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Research on Website-Based Information from Ministries in the Field of Education on the Topic of “Inclusive Vocational Orientation” - Results of a Structured Search

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Abstract

In Germany, all secondary schools must implement vocational orientation programmes. According to the UN CRPD with Disabilities, these must be designed in such a way that all students, and specifically also those with disabilities, are provided with tailor-made vocational orientation with the aim of optimising the transition to working life. To develop a concept, schools need federal state-specific guidelines and for special educational programmes that apply to students with special educational needs in the inclusive school system. Ministries of education provide information on the internet, including information on vocational orientation. In educational science, there are only a few studies on the internet-based provision of information by ministries of education and relevant research options. This article presents a study on a nationwide structured search of ministerial websites in Germany for information on school-related inclusive vocational orientation. The study applies the research approach of structured website-based research, document analysis, and online content analysis. The results show that the research options and the information on vocational orientation that can be found vary greatly in all federal states. Information on inclusive vocational orientation can hardly be found, while relevant legal norms can neither be found with keyword-based searches nor with viewing of links.

Keywords inclusive, vocational, orientation, website research, ministries of education

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1. Introduction

The adoption of the UN CRPD (2006) requires the implementation of needs-based vocational orientation programmes in inclusive school systems. The learning conditions at inclusive schools differ greatly from vocational guidance programmes, especially for students with special educational needs. Therefore, the concepts of vocational guidance must be revised in such a way that the respective schools that the requirements of different educational programmes at lower secondary level and those at special schools can be implemented simultaneously. Ministerial requirements exist for the development of concepts for vocational orientation and their embedding into the curricula for secondary schools in all federal states in Germany. In Germany, lower secondary schools must develop concepts for the transition to vocational training that describe a curricular cross-sectional task (Hübner, 2023) and provide for cooperation in regional networks with other educational institutions, primarily with companies and businesses, as a bridge to the world of work (KMK, 2017; Lindmeier et al., 2019; Greiten et al., 2019). A large part of this networking work focuses on work placements for school students. These are among the most established elements of vocational and study orientation (Beinke, 2020) and are intended to provide practical work experience, orientational knowledge about the job, personality development, motivation, commitment, and knowledge transfer (Hübner, 2019; Hübner, 2023; Ocampo et al., 2020; Schmidt, 2019).

The concept development and its success depend on the motivation, training, and responsibility of the teachers involved (Dreer, 2013; Nentwig, 2018). It is, furthermore, important for teachers to find easily accessible information that enables them to develop a concept tailored to their school and adapt it to curricular requirements, while simultaneously meeting ministerial requirements regarding expertise, legal norms, and practical relevance.

Ministries of education provide information via structured websites with menus and webpages. This reveals a problem of considerable proportions and leads to the topic of research on ministerial websites, which has so far received little attention in educational science. If you enter the keyword “vocational orientation” (“Berufsorientierung” in German) on the homepage of the Standing Conference of the Ministers of Education and Cultural Affairs [KMK], for example, you will be taken to a website with links, where the most recent information refers to the ‘Alliance for Initial and Further Training 2023-2026’ (n.d.). For school sector, links include the documents of the Standing Conference of the Ministers of Education and Cultural Affairs in the Federal Republic of Germany [KMK] (2017; 2019). No further, more up-to-date materials with a direct reference to vocational orientation at schools could be found in the search period from November 2023 to May 2024. This example shows that this information channel hardly fulfils the requirements of digital information provision and procurement.

Moreover, searches on the respective ministerial websites of the federal states for further relevant information on vocational orientation, legal requirements, or assistance for concept development at schools for inclusive vocational orientation proved to be problematic. This also applied to the research strategy, the types of texts found, and different linking practices. These findings provided the motive for investigating research strategies and the organisation of website- and webpage-based information from ministries of education. As the scientific research shows, website- and webpage-based research on ministerial homepages as object of empirical educational research is virtually unrecognised in both, German-speaking and Anglo-American countries.

