is necessary] [Press release]. <https://www.bmbf.de/bmbf/shareddocs/pressemitteilungen/de/2022/02/040322-digitalpakt.html;jsessionid=49571CFABF285960C944004A41A49023.live471>
- Bundesschülerkonferenz. (BSK) (2020a, May 6). *Zur schrittweisen Wiederaufnahme des Präsenzunterrichts* [On the gradual resumption of face-to-face teaching] [Press release].
- Bundesschülerkonferenz. (BSK) (2020b, September 29). *Schluss mit Schul- und Bildungsgipfeln ohne Beteiligung der Kinder und Jugendlichen* [No more school and education summits without participation of children and young people] [Press release]. <https://www.bundesschuelerkonferenz.com/presseportal/pressemitteilungen/>
- Bundesschülerkonferenz. (BSK) (2020c, June, 28). *Digitalisierung ist die Zukunft* [Digitisation is the future]. <https://www.bundesschuelerkonferenz.com/presseportal/positionspapiere/>
- Bundesschülerkonferenz (BSK). (2020d, June 30). *Mehr Digitalisierung an Schulen und verstärkte Berufsorientierung* [More digitisation in schools and intensified vocational orientation] [Press release]. <https://www.bundesschuelerkonferenz.com/presseportal/pressemitteilungen/>

- Bundesschülerkonferenz. (BSK) (2020e, November 14). *Forderungen zur Erfüllung des Bildungsauftrages in Pandemiezeiten* [Demands for the fulfilment of the educational mission in times of pandemic] [Press release]. <https://www.bundesschuelerkonferenz.com/presseportal/pressemitteilungen/>
- Bundesverband der Lehrkräfte für Berufsbildung. (BvLB) (2020a, October 4). *Berufsbildner haben Zukunft im Visier: Spitzengespräch von BvLB und Landesverbänden in Fulda* [Vocational trainers focus on the future: Summit meeting of BvLB and regional associations in Fulda] [Press release]. <https://www.bvlb.de/aktuelles/news/berufsbildner-haben-zukunft-im-visier-spitzengespraech-von-bvlb-und-landesverbaenden-in-fulda/>
- Bundesverband der Lehrkräfte für Berufsbildung. (BvLB) (2020b, November 20). *BvLB-Forderungen zur Digitalisierung für das Schuljahr 2020/2021* [BvLB demands on digitisation for the school year 2020/2021] [Press release]. <https://www.bvlb.de/aktuelles/news/bvlb-forderungen-zur-digitalisierung-fuer-das-schuljahr-2020-2021/>
- Bundesverband der Lehrkräfte für Berufsbildung. (BvLB) (2021, January 29). *BvLB: Pragmatismus und Flexibilität garantieren die Qualität der Abschlüsse/Kein verlorener Jahrgang* [BvLB: Pragmatism and flexibility guarantee the quality of degrees/no lost year] [Press release]. <https://www.bvlb.de/aktuelles/news/bvlb-pragmatismus-und-flexibilitaet-garantieren-die-qualitaet-der-abschluesse-kein-verlorener-jahrgang/>
- Bundesvereinigung der Deutschen Arbeitgeberverbände. (BDA) (n.d.-a). *Ausbildungsmarkt: Trotz Corona beste Chancen für Bewerberinnen und Bewerber* [Training market: Best chances for applicants despite corona]. <https://arbeitgeber.de/themen/bildung-und-berufliche-bildung/ausbildungsmarkt/>
- Bundesvereinigung der Deutschen Arbeitgeberverbände. (BDA) (n.d.-b). *Berufliche Orientierung* [Vocational orientation]. <https://arbeitgeber.de/themen/bildung-und-berufliche-bildung/berufliche-orientierung/>
- Bundesvereinigung der Deutschen Arbeitgeberverbände. (BDA) (2020, December 15). *Gemeinsamer Appell von Arbeitgeberpräsident Rainer Dulger und DGB-Vorsitzenden Reiner Hoffmann: Zukunft sichern durch Ausbildung heute!* [Joint appeal by employers' president Rainer Dulger and DGB-president Reiner Hoffmann: Secure the future by providing training today!] [Press release]. <https://arbeitgeber.de/zukunft-sichern-durch-ausbildung-heute/>
- Burdack, S. (2020). *Wie funktioniert berufliche Ausbildung in Corona-Zeiten? Ausbildungsbetriebe der Stahlindustrie schlagen neue Wege ein* [How does vocational training work in times of corona? Training companies in the steel industry are taking new paths]. Hans Böckler Stiftung. https://www.boeckler.de/de/faust-detail.htm?sync_id=8915
- Bürgi, R., & Gonon, P. (2021). Varieties within a collective skill formation system: How VET governance in Switzerland is shaped by associations. *International Journal for Research in Vocational Education and Training*, 8(1), 46–64. <https://doi.org/10.13152/IJRVET.8.1.3>
- Busemeyer, M. R. (2009). *Wandel trotz Reformstau. Die Politik der beruflichen Bildung seit 1970* [Change despite lack of reform. VET policy since 1970]. Campus.
