



universität
wien

DISSERTATION / DOCTORAL THESIS

Titel der Dissertation / Title of the Doctoral Thesis

„Responding to and recovering from the global education crisis. Countering inequities in Austria throughout COVID-19 and beyond”

verfasst von / submitted by

Flora Woltran BEd MEd MA

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Doktorin der Philosophie (Dr. phil.)

Wien, 2023 / Vienna 2023

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on the student
record sheet:

A 792 297

Dissertationsgebiet lt. Studienblatt /
field of study as it appears on the student record sheet:

Bildungswissenschaft

Betreut von / Supervisor:

Univ.-Prof. Mag. Mag. Dr. Susanne Schwab,
Bakk. MA

Table of contents

1. Preamble.....	1
1.1 Theoretical embedding and current state of research	2
1.1.1 The ecology of inclusive education framework	3
1.1.2 Educational inequity as an (inter)national enduring issue	6
1.1.2.1 Educational inequity in terms of SES.....	7
1.1.2.2 Educational inequity in terms of migration biography	9
1.1.2.3 Educational inequity in terms of SEN	11
1.1.2.4 Intersecting dimensions of diversity.....	13
1.1.3 COVID-19 and educational inequity	15
1.1.4 The role of teachers in combating educational inequity and fostering IE	18
1.1.5 Objectives and research questions.....	19
2. Synopsis of the publications.....	22
2.1 Overview of the articles.....	22
2.2 Summaries of the individual contributions.....	22
2.2.1 Summary of contribution 1.....	24
2.2.2 Summary of contribution 2.....	26
2.2.3 Summary of contribution 3.....	28
2.2.4 Summary of contribution 4.....	30
2.2.5 Summary of contribution 5.....	32
2.2.6 Summary of contribution 6.....	34
3. Discussion	36
3.1 Teachers' experiences throughout COVID-19.....	36
3.2 Adaptive classroom routines following the return to face-to-face instruction	41
3.3 Concluding discussion.....	43
4. Abstract	45
5. References	49
6. Contributions	72

List of tables

Table 1	6
Table 2	23

List of abbreviations

IE	Inclusive education
EI	Educational inequities
SEN	Special educational needs
SED	Socioeconomically disadvantaged
SES	Socioeconomic status
DI	Differentiated instruction
COVID-19	Coronavirus SARS-CoV-2

1. Preamble

Since the ratification of the Salamanca Declaration (UNESCO, 1994) and the resulting implementation of policies that consider the diversity of the student body, inclusive education (IE) has been considered an internationally recognized objective and instrument to combat inequities. Accordingly, the impetus of the original guiding principle, which was generally characterized by class placement of students with special educational needs (SEN), set in motion a global movement towards IE, which is reflected today in various reforms of educational policy and practice (Nilholm, 2021). Thus, countries worldwide are occupied translating international commitments into national legislation, which has led to 16 countries mentioning IE in their general education laws, with particularly positive developments towards IE in certain regions such as Portugal or sub-Saharan Africa (UNESCO, 2020a). While IE is considered a globally ambitious vision, it poses significant challenges to school systems around the world due in part to a lack of agreement on its definition and meaning (e.g., Göransson & Nilholm, 2014; Nilholm & Göransson, 2017; Schuelka et al., 2019). According to the Global Monitoring Report (2020a) published by UNESCO, achieving inclusion is often associated with difficulties due to a lack of follow-up or insufficiently far-reaching and comprehensive implementation of measures based on enacted laws and announced strategies. Moreover, as emphasized by Dyson (1999), and reiterated by Moberg et al. (2020), the development and success or failure of IE must be viewed through a historical, cultural, political, and economic lens. Moberg et al. (2020), citing Engelbrecht et al. (2013), stress that teacher attitudes, for example, are in some cases largely mediated by the country's commitment to IE and past educational policy responses to student diversity.