First, the theoretical contexts of the topics of inclusive vocational orientation and website research, interlinked in this study, as well as the current state of research are presented. We also focus on definitions of terms relating to vocational orientation, inclusive vocational orientation, and the differentiation between the term’s homepage, website, and webpage. The latter is particularly relevant for the German-language discussion, as the term website is often used there, which is misleading for the literature search and explanation of the problem. Then, the research approach and the results of the study are presented. The discussion emphasises the connection between users’ research strategies, the provision of information by ministries, and the requirements for developing concepts for inclusive vocational orientation. The research approach is also critically categorised in the context of educational science. Finally, an international discussion on inclusive vocational orientation and the provision of information on ministerial websites is initiated.

2. Theoretical contexts and state of research

2.1 Inclusive vocational orientation in Germany

Over the last three decades, the world of work and employment has changed rapidly due to increasing globalization, the impact of digitalisation, and demographic change (Kim, 2019). It is also beginning to show that, in times of skills

shortages, also in Germany, many young adults are unable to find an occupation that suits them (Autorengruppe Bildungsberichterstattung [ABB], 2024; Bundesagentur für Arbeit, 2019).

Preparing students for this change in the world of work and employment is also the task of secondary schools in Germany (KMK, 2017). Vocational orientation with the aim of a successful transition from school to work is identified as a developmental task for students (Havighurst, 1956; 1974) and an educational objective for schools (KMK, 2017; Weiß, 2014). Essentially, the aim is to prepare students with their individual aptitudes and potential for the world of work through targeted and early programmes and intensive support (KMK, 2017) and, from an inclusive perspective, to create a match between the young people's prerequisites and the needs of the world of work and employment (Jochmaring et al., 2019; Greiten et al., 2019).

Education in Germany is organised on a federal level. In terms of vocational orientation, this means that the ministries of the sixteen federal states draw up guidelines for school-based vocational orientation programmes that correspond to the jointly agreed KMK recommendations as well as the regional requirements (KMK, 2017). These guidelines are then implemented in the federal states for each type of school. In the last decade, the shortage of skilled workers in Germany, the German ratification of the United Nations Convention on the Rights of Persons with Disabilities (UN, 2006), and demographic developments have contributed to the revision of school vocational orientation programmes in all federal states and the adaptation of curricular requirements (Federal Ministry of Education and Research [BMBF] & Federal Ministry of Labour and Social Affairs, 2022).

The revisions were also made with the aim of securing skilled labour and counteracting high dropout rates in vocational trainings (KMK, 2019). Compared to previous years, there are more needs-based programmes for young people at risk of dropping out. School development work on conceptual vocational orientation is imperative to enable a higher rate of qualifications and transitions into the labour market for young people (ABB, 2024; Langenkamp et al., 2022). Transitions of students with special educational needs must also be specifically supported (Jochmaring et al., 2019; Bienengraber et al., 2022). Currently, students with special educational needs are included in vocational orientation programmes. These special educational needs are assigned if the students require targeted support in their learning at school due to their impairment. In Germany, seven special educational needs are defined (KMK, 2020). These needs should be considered in the revised vocational orientation programmes of the federal states (KMK, 2017). In the theoretical discourse in German-speaking countries on vocational orientation programmes and their focus on students with special educational needs, the term inclusive vocational orientation is used (Nentwig et al., 2019; Lindmeier et al., 2019; Bienengraber et al., 2022). However, the topic has hardly been dealt with in scientific publications to date, as publications from the last six years have repeatedly pointed out (Nentwig, 2018; Lindmeier et al., 2019; Laur, 2021; Fasching and Tanzer, 2022). There is also no recognisable uniform understanding of inclusive vocational orientation. The minimum consensus is about vocational orientation for students both with and without disabilities.