- Busemeyer, M. R., & Trampusch, C. (2012). Introduction: The comparative political economy of collective skill formation. In M. R. Busemeyer & C. Trampusch (Eds.), *The political economy of skill formation* (pp. 3–40). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199599431.003.0001>

- Cedefop. (2018). *The changing nature and role of vocational education and training in Europe. Volume 3: The responsiveness of European VET systems to external change (1995-2015)*. Publications Office of the European Union. <https://doi.org/10.2801/621137>
- Cedefop. (2020a). *Germany: Multiple VET stakeholder responses to Covid-19 outbreak*. <https://www.cedefop.europa.eu/en/news-and-press/news/germany-multiple-vet-stakeholder-responses-covid-19-outbreak>
- Cedefop. (2020b). *How are European countries managing apprenticeships to respond to the COVID-19 crisis? Synthesis report based on information provided by Cedefop community of apprenticeship experts*. https://www.cedefop.europa.eu/files/cedefop_community_apprenticeship_experts_synthesis_how_are_european_countries_managing_apprenticeships_to_respond_to_the_coronavirus_crisis.pdf
- Cedefop. (2020c). *Vocational education and training in Germany. Short description*. Publications Office of the European Union. <http://data.europa.eu/doi/10.2801/329932>
- Committee for the Coordination of Statistical Activities. (CCSA) (2021). *How Covid-19 is changing the world: A statistical perspective (Vol. 3)*. https://unstats.un.org/unsd/ccsa/documents/covid19-report-ccsa_vol3.pdf
- Culpepper, D. (1999). Still a model for the industrialized countries? In D. Culpepper & D. Finegold (Eds.), *The German skills machine. Sustaining comparative advantage in a global economy* (pp. 1–34). Berghahn.