In addition to past and current challenges related to IE, the rapid and unexpected emergence of the global COVID 19 pandemic in early 2020 has severely impacted education systems around the world in promoting or maintaining inclusive schooling (Withers & Sik-Lanyi, 2021). Accordingly, stakeholders in education policy and practice opted for the suspension of regular classes as a means of choice to counteract the rapid spread of the virus and best protect the health of all those involved in the school system, resulting in disruption to regular teaching and learning for 1.5 billion students in 188 countries (Organisation for Economic Co-operation and Development (OECD), 2021). Simultaneously, efforts were made in many countries to ensure sustainable teaching and learning processes in an online format, which required teachers to adapt their daily routines to a new educational reality (Letzel-Alt et al., 2022). However, despite the efforts made by schools, numerous studies have shown that students who were already disadvantaged in education before COVID-19 will fall further

behind as a result of these profound changes, exacerbating existing inequities and widening the educational gap between learners (e.g., Fokken, 2020; Helm et al., 2021b; Schneider et al., 2020; Stein, 2020). For example, as participation in online classes was highly dependent on the availability and functioning of technical equipment (e.g., laptops, tablets) in the students' home environment, students from socioeconomically disadvantaged households often experienced difficulties during school closure periods (e.g., Bormann et al., 2021; Duroisin et al., 2021; Schneider et al., 2020). Moreover, as learners with SEN rely on close and continuous interaction with teachers as well as individual support, these learners also experienced difficulties during the time when regular classes were interrupted (Page et al., 2020; Goldan et al., 2020; Letzel-Alt et al., 2022). Finally, in the case of Austria, several research findings indicate that students who regularly participate in German language support measures suffered significantly from COVID-19-related school closures, as teachers in mainstream classrooms were unable to provide high-quality and language-sensitive teaching and differentiated learning opportunities (Gitschthaler et al., 2022). Against the background of the empirically well-documented deterioration of schooling for all learners, but especially for vulnerable groups of students, the importance of promoting IE in the sense of equitable education for all students through the continued recognition of their needs for achievement, participation and appreciation of who they are as individuals, and the subsequent creation of inclusive communities in schools, must be seen as a priority goal of educational research and practice (Anderson et al., 2014; Nilholm, 2021). In addition, as educators play an essential role in the practical implementation of IE in schools (Ainscow, 2007; Moberg et al., 2020), which has been further underlined by the changed school framework due to COVID-19 (Aiello et al., 2022), special attention should be paid to the teachers' perspective.

Following these introductory remarks, the chapters below provide a comprehensive theoretical and empirical embedding of the present thesis. First, the theoretical framework underpinning this research is presented in detail, followed by an in-depth account of the empirical evidence supporting the scientific investigation of the intended research object. Subsequent the synopsis of the contributions made in this thesis, the results are discussed with reference to current and relevant findings.

1.1 Theoretical embedding and current state of research

To provide an overview of the basic theoretical construct underlying this study, the following chapter is devoted to a detailed description of Anderson et al.'s (2014) ecology of inclusive education framework, developed on the premise of reconceptualizing Bronfenbrenner's (1976; 1979) seminal ecological systems theory. First, the ecology of inclusive education is described

in detail, followed by an embedding of the contributions produced during the present research work. This approach helps to make the thematic focus of the individual contributions and their relevance to IE and educational inequities (EI) comprehensible. Subsequently, IE as a persistent problem observed internationally and reconfirmed by the COVID-19 pandemic will be discussed. Finally, the role of teachers in promoting EI and IE is outlined.

1.1.1 The ecology of inclusive education framework

In his groundbreaking work, Bronfenbrenner (1976; 1979) opened up an entirely new theoretical perspective for the study of the development of individuals. By placing the individual at the center of “a set of Russian dolls” (Bronfenbrenner, 1979, p. 3), Bronfenbrenner introduced the idea of a series of interconnected structures representing spheres of different immediate and distant environments that have an impact on the developing person. According to Bronfenbrenner (1979), home, school, workplace, or any other environment that immediately surrounds the developing individual can be considered as examples of the innermost level (i.e., micro-system). Although events and their effects on the development of the individual have a certain significance, the second level of Bronfenbrenner’s (1976; 1979) theory needs just as much attention. According to Bronfenbrenner (1979), the second level of ecological systems theory is characterized by interrelationships (e.g., between school and home) which can be just as decisive for the course of a person's development as events in a single setting (e.g., home) (i.e., meso-system). As for the third level, Bronfenbrenner (1979) hypothesizes that an individual’s development is profoundly influenced even by events that take place in an environment where the individual is not present (i.e., exo-system). Bronfenbrenner (1979), for example, describes the conditions of parental employment as an influencing factor that is beyond the control of the child concerned but has a strong impact on their development. According to Bronfenbrenner (1976; 1979), another distant sphere of influence on an individual’s development is the specifics of culture and subculture in a given society. This is illustrated by the example of a severe economic crisis, which can still affect a person’s development years later (Bronfenbrenner, 1979). The last sphere of influence introduced by Bronfenbrenner (1976; 1979) comprises the overarching ideological patterns of the social institutions of a particular culture or subculture (i.e., macro-system). According to Bronfenbrenner (1976; 1979), this sphere includes values, traditions, and socio-cultural characteristics of the broad cultural components in which all previous systems are embedded. Bronfenbrenner (1979) later added that it is not so much important to look at how different settings and their interconnectedness exist in the objective reality, but to place special emphasis on how the environment is perceived from the perspective of the developing individual. An