Under the narrow concept of inclusion, which is frequently found in vocational education and training policy (Hinz, 2018; Enggruber, 2019), around 50,000 young people with special educational needs who are seeking vocational training are considered in terms of "positive discrimination" (Winkler, 2014, p. 119; also, Euler und Severing, 2015). Young people unsuccessfully seeking a training position are not considered because they are not covered by the analysis specifications. The education report (ABB, 2024, p. 11) shows, e.g., that there are currently 63,700 young people in Germany who are looking for a training position. There may be various reasons for this. It is conceivable that the individual requirements for training, such as a school-leaving certificate, are not met. School-leaving certificates are required by companies offering training positions and are seen as an important criterion for the chance of passing the training examinations (Hübner, 2023). In addition, there are 249,790 young adults in the transitional sector of vocational qualification (ABB, 2024, p. 177; cf. data report on the BiBB 2023 Vocational Education and Training Report with comparable figures). They make use of the transition sector's offers because they are still required to attend school, cannot access the regular labour market, or can, e.g., qualify for vocational training in these measures.

To address the outlined challenges of inclusive vocational guidance in schools, research on ministerial websites is suitable, as it can be assumed that relevant information for the development of school concepts can be found there. However, as the following explanations show, such research proves to be problematic.

2.2 Research on websites

In the digital age, it is common to research information via search engines available on the internet (Kolo, 2018). In English, a distinction is made between homepage, website, and webpages. Homepages are the start pages of websites. Websites are hosted on a server and consist of a group of webpages. Websites are considered communicative and dynamic, are generally accessible, and are aimed at a specific target group (Schünzel & Traue, 2019, p. 1001). The information relevant to users can be found on webpages, i.e., digitally stored documents that can be accessed on the internet.

Searchers reach homepages and websites first via search engines, using keywords and keyword combinations that correspond to their previous knowledge (Misoch, 2004; Machill et al., 2008; Schünzel & Traue, 2019). There, they must understand the navigation system and be able to orientate themselves (Zimmermann, 2004). Hyperlinks require decisions to click, continue reading, or ignore (Zimmermann, 2007; Schweiger, 2018). There are different ways to then reach webpages. During the search, searchers refine their strategy and expand or reduce keyword combinations. Searching for information via search engines is referred to as an act of selection to generate hits (Schweiger, 2018). Search strategies work because, reacting to usage, websites follow “socially conventionalised rules and expectation structures”, “which have been socially negotiated and now frame social communication practice as institutions” (translated Beck & Jünger, 2019, p. 3; for an overview of usage cultures and models, see Kolo, 2018) and enable “associative navigation” through semantic logics (translated Meier et al., 2009, p. 48).

The fit between user behavior and the structure of the information offered by the provider determines the research result and the transfer of information. In contrast to printed documents, which are organised linearly and suggest reading from top to bottom, websites and webpages are designed to be hierarchical and linked (Misoch, 2004; Schweiger, 2018; Schünzel & Traue, 2019). This requires users to conduct both linear and linked research and reading as well as a network-like knowledge structure that corresponds to the research strategies. A distinction can be made between vertical, hierarchical selection strategies using search engines and horizontal strategies in the form of network selection using hyperlinks (Koopmans & Zimmermann, 2003; Zimmermann, 2007). Experienced users who visit the homepages of institutions initially orientate themselves using the menu structure, terms on the tabs, or the search function (Meier et al., 2009; Döring, 2022). Experience with similarly structured homepages as an aspect of socio-cultural knowledge helps here. As the complexity of the information increases, searchers encounter hyperlinks, further, and even contradictory information. This leads to a knowledge gain about the structure and linking of topics within the homepage on both, a content and structural level. It is also significant that websites and webpages can be easily updated due to the links (Misoch, 2004), causing dynamics (Schünzel & Traue, 2019), which, in turn, means that search strategies must be adapted when the website is accessed repeatedly. The structure of websites, including ministerial websites, must meet the requirements of users, e.g., being easy to navigate. This is crucial for web success (Maxhofer, 2019; Umit et al., 2020).

2.3 Ministerial websites

Ministries can be described as institutions that, from a socio-cultural perspective, establish the link between state and society and act in a politically contextualised manner (Emmer, 2018; Szyszka, 2020). They represent the highest administrative authority and are part of the executive branch (Schubert et al., 2021). One of the tasks of ministerial websites is to provide information regarding their areas of responsibility to society and to simplify administrative and communicative processes (Schweitzer, 2015). They do not pursue a commercial purpose, but rather a legitimising and controlling one. Accordingly, ministries design their websites to present themselves and their content and to create transparency for interested parties (Busyra & Girsang, 2024; Misoch, 2004).