- Deissinger, T., & Gonon, P. (2021). The development and cultural foundations of dual apprenticeships—a comparison of Germany and Switzerland. *Journal of Vocational Education and Training*, 73(2), 197–216. <https://doi.org/10.1080/13636820.2020.1863451>
- Deutscher Gewerkschaftsbund. (DGB) (n.d.). *Über uns—DGB-Fachabteilungen* [About us—DGB-departments]. <https://www.dgb.de/uber-uns/dgb-heute/jugend-jugendpolitik>
- Deutscher Gewerkschaftsbund. (DGB) (2018). *Satzung des Deutschen Gewerkschaftsbundes. Stand: Mai 2018* [Constitution of the German Trade Union Confederation. As of May 2018]. <https://www.dgb.de/uber-uns/dgb-heute/satzung>
- Deutscher Gewerkschaftsbund. (DGB) (2020a). *DGB-Position: Ein wirksamer "Schutzschirm für Ausbildungsplätze"* [DGB position: An effective "shield for training places"]. <https://www.dgb.de/themen/++co++96ec8f10-814c-11ea-b78e-52540088cada>
- Deutscher Gewerkschaftsbund. (DGB) (2020b, June 24). *DGB: Schutzschirm für Ausbildung schnell umsetzen* [DGB: Quick implementation of the shield for apprenticeships] [Press release]. <https://www.dgb.de/presse/++co++c444a836-b5e4-11ea-816b-5254008f5c8c>
- Deutscher Gewerkschaftsbund. (DGB) (2020c, October 29). *Ausbildungsgarantie jetzt!* [Training guarantee now!] [Press release]. https://www.dgb.de/presse/++co++0a7b89d2-19bd-11eb-93be-001a4a16011f?display_page=2&end_date=2999-12-31&start_date=2018-12-06&tab=Pressemeldung
- Deutscher Gewerkschaftsbund. (DGB) (2020d, August 27). *Ausbildungsqualität muss auch in Corona-Zeiten stimmen* [Training quality needs to be appropriate even in times of Corona] [Press release]. https://www.dgb.de/presse/++co++63a3ef32-e7d5-11ea-b05c-001a4a160123?display_page=3&end_date=2999-12-31&start_date=2018-12-06&tab=Pressemeldung
- Deutscher Gewerkschaftsbund. (DGB) (2021, August 25). *Ausbildungsfremde Tätigkeiten, gekürzter Urlaub, Zukunftsangst—so sieht die Corona-Realität vieler Azubis aus* [Non-training activities, re-

- duced holidays, worries about the future—this is what the reality of corona looks like for many trainees] [Press release]. <https://www.dgb.de/presse/++co++f8bf6ad8-04e4-11ec-887b-001a4a160123>
- Deutscher Industrie- und Handelskammertag. (DIHK) (2020). *Ausbildung 2020: Ergebnisse einer DIHK-Online-Unternehmensbefragung* [Training in 2020: Results of an online company survey by DIHK]. <https://www.dihk.de/de/themen-und-positionen/fachkraefte/aus-und-weiterbildung/ausbildung/dihk-ausbildungsumfrage-wissen-was-zu-tun-ist-11430>
- Deutscher Lehrerverband. (DL) (2020a, July 15). *Deutscher Lehrerverband fordert mehr als nur Aufstellen von Hygienestandards von der KMK* [German Teachers Association demands more from KMK than just setting hygiene guidelines] [Press release]. <https://www.lehrerverband.de/10-punkteplan-mit-und-nach-corona/>
- Deutscher Lehrerverband. (DL) (2020b, September 25). *Große Enttäuschung beim Deutschen Lehrerverband über Absage der KMK an Einbau von Luftfilteranlagen in Schulen* [Great disappointment at the German Teachers Association about the KMK's refusal to install air filtration systems in schools] [Press release]. <https://www.lehrerverband.de/kmk-lueftungskonzept/>
- Deutscher Lehrerverband. (DL) (2020c, October 27). *Bildungspolitik von der zweiten Welle eiskalt erwischt!* [Educational policy got caught by the second wave] [Press release]. <https://www.lehrerverband.de/forderungen-loesungsvorschlaege/>
- Dohmen, D. (2020). *Berufsausbildung in Krisenzeiten nachhaltig unter Druck: Was bedeutet die Corona-Krise für die Berufsbildung?* [Apprenticeships under sustained pressure in times of crisis: What does the Corona crisis mean for VET?]. Forschungsinstitut für Bildungs- und Sozialökonomie. https://www.fibs.eu/fileadmin/user_upload/Literatur/FiBS_Forum_073_Berufsausbildung_unter_Druck_200817_final_200817.pdf