individual's development thus depends heavily on how they interact with and are exposed to the outside world, i.e., the various systems in which they are embedded and their complex and reciprocal relationships (Bronfenbrenner, 1979). In view of this, Bronfenbrenner (1979, p. 9) conceptualizes development as a "person's evolving conception of the ecological environment, and his relation to it, as well as the person's growing capacity to discover, sustain, or alter its properties." Given the previous remarks, it can therefore be provisionally stated that Bronfenbrenner (1976; 1979) placed strong and equal emphasis on both elements, the person and their environment, paying particular attention to the interactions between them.

There is no doubt that Bronfenbrenner's (1976; 1979) ecological systems theory, based on the preliminary work of Lewin (1931; 1935; 1951) and Piaget (1962), is a groundbreaking idea, as it seeks to understand human development by examining the interactions between the nature of the individual and the multiple influences of the external world. Furthermore, it is not surprising that Bronfenbrenner (1979) repeatedly refers to the sphere of education in his work, as educational institutions are considered an essential primary instance of socialization and an important influencing setting within his theory. It is precisely this strong focus on educational institutions and their influence on an individual's development, which is evident in ecological systems theory (Bronfenbrenner, 1976; 1979), that Anderson et al. (2014) have taken up in the discussion about the prerequisites for an inclusive and equitable school system. In detail, Anderson et al. (2014) reconceptualize Bronfenbrenner's (1976; 1979) pioneering theory, aiming to build knowledge and a better general understanding of IE. In Anderson et al.'s (2014) approach to the idea of an ecology of inclusive education, which focuses on learners and their core needs for participation, achievement, and a sense of being valued, the authors first refer to the innermost setting (i.e., the micro-system), which is characterized by factors within the environment where learners directly experience both formal and informal learning and social aspects. According to Bronfenbrenner (1979), settings are places where individuals participate in and experience activities, roles, and interpersonal relationships. In the case of Anderson et al.'s (2014) ecology of inclusive education framework, the micro-system refers to the school environment and includes, among others, educational and non-educational school staff, peers, physical learning spaces, classroom routines and resources. As described in the course of Bronfenbrenner's (1979) work, the sphere surrounding the micro-system (i.e., the meso-system) comprises the interrelationships between two or more environments (e.g., the relationships between home, school or peer groups). Transferred to the ecology of inclusive education framework introduced by Anderson et al. (2014), the term meso-system describes the relationships and connections between, for example, teachers and the culture in the classroom,

which are subject to constant change and transformation. These changes occur when a developing person moves to a new setting (e.g., transition from kindergarten to elementary school), but can also have other causes, such as formal and informal communication between different environments (e.g., school and home) (Bronfenbrenner, 1979). Factors located in the exo-system in Anderson et al.'s (2014) framework, while not directly related to learners' immediate environment, nevertheless influence learners' experiences in school. These include, for example, the structures of school leadership, the values and ideology of the school, and the student cohort (Anderson et al., 2014). The macro-system includes factors that exist outside the physical environment of the school but can still have a strong influence on a learner's experience of inclusion (Anderson et al., 2014). In this sense, the factors within this system encompass the context in which the educational institution (e.g., the school) exists, including social, political, historical, and global factors, the national curriculum, and aspects of the national or regional education system that express the underlying beliefs and ideologies prevalent in a particular society (Anderson et al., 2014; Bronfenbrenner, 1979). Finally, Anderson et al. (2014), considering ecological transitions (i.e., positional changes that occur in the course of an individual's life and are caused by interaction processes between the individual and the environment that manifest themselves in role and/or environmental changes), introduce the chrono-system, which represents the constant and uniform movement of time (Bronfenbrenner, 1976; 1979). Ecological transitions can be "both a consequence and an instigator of developmental processes" (Bronfenbrenner, 1979, p. 27). Moreover, ecological transitions can occur at any of the four levels of influence, e.g., entry into school transforms the exo-system into a meso-system (Bronfenbrenner, 1979).