From a sociological perspective, websites create “online public spheres” and can, therefore, also influence political processes (Zimmermann, 2007, p. 167; see also Emmer, 2018). From the perspective of “self-theming”, they can be viewed culturally as production of culture (Schünzel & Traue, 2019, p. 1003). From the perspective of communication sociology, ministerial websites can be categorised as distribution frameworks (Beck & Jünger, 2019). Information is provided according to the area of responsibility, without feedback or discussion options. However, follow-up communication can be stimulated (Schünze & Traue, 2019).

A key source of school-relevant information is the website hosted by the responsible ministry of education of the respective federal state. The user's prior knowledge in the shape of technical terms and knowledge about content-related contexts is relevant for searches (Zimmermann, 2007). For people working in the education system, this includes the knowledge that, in addition to non-binding information, there are also legal norms - and, thus, legally

relevant texts - which can usually be found in a corresponding portal or “topic-related homepages” (Misoch, 2004, p. 123). In addition, ministries of education publish text types and media offers such as recommendations, manuals, guidelines, brochures, and practical examples that help shape and design specific topics at school. Differentiating between these text types is extremely important for research on the websites and webpages of ministries of education.

3. Methods

Studies on online media, specifically websites and forums, have been discussed for several years regarding suitable research approaches and objectives, such as information provision, self-presentation, use, etc. (Zimmermann, 2007; Machill et al., 2008; Farrell & Petersen, 2010; Schmidt-Lux & Wohlrab-Sahr, 2020; Döring, 2022). Various disciplines ranging from media and communication studies, communication sociology, media psychology, media education, sociology of technology, and computer science investigate online research (Meier et al., 2009; Beck & Jünger, 2019; Schmidt-Lux & Wohlrab-Sahr, 2020; Döring, 2022).

The study presented here builds a bridge to educational research and focusses on the following questions: (1) What research strategies can be used to obtain information on school-related vocational orientation, relevant legal norms, as well as explanatory handouts, and on inclusive vocational orientation for implementation in schools on the websites and webpages of the ministries of education of the German federal states? (2) To what extent is the term “inclusive vocational orientation” or synonyms such as “inclusive vocational orientation” and others included and further explained on the federal state-specific websites?

Difficulties can arise when analysing websites (Rössler et al., 2014.). In the online medium, the offers can change quickly, and comparative studies must overcome the obstacle of the differing “presentation and composition of communications” (Rössler et al., 2014, p. 221). These considerations are also relevant for this study: vocational guidance offers and their presentation on the internet are, e.g., constantly changing. Elections in the federal states can also lead to restructuring of the ministerial websites (Schweitzer, 2015). These conditions of websites therefore require an investigation within a short period of time.

The research approach is a document analysis of webpages combined with structured research (Schünze & Traue, 2019) using the method of qualitative content analysis. In terms of research methodology, this approach is beginning to establish itself as online content analysis (Welker & Wunsch, 2015, cf. also Kuckartz & Rädiker, 2023). The method of qualitative content analysis was adapted for website and webpage analysis: Research on websites and webpages requires terms that are entered into search masks and that are stored in documents with links. For this reason, terms as codes for search strategies and clarifications of selection, analysis, and context units (Rössler et al., 2014) are ideally suited for data analysis with qualitative content analysis, which works with categories and their definitions and coding rules.

First, the media material (selection unit) and the survey period were defined. The media material was defined as websites and related webpages on vocational orientation (context unit) posted by ministries of education and links to other materials from these. The focus is on the connection between the search term and the hits of relevant information (unit of analysis).