- Ebbinghaus, M. (2021). *Auswirkungen der Corona-Pandemie auf Betriebe und Ausbildung* [Impact of the Corona pandemic on companies and training]. Bundesinstitut für Berufsbildung. <https://lit.bibb.de/vufind/Record/DS-185657>
- Eberhard, V., Heinecke, M., Christ, A., Neuber-Pohl, C., & Schuß, E. (2021). *Auf Ausbildungsstellen-suche während der Corona-Pandemie: Wie haben Jugendliche ihre Bewerbungsphase im Jahr 2020 erlebt?* [Looking for apprenticeships during the corona pandemic: How did young people experience applying for apprenticeships in 2020?] Bundesinstitut für Berufsbildung. <https://lit.bibb.de/vufind/Record/DS-779060>
- Emmenegger, P., & Seitzl, L. (2020). Social partner involvement in collective skill formation governance. A comparison of Austria, Denmark, Germany, the Netherlands and Switzerland. *Transfer*, 26(1), 27–42. <https://doi.org/10.1177/1024258919896897>
- Emmenegger, P., Graf, L., & Trampusch, C. (2019). The governance of decentralised cooperation in collective training systems: A review and conceptualization. *Journal of Vocational Education and Training*, 71(1), 21–45. <https://doi.org/10.1080/13636820.2018.1498906>
- Eurostat. (2022, April 13). *Unemployment statistics*. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Unemployment_statistics#Youth_unemployment
- Faßbender, U., & Pilz, M. (2020). Merkmale dualer Berufsausbildung in den internationalen Angeboten deutscher Bildungsanbieter. *Journal of Technical Education (JOTED)*, 8(2), 26–45. <https://doi.org/10.48513/joted.v8i2.196>
- Fürstenau, B., Pilz, M., & Gonon, P. (2014). The dual system of vocational education and training in Germany—what can be learnt about education for (other) professions. In S. Billett, C. Harteis & H.

- Gruber (Eds.), *International handbook of research in professional and practice-based learning* (pp. 427–460). Springer. https://doi.org/10.1007/978-94-017-8902-8_16
- German Office for International Cooperation in Vocational Education and Training. (Ed.) (2022). *Effects of the Covid-19 pandemic on vocational education and training: International perspectives of policy makers and practitioners*. Federal Institute for Vocational Education and Training. <https://www.bibb.de/dienst/veroeffentlichungen/en/publication/show/17576>
- Gewerkschaft Erziehung und Wissenschaft. (GEW) (2020a, April 7). *GEW: "Schnecken-tempo des Digitalpakts nach der Corona-Krise beenden"* ["End the snail's pace of the Digital Pact after the corona crisis"] [Press release]. <https://www.gew.de/presse/pressemitteilungen/detailseite/neuigkeiten/gew-schnecken-tempo-des-digitalpakts-nach-der-corona-krise-beenden/>
- Gewerkschaft Erziehung und Wissenschaft. (GEW) (2020b, June 10). *GEW mahnt Fürsorgepflicht der Länder für Beschäftigte an* [GEW reminds federated states of their duty to care for employees] [Press release]. <https://www.gew.de/presse/pressemitteilungen/detailseite/neuigkeiten/gew-mahnt-fuersorgepflicht-der-laender-fuer-beschaefigte-an/>
- Gewerkschaft Erziehung und Wissenschaft. (GEW) (2020c, October 29). *GEW: "Corona-Pandemie darf nicht zu Ausbildungskrise führen: Ausbildungs-garantie für junge Menschen!"* ["Corona pandemic must not lead to training crisis: Training guarantee for young people!"] [Press release]. <https://www.gew.de/presse/pressemitteilungen/detailseite/neuigkeiten/gew-corona-pandemie-darf-nicht-zu-ausbildungskrise-fuehren-ausbildungs-garantie-fuer-junge-menschen/>
- Gewerkschaft Erziehung und Wissenschaft. (GEW) (2020d, November 5). *Gemeinsame Pressemitteilung zum gestrigen Gespräch mit der KMK* [Joint press release on yesterday's discussion with the KMK] [Press release]. <https://www.gew.de/presse/pressemitteilungen/detailseite/neuigkeiten/gemeinsame-pressemitteilung-zum-gestrigen-gespraech-mit-der-kmk/>
- Hall, P., & Soskice, D. (2001). An introduction to varieties of capitalism. In P. Hall & D. Soskice (Eds.), *Varieties of capitalism: the institutional foundations of comparative advantage* (pp. 1–71). Oxford University Press.