Having gained a detailed insight into the transformation of the four spheres outlined by Bronfenbrenner (1976; 1979) into the framework of Anderson et al.'s (2014) ecology of inclusive education, it is worth further elaborating on the usefulness of this approach in exploring the factors and their relationships that influence IE. As noted earlier, there is no general agreement within educational policy, practice, and research on how to define IE (e.g., Göransson & Nilholm, 2014; Graham & Slee, 2008). However, as IE can be seen as an ongoing revolutionary "journey, not a destination" (Topping, 2012, p. 9) aimed at educational equity, it must be considered an inevitable goal for all those concerned with addressing educational disadvantage. In line with Anderson et al. (2014) and building on previous research that explored what constitutes effective IE for individuals (e.g., Black-Hawkins, 2010), IE is understood for the purposes of this thesis as a mindset and practice that addresses the needs of all learners and thereby best promotes participation, success, and sense of value. This promising

understanding also includes the premise that the discussion about the conditions for success or failure of IE is not about student characteristics but about environmental factors and their complex interactions (Anderson et al., 2014). Furthermore, according to Anderson et al. (2014), the influence of a factor on the experience of IE for the learner in question depends, first, on the level at which it is located and, second, on the importance that individuals responsible within the system attach to the factor (e.g., school leadership, teachers).

As previously stated, this dissertation aimed to address a wide range of influential factors presented by Anderson et al. (2014) and their reciprocal impact on the success or failure of IE, following the framework of Bronfenbrenner (1976; 1979). A table showing the specific contributions and their correspondence to the Anderson et al. (2014) ecology model of IE and the relevant factors is provided below (see **Table 1**).

Table 1. *Classification of the contributions in the ecology of inclusive education model*

No.	Title of contribution	Classification	Factors
01	Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19	Exo-system	Support structures Resource allocation School procedures
		Meso-system	
		Micro-system	Classroom cultures and routines
02	(Mis) Communication between Educational Policy and Practice: Teachers' Perceptions of Educational Policy Communication during COVID-19	Macro-system	Political context
		Exo-system	School leadership and structures
03	Pandemic education – Insights into Teachers' Perceptions of Hygiene Measures in Schools due to COVID-19	Exo-system	Resource allocation School policies and procedures School leadership structures
		Micro-system	Classroom routines
04	Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development	Macro-system	Social context
		Exo-system	Collaborative patterns Resource allocation School policies and procedures
		Chrono-system	Movement of time
05	Insights into Teachers' Perceptions of Parental Involvement as a Predictor of Educational Inequity	Exo-system	Collaborative patterns
06	DI Practices as a Strategy to Address Educational Inequities? A Cross-National Comparative Study of Teacher Perspectives	Micro-system	Classroom culture and routines Resources

1.1.2 Educational inequity as an (inter)national enduring issue

As previously outlined, available empirical data points to ever-increasing differences in the academic progress of different student populations. These resulting differences can be viewed as a form of EI. At this point it should be noted that the terms *inequity* and *inequality* are often used synonymously (see e.g., Duroisin et al., 2021). For the purpose of this dissertation, the

term *inequality* is not used, as it is traditionally used to describe differences in the distribution of resources (Anderson et al., 2022). Due to the research focus of this empirical work and the intention not to focus on the learners themselves, but to take a broader perspective and look at the education system as a whole and the unequal institutional structures and barriers associated with it, the term *inequity* is used throughout the dissertation.

Traditionally, EI is thought to encompass aspects of student achievement (i.e., (in)equity in educational outcomes) and educational participation (i.e., (in)equity in access to education) (e.g., Greweng et al., 2021; Ha, 2023; Yee, 2023). Accordingly, EI refers to the dependence of access to and outcomes in education on personal characteristics that are beyond an individual's control (Rother & Buchna, 2020), such as socioeconomic status (Ha, 2023), gender (Zeng et al., 2014), migration biography (Fibbi and Truong, 2015), language (Kieffer and Thompson, 2018), or disability (Trani et al., 2012). Following an understanding introduced by Young (1990), these inequities are not simply the result of unequal distribution of resources, but originate in larger, institutionally embedded structures that act as barriers to educational access and success (Anderson et al., 2022). Moreover, since disadvantaging social categorizations (e.g., class, gender, language) do not operate in isolation, but rather can be seen as interconnected, inequities in education must be viewed as the result of intersecting factors (Collins, 2002; Eeckhaut, 2020).