The challenges posed by the volatility and short-term change of content necessitated the first screening of the large selection unit in a short survey period in January 2024. Three ministries of education (Baden-Württemberg (BW¹), Saarland (SL), and Saxony (SN)) were chosen by lot for initial searches. Searching with the keywords “inclusive vocational orientation” and “vocational orientation inclusion” did not lead to direct hits in terms of information on the clarification of terms or concept development at schools. It was only possible to analyse structural and offer-specific content on vocational orientation, inclusive vocational orientation, legal norms, and manuals by searching for “vocational orientation” in general and navigating from there.

Various research strategies were formulated and tested on this basis. Hyperlinks formed the smallest and continuous texts the maximum units of analysis. Only websites and documents linked there were included in the analysis that corresponded to the following text types: information texts, legal norms, and explanatory handouts (e.g., booklets, brochures, leaflets) posted on the websites and webpages, assuming that the ministries had developed or authorised these, as they offer them via their websites. The research strategies and results were then validated by consensus

¹The abbreviations for the federal states are based on the glossary of the BMBF (BMBF n.d.).

within the research team. Finally, three research strategies were formulated as being useful for the research purpose, a data collection plan was designed, and data was collected for all federal states between February and March 2024.

For the first research strategy, the search engine “Google” was used to search for the ministries responsible for vocational orientation in schools by entering “ministry of education” and the respective federal state. The agreed use of the same search engine ensured that results found by different researchers did not differ because of different search algorithms. From the list of hits, the first hit was selected, which led to the website of the relevant ministry. The search function there was used to search for different types of text such as information texts on websites, webpages, links, and documents for download using first “vocational orientation” and then several other search terms: one by one, the search terms “vocational orientation” (ger. Berufliche Orientierung), “vocational guidance” (ger. Berufs Orientierung), “inclusive vocational orientation” (ger. Inklusive berufliche Orientierung), “inclusive vocational guidance” (ger. Inclusive Berufsorientierung), and “vocational orientation in special schools” (ger. Berufsorientierung in Förderschulen) were entered and the hits were documented to obtain an overview of the subject area in each federal state.

The second search strategy focused on legal norms that clearly formulated the requirements of the respective state law, e.g., laws, administrative regulations, and decrees that are to be implemented bindingly in the school systems (Hoegg, 2021). As it turned out, for some federal states, additional search terms such as “school law”, “school regulations”, and “training regulations” had to be entered via Google together with the name of the federal state since references to vocational orientation could be found above all in ordinances, yet these ordinances are not necessarily linked to the websites and webpages on vocational orientation.

The third research strategy was used to search for the text type “manual” that deals with the topic of vocational orientation and concretises the requirements of the legal norms. Care was taken to ensure that these manuals were clearly published, written, or authorised by the respective ministry.

Following the three research strategies, the research was considered complete when, starting from the website of the respective Ministry of Education, a) basic information on vocational orientation and, if available, information on inclusive vocational orientation, b) relevant legal norms on vocational orientation and, if available, on inclusive vocational orientation and c) manuals referring to schools were searched and corresponding text types were found or marked as not findable. The hits on webpages generated by the search strategies were then analysed in terms of content, assigned to categories, and recorded in tabular form (see Table 1).

4. Results

4.1 Search options and use of terms

The results of the website-based research are presented, described, and commented on in Table 1 below. The abbreviations for the federal states are based on the specifications of the BMBF (glossary, data portal) BW = Baden-Württemberg, BY = Bavaria, BE = Berlin, BB = Brandenburg, HB = Bremen, HH = Hamburg, HE = Hesse, MV = Mecklenburg-Western Pomerania, NI = Lower Saxony, NW = North Rhine-Westphalia, RP = Rhineland-Palatinate, SL = Saarland, SN = Saxony, ST = Saxony-Anhalt, SH = Schleswig-Holstein, TH = Thuringia.