- Hanushek, E. A., & Woessmann, L. (2020). Education, knowledge capital, and economic growth. In S. Bradley & C. Green (Eds.), *The economics of education. A comprehensive overview* (2nd ed.) (pp. 171–182). Academic Press. <https://doi.org/10.1016/B978-0-12-815391-8.00014-8>
- Hoeckel, K. (2012). Bridging the gulf between the world of work and the world of learning: vocational education and training in comparative perspective. In M. Pilz (Ed.), *The future of vocational education and training in a changing world* (pp. 537–560). Springer. https://doi.org/10.1007/978-3-531-18757-0_29
- International Labour Organization. (ILO), & World Bank. (2021). *Skills development in the time of Covid-19: Taking stock of the initial responses in technical and vocational education and training*. International Labour Office. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_766557.pdf
- International Labour Organization. (ILO) (2020a). *Youth & Covid-19: Impacts on jobs, education, rights and mental well-being*. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_753026.pdf
- International Labour Organization. (ILO) (2020b). *ILO-monitor: Covid-19 and the world of work* (4th ed.). https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745963.pdf

- International Labour Organization. (ILO) (2021a). *ILO-monitor: Covid-19 and the world of work* (7th ed.). https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_767028.pdf
- International Labour Organization. (ILO) (2021b). *Statistical brief: An update on the youth labour market impact of the Covid-19 crisis*. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/briefingnote/wcms_795479.pdf
- Jobstarter. (2020). *Corona-Pandemie und Berufsausbildung. Ergebnisse der Umfrage vom 12. Mai bis 31. Juli 2020 unter 844 Betrieben* [Corona pandemic and vocational training. Results of the survey from 12 May to 31 July 2020 among 844 companies]. https://www.jobstarter.de/jobstarter/shared-docs/downloads/files/ergebnisse-corona-pandemie-und-berufsausbildung_2020-11-27.pdf;jsessionid=A40DC584BC8EC0697569C9512702491E.live092?__blob=publicationFile&v=1
- Jugend des Deutschen Gewerkschaftsbundes. (DGB-Jugend) (2020, July 31). *Zum Ausbildungsstart: Betriebe sind gefordert* [At the beginning of apprenticeship training: Companies are challenged] [Press release]. <https://jugend.dgb.de/presse/++co++beb2712e-c817-11ea-85a8-001a4a16011a>
- Jugend des Deutschen Gewerkschaftsbundes. (DGB-Jugend) (2021a). *Corona-Ausbildungsstudie. Sonderstudie zu den Auswirkungen der Corona-Krise auf die duale Berufsausbildung* [Corona training study. Special study on the effects of the Corona crisis on dual apprenticeships]. Abteilung Jugend und Jugendpolitik. <https://jugend.dgb.de/meldungen/ausbildung/++co++52d8f69a-05aa-11ec-951d-001a4a16011a>
- Jugend des Deutschen Gewerkschaftsbundes. (DGB-Jugend) (2021b, July 21). *DGB-Jugend fordert mehr Ausbildungsplätze/Deine Rechte* [DGB-Jugend demands for more training places/your rights] [Press release]. <https://jugend.dgb.de/presse/++co++e61fa4ac-e30a-11eb-abe9-001a4a16011a>
- Knappschaft Bahn See. (2022). *Zweite Förderrichtlinie für das Bundesprogramm "Ausbildungsplätze sichern."* Stand: 04.04.2022 [Second Funding Guideline for the Federal Programme "securing training places". As of 04.04.2022]. https://www.kbs.de/DE/Bundesprogramm_Ausbildung/Downloads/Statistik_Ausbildungsplaetze_sichern.pdf?__blob=publicationFile&v=20
- Kuhn, A. (2022, April 12). *Corona und Schule: Maskenpflicht ist entfallen, Testpflicht bleibt—noch* [Corona and school: Compulsory wearing of masks has been abolished, compulsory testing remains—yet]. Das Deutsche Schulportal. <https://deutsches-schulportal.de/bildungswesen/news-blog-corona-schule-neues-schuljahr/>