Table 1: Category-based analysis of the websites of the ministries of education relevant to schools

	BW	BY	BE	BB	HB	HH	HE	MV	NI	NW	RP	SL	SN	ST	SH	TH
1.Hit																
vocational orientation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2. Use of terms																
vocational orientation	x	x	x	x	x		x	x	x	x	x	x	x		x	x
vocational and study orientation		x	x	x			x				x		x			
vocational guidance		x			x	x						x		x		x

vocational and work-related orientation																x
3. References to legal norm																
information on the legal norm directly on the vocational orientation website	x	x		x		x	x	x	x			x	x	x	x	
information on the legal norm by linking to another website and webpage	x			x	x		x	x				x	x		x	
information on the legal norm in external document			x											x		x
4. Explanatory handouts on the vocational orientation																
across school types	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x
school type-specific	x					x		x					x			x
handouts contain information on inclusive vocational orientation	x		x	x					x	x		x	x	x		x
Structured collection of information with systematically linear linked websites and webpages							x				x	x		x	x	x
5. Information on inclusive vocational orientation and related legal norms on websites																
6. Dealing with special educational needs																
individual educational needs are excluded from the vocational orientation				x				x					x			x
special offers for special educational needs		x	x	x				x		x	x		x			x
7. Information on work placements for students	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Hit vocational orientation: Table 1 shows that entering “ministry of education” and the name of the respective federal state into the Google search engine provides links to the homepages of the ministries responsible for schools of all federal states. By entering the term “vocational orientation” in the search function on each ministerial website, hits for relevant information on vocational orientation and various types of text can be generated.

Use of terms: The terms used by the federal states for the subject area differ. In some cases, there are also different terms within a federal state, e.g., on the webpage, in the legal norms, and the handouts: Vocational orientation (BW,

BY, BE, BB, HB, HE, MV, NI, NW, RP, SL, SN, SH, TH), vocational and study orientation (BY, BE, BB, HE, RP, SN), vocational guidance (BY, HB, HH, SL, ST, TH), and vocational and work-related orientation (TH).

Legal norms: All federal states except for NW and RP publish information on legal norms on their websites, e.g., as administrative regulations and decrees on vocational orientation or as part of the general school law. However, finding these legal norms via this access varies greatly: In some cases, the relevant link can be found directly on the websites and webpages where vocational orientation is described (BW, BY, BB, HH, HE, MV, NI, SL, SN, ST, SH), while in others, links are only provided in handouts (BE, ST, TH). TH links to a comprehensive document on the state strategy, which quotes a section of the Schools Act on safeguarding vocational orientation. SN mentions the administrative regulation on the webpages without linking to it. There is also a reference to the general school law in which vocational orientation is mentioned. For NW, RP, SN, and TH, the relevant legal norms, such as school regulations or a decree, must be researched externally in a portal for legal texts.

Explanatory handouts: In all federal states, the search function and tabs on the ministerial website can be used to find manuals, brochures, or other webpages in which vocational orientation is explained in more detail. The federal states diverge in this respect: The spectrum ranges from a manual covering all school types (all except HE) and/or school type-specific manuals (BW, HH, MV, SN, TH) to a structured collection of information with systematic linear links to webpages (HE, RP, SL, ST, SH, TH). In ST, in addition to general information, there are links to special needs programmes, but not to manuals, brochures on vocational orientation, or internships. Some federal states also refer to state institutes that offer information on vocational orientation on their websites; such information is then predominantly school-specific (e.g., state institute in BB, BW, BY, HH). When federal states publish manuals on vocational orientation, they also contain at least general information on inclusive vocational orientation, or at the very least mention that it should be considered (BW, BE, BB, BW, BY, NI, NW, SL, SN, ST, TH).

Inclusive vocational guidance and legal norms: All federal states have in common that it is not possible to find a document or webpage that deals with inclusive vocational orientation and, thus, provides teachers with information on how to realise inclusive vocational orientation by entering the terms “inclusive vocational orientation” or “vocational orientation and inclusion” into the search mask on the ministry websites. It is only via other websites and webpages that are displayed as hits and links on these webpages leading to manuals that information on vocational orientation or further links to inclusive vocational orientation are offered. In some cases, these contain more general information, or the terms “inclusive” and “inclusion” are used, but no specific recommendations on inclusive vocational orientation, let alone legal norms, can be derived from them. For example, although there are around 80 hits on the SH ministry website, these refer merely to webpages that contain either the string “vocational orientation” or “inclusion” (or “inclusive”), yet no relevant document can be found on inclusive vocational orientation.

All federal states have in common that no references to inclusive vocational orientation could be found in any of the legal norms on vocational orientation researched. It should also be noted that some states exclude individual special educational needs or students with a severe disability from regular vocational orientation programmes (BB, MV, SN, TH). Some states offer special programmes (BY, BE, BB, MV, NW, RP, SN, TH). For inclusive vocational orientation, federal states refer directly to information on special schools and their education plans (BY, HE), to independent additional information (BW, RP), or to information on other states’ special needs programmes (MV for intellectual development) via the websites of the ministry of education.

Work placements for students: In all federal states, work placements for students are part of vocational orientation and information is provided. All federal states organise regular work placements for students at lower secondary level between years 7 and 9 with at least ten teaching days in a company or another suitable institution. There are specifications for each school type regarding the class levels and duration. The “Gymnasium” has a special position, as the federal states also provide for a work placement for this school type, but in some cases only in the upper secondary level. In addition to the general requirements, all federal states offer further practical elements, specifically for students at risk of friction or students with special educational needs.

5. Summary

Information on vocational orientation can be found on the websites of all ministries responsible for schools by entering the relevant information in the search masks. However, entering “inclusive vocational orientation” or the combination “inclusion” and “vocational orientation” does not lead to relevant results in any of the federal states. Wording and navigation are diffuse because no ministry discloses their understanding of inclusive vocational

orientation in the shape of a definition, and legal norms on inclusive vocational orientation for general education schools cannot be found nationwide. When visiting the respective websites, users must develop their own navigation strategies by understanding the structure of the websites, the wording, and the navigation points provided. Prior knowledge of state-specific legal norms is also necessary. A distinction must be made between laws and administrative regulations, for example, which are made available on the ministerial websites in different ways: by naming the legal norm, citing an excerpt, linking to another webpage of the ministry, or linking to external portals for legal norms. This impairs the search options. If only link lists are generated, efficient navigation and information transfer are virtually impossible.

Concrete information on inclusive vocational orientation for use by teachers at general education schools and specifically on inclusive work placements for school students, which are particularly important for this area, cannot be found in any of the ministries websites responsible for education by entering synonyms for inclusive vocational orientation or other forms of navigation. Although some federal states provide manuals with basic information on vocational orientation that offer contexts for concept development at schools, they generally do not contain any specific assistance for the actual concept development and implementation of inclusive vocational orientation

6. Discussion

The study presented in this article focuses on research strategies regarding websites and webpages of German ministries of education with the aim of obtaining information on school-related vocational orientation, legal norms, and explanatory handouts focusing on inclusive vocational orientation. The extent to which the term “inclusive vocational orientation” or synonyms such as “inclusive vocational guidance” and others are included and further explained on the federal state-specific websites was also analysed.

The choice of the qualitative online content analysis research approach is based on the assumption that websites can be understood as communicative documents (Schünzel & Traue, 2019). Information should be provided and be found and used by users. Above all, this requires suitable keywords. These can be used for research purposes in the same way as coding. This made it possible to assign terms to online media or websites. Problems then emerged at the content level, e.g., through a lack of information and a lack of clarity or stringency in the use of terms.

For none of the federal states was it possible to use ministerial websites to find information that could be efficiently researched for school-related concept development and used with legal certainty for the respective school types. When researching websites and webpages and weighting the subject matter, the researched documents reveal different approaches by the federal states. This provides an impetus to agree on terms within as well as across federal states to facilitate communication and research.

It should be critically discussed that legal norms on vocational orientation cannot be found in all federal states on the linked websites and webpages on vocational orientation although many legal questions arise in connection with it (insured route to the work placement position, working hours, etc.). Some federal states refer to guidelines; however, these are not legally binding but merely have the status of a recommendation. It is both conceivable and understandable that the development of a guideline is quicker than the passing of a law and that guidelines allow schools greater discretionary powers than a legal norm. It should also be noted that such discretionary scope can facilitate individual concept development, but that the pedagogical support of vocational orientation then also depends more on the motivation of the teachers (Nentwig, 2018). Given the relevance of the topic in times of skills shortages and the costs that vocational orientation programmes entail in many countries, this could be fatal.