- Kultusministerkonferenz. (KMK) (2019). *Verwaltungsvereinbarung DigitalPakt Schule von 2019 bis 2024* [Administrative agreement on digital pact for schools 2019–2024]. https://www.kmk.org/fileadmin/pdf/Themen/Digitale-Welt/VV_DigitalPaktSchule.pdf
- Kultusministerkonferenz. (KMK) (2020a). *Rahmenkonzept für die Wiederaufnahme von Unterricht in Schulen* [Conceptual framework for the resumption of face-to-face teaching in schools]. <https://www.kmk.org/fileadmin/Dateien/pdf/PresseUndAktuelles/2020/2020-04-28-Rahmenkonzept-Oeffnung-von-Schulen.pdf>
- Kultusministerkonferenz. (KMK) (2020b). *Rahmen für aktualisierte Infektionsschutz und Hygienemaßnahmen* [Framework for updated infection protection and hygiene guidelines]. https://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2020/2020_09_01-Infektionsschutz-Hygienemaßnahmen.pdf
- Kultusministerkonferenz. (KMK) (2021). *Schulischer Regelbetrieb im Schuljahr 2021/2022 und Präsenzstudium im Wintersemester 2021/2022* [Regular schooling in year 2021/2022 and regular studies in the winter semester 2021/2022]. <https://www.kmk.org/fileadmin/veroeffentl>

- lichungen_beschluesse/2021/2021-08-06-Beschluss-schulischer-Regelbetrieb-und-Studium-2021-2022__003_.pdf
- Lange, T. (2012). German training revisited: An appraisal of corporatist governance. *Education + Training*, 54(1), 21–35. <https://doi.org/10.1108/00400911211198878>
- Lewis, T. (2007). The problem of cultural fit: What can we learn from borrowing the German dual system? *Compare*, 37(4), 463–477. <https://doi.org/10.1080/03057920701366408>
- Luethi, S., & Wolter, S. C. (2020). *The impact of the Covid-19 crisis on the provision of apprenticeships in Switzerland*. Swiss Leading House on the Economics of Education. https://www.educationeconomics.uzh.ch/dam/jcr:9b02214f-d085-474a-ba4e-5ab4443cac6d/052020_Covid_Crisis_and_apprenticeships.pdf
- Mahoney, J., & Thelen, K. (2010). A theory of gradual institutional change. In J. Mahoney & K. Thelen (Eds.), *Explaining institutional change. Ambiguity, agency, and power* (pp. 1–37). Cambridge University Press. <https://doi.org/10.1017/CBO9780511806414.003>
- Maier, T. (2020). *Auswirkungen der "Corona-Krise" auf die duale Berufsausbildung. Risiken, Konsequenzen und Handlungsnotwendigkeiten* [Effects of the "Corona crisis" on dual apprenticeship training. Risks, consequences and needs for action]. Bundesinstitut für Berufsbildung. <https://lit.bibb.de/vufind/Record/DS-184938>
- Maier, T. (2021). Markiert die Covid-19-Krise einen Wendepunkt auf dem Ausbildungsmarkt? Ein Ausblick auf die mögliche Entwicklung neuer Ausbildungsverträge bis 2030 [Does the Covid-19 crisis mark a turning point on the training market? An outlook on the possible development of new training contracts until 2030]. *Berufsbildung in Wissenschaft und Praxis*, 50(2), 20–24. <https://www.bwp-zeitschrift.de/de/bwp.php/de/bwp/show/17111>
- Muehleemann, S., Pfeifer, H., & Wittek, B. H. (2020). The effect of business cycle expectations on the German apprenticeship market: Estimating the impact of Covid-19. *Empirical Research in Vocational Education and Training*, 12(8), 1–30. <https://doi.org/10.1186/s40461-020-00094-9>
- Oeynhausens, S., Milde, B., Ulrich, J. G., Flemming, S., & Granath, R. O. (2020). *Die Entwicklung des Ausbildungsmarktes im Jahr 2020* [The development of the training market in 2020]. Bundesinstitut für Berufsbildung. https://www.bibb.de/dokumente/pdf/ab11_beitrag_ausbildungsmarkt-2020.pdf