The finding that legal norms specifically on inclusive vocational orientation at general education schools cannot be found on any of the federal states' websites should also be critically discussed. Presumably, the understanding of the term and its synonyms has not yet been sufficiently determined. In view of the problem that schools must expand their concepts of vocational orientation to cover inclusive vocational orientation if they develop to become inclusive, the question arises as to why this is still a blank space.

The large number of documents focusing on different types of schools can be confusing for teachers. When developing a concept for inclusive vocational orientation, teachers at lower secondary school are required to dovetail the content and organisation of various vocational orientation requirements for their school type and requirements regarding different special educational support needs and/or support needs for students at risk of friction and integrate them into everyday school life. This requires a high level of expertise, research skills, motivation, and time right from the research stage to develop a suitable concept.

To improve research options, it would be useful to clarify terms relating to the topic of inclusive vocational orientation and to use them uniformly across all federal state-specific websites. Legal norms in their various text types should be better linked to provide legal certainty for teachers. In some federal states, there is also a need to catch up with the formulation of legal texts. Regarding inclusive vocational orientation, the term should be established nationwide, the ministerial understanding of inclusive vocational orientation should be formulated, and the wording and navigation points should be added to the websites and pages.

The website structure and the associated research options have an impact on the user experience (Weichert et al., 2021) and, thus, also on the necessary motivation to continue searching in order to obtain information in an appropriate amount of time and in a goal-oriented manner. The results show weaknesses in this regard. Easy access to and interaction with websites should be ensured for all recipients through the use of standardised terms and accessibility (Umit et al., 2020). This applies above all to teachers, but also to students, parents, and other groups of people requiring information. Young people prefer to use the internet as a source of information (Bächtiger et al., 2022). Considering that vocational orientation has been systematically anchored in schools, it is remarkable that students describe the offers as unmanageable and feel insufficiently informed (Barlovic et al., 2022). If it were possible to make information accessible to students and embed needs-based offers in everyday school life, their interest in vocational orientation would presumably also increase (Huebner 2021, 2023).

Inadequate research options, however, reduce the use of information by teachers and other user groups, with the risk that students receive little or no adequate support, encouragement, and support in inclusive vocational orientation and that the addressees of inclusive vocational guidance hardly benefit from possible school offers. It should also be noted that students' research knowledge of ministerial websites can be classified as lower than that of teachers. It can, therefore, be assumed that the lack of usability of websites and webpages may create a barrier for students and hinder participatory vocational guidance.

Especially for inclusive school development, the lack of a joint guideline on concept development for inclusive schools and specifically inclusive vocational guidance for all types of schools in most federal states is to be criticised. Such a guideline would appear to be expedient, as overlaps in practice and different educational programmes in differentiated learning need to be considered. An expansion of case studies on school development processes to include the involvement of individual teachers and case descriptions of inclusive vocational orientation processes for students would be helpful to promote concept development in schools.

With the digitalisation of educational institutions and the necessity of internet research, it is important to research the usability of ministerial websites, especially in terms of wording, user guidance, time economy, and information content, specifically also for connections between legal norms and practical recommendations for schools. It is also worth investigating how students orientate themselves on the websites and pages of ministries of education to find information for their individual vocational orientation. Usability engineering as a methodical way to generate usability (Maxhofer, 2019) and usability labs (Wöhrmann, 2004), where test subjects test websites and pages, should also be options for ministries of education.

Following the study and the research results, which certainly provide scope for criticism, it would be desirable to also examine issues relating to inclusive vocational orientation at schools and its presentation on ministerial websites on an international level as it can be assumed that ministerial websites in other countries also act as a bridge between official guidelines from ministries and schools that have to develop concepts. This article and the results of this research are intended to provide an impetus for further international discussions on the design or improvement of the way information is provided on ministerial websites as well as for the discussion of research methods in educational research.

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