- Oliver, D. (2010). Complexity in vocational education and training governance. *Research in Comparative and International Education*, 5(3), 261–273. <https://doi.org/10.2304%2Frcie.2010.5.3.261>
- Organisation for Economic Co-operation and Development. (OECD) (2020). *VET in a time of crisis: Building foundations for resilient vocational education and training systems*. <https://www.oecd.org/coronavirus/policy-responses/vet-in-a-time-of-crisis-building-foundations-for-resilient-vocational-education-and-training-systems-efff194c/>
- Organisation for Economic Co-operation and Development. (OECD) (2021a). *OECD employment outlook 2021: Navigating the Covid-19 crisis and recovery*. <https://doi.org/10.1787/5a700c4b-en>
- Organisation for Economic Co-operation and Development. (OECD) (2021b). *The state of global education. 18 Months into the pandemic*. <https://doi.org/10.1787/1a23bb23-en>
- Organisation for Economic Co-operation and Development. (OECD) (2021c). *Implications of the Covid-19 pandemic for vocational education and training*. <https://doi.org/10.1787/55afea00-en>
- Organisation for Economic Co-operation and Development. (OECD) (2021d). *Teaching and learning in VET: Providing effective practical training in school-based settings*. <https://doi.org/10.1787/64f5f843-en>

- Pilz, M. (2016). Typologies in comparative vocational education: Existing models and a new approach. *Vocations and Learning*, 9(3), 295–314. <https://doi.org/10.1007/s12186-016-9154-7>
- Pilz, M. (2021). Typologies as a tool to assess reforms in vocational education and training systems. In R. Bürgi & P. Gonon (Eds.), *Governance revisited. Challenges and opportunities for vocational education and training* (pp. 331–358). Peter Lang.
- Pilz, M., & Fürstenau, B. (2019). Duality and learning fields in vocational education and training. Pedagogy, curriculum, and assessment. In D. Guile & L. Unwin (Eds.), *The Wiley handbook of vocational education and training* (pp. 311–328). Wiley-Blackwell. <https://doi.org/10.1002/9781119098713.ch16>
- Rauner, F. (2008). *Steuerung der beruflichen Bildung im internationalen Vergleich. Kurzfassung* [VET-Governance in international comparison. Executive summary]. Bertelsmann. https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/steuerung-der-beruflichen-bildung-im-internationalen-vergleich-kurzfassung?tx_rsmbstpublications_pi2%5Bfilterpreis%5D=0&tx_rsmbstpublications_pi2%5Bpage%5D=5&cHash=1d8f370f797c3ac1353baa1b5a7cbb26
- Schuß, E., Christ, A., Oeynhaus, S., Milde, B., Flemming, S., & Granath, R.-O. (2021). *Die Entwicklung des Ausbildungsmarktes im Jahr 2021* [The development of the training market in 2021]. Bundesinstitut für Berufsbildung. https://www.bibb.de/dokumente/pdf/ab11_beitrag_ausbildungs-markt-2021.pdf
- Streeck, W., & Thelen, K. (2005). Introduction: Institutional change in advanced political economies. In W. Streeck & K. Thelen (Eds.), *Beyond continuity: Institutional change in advanced political economies* (pp. 1–39). Oxford University Press.
- United Nations. (2020). *Policy brief: Education during Covid-19 and beyond*. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf
- Wieland, C. (2020). *Die Ausbildungsgarantie in Österreich. Funktionsweise, Wirkungen, Institutionen* [The training guarantee in Austria. Functioning, effects, institutions]. Bertelsmann. <https://doi.org/10.11586/2020051>
- Zentralverband des Deutschen Handwerks. (ZDH) (2020). *ZDH-Betriebsbefragung zur Corona-Pandemie* [Company survey on the corona pandemic by the ZDH].

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