1.1.2.1 Educational inequity in terms of SES

EI is considered a “persistent and complex international issue” (Cochran-Smith et al., 2016, p. 69) that remains a major concern for policymakers around the world (Ferreira & Gignoux, 2013). In recent decades, educational research has focused primarily on achievement gaps between socioeconomically disadvantaged (SED¹) students and non-SED students. Accordingly, numerous previous and current review studies have shown beyond doubt that a substantial learning gap exists between SED students and non-SED students (e.g., Korous et al., 2022; Liu et al., 2020; Sirin, 2005). For example, several recent meta-analyses indicate that there is a positive association between SES and performance in terms of academic achievement and cognitive ability, suggesting that a socioeconomically privileged student background is associated with more favorable outcomes than a socioeconomically disadvantaged student background (e.g., Kim et al., 2019; Korous et al., 2022; Liu et al., 2022; Selvitopu & Kaya, 2021). However, results from some of these meta-analyses suggest large differences in effect

¹ Socioeconomic status (SES) is traditionally operationalized in terms of the financial, social, cultural, and human capital resources available to students. Specifically, education, occupation, and income of primary caregivers are often referred to as the "big three" indicators of SES (Sirin, 2005, p. 418; Avvisati, 2020).

sizes reported across studies (i.e., weak to strong effect sizes), which may be due, at least in part, to differences in the operationalization of SES and participant locations (e.g., Kim et al., 2019; Selvitopu & Kaya, 2021). Accordingly, it should be noted at this point that the operationalization of SES is strikingly ambiguous, which makes cross-study and cross-national comparability extremely difficult (Nikula, 2018). Moreover, the findings of Kim et al. (2019) indicate that effect sizes are higher for females than males. Interestingly, the results on the correlations between SES and academic achievement are quite inconsistent across grade levels. For example, Liu et al. (2022) and Kim et al. (2019) point to higher correlations for secondary grades, while Selvitopu and Kaya (2021) point to lower correlations between SES and academic achievement at higher grades. In addition, the findings of Korous et al. (2022) suggest that exposure to socioeconomic disadvantage has a greater negative impact on cognitive ability in early childhood than later in childhood. In light of intersectionality, the results of Korous et al. (2022) suggest cumulative disadvantage, e.g., youth of Color who are socioeconomically disadvantaged are likely to be more vulnerable than white communities due to discrimination.

In addition to educational achievement, several studies have also investigated differences in access to education between SED and non-SED students. In this context, one area that has been explored in depth is the distribution of opportunities to participate in the tertiary education system as a function of SES. Accordingly, as proposed in various studies, SES has a significant impact on the likelihood of students' access to higher education (e.g., Czarnecki, 2018; Edwards & McMillan, 2015; Frempong et al., 2012). Accordingly, several previous and current studies suggest that SED individuals are less likely to participate and succeed in tertiary education (e.g., Shavit, 2007; Usher & Medow, 2010; Czarnecki, 2018). This empirically demonstrated fact has detrimental and long-lasting effects on postsecondary outcomes, such as income levels, access to power, and physical and mental health (Brennan & Naidoo, 2008; Davies et al., 2023). Moreover, although initiatives to expand educational opportunities have increased the proportion of SED students in higher education, inequities related to SES remain a global problem for education policy and practice (De Schepper et al., 2023). This persistent and pressing problem of vertical inequities in access to tertiary education (i.e., inequities based on educational and occupational status and household income) can be explained, at least in part, by the effects of school and class composition (Palardy, 2015; Vandellannote & Demanet, 2021). As Vandellannote and Demanet (2021) point out, the links between higher education enrolment and school composition are moderated by the variables of students' attribution of academic success, which is influenced in part by a normative framework in which tertiary educational achievement and higher education attendance is discouraged by a shared sense of futility. In

particular, Vandellanno and Demanet (2021) emphasize that schools with a high proportion of SED students tend to develop general attitudes that are consistent with stereotypes about the social status of their groups, which leads to educational success being labelled as something to which these students are not entitled, which in turn reinforces inequities. In this context, Easterbrook et al. (2022) highlight that SED students tend to have lower levels of identity compatibility (i.e., the perception of compatibility or conflict between one's social identity or background and the stereotype of a successful student), which has a significant impact on persistent inequities. In addition to school composition and the resulting school-level processes and practices, inequities in educational participation may be due to primary and secondary effects (Boudon, 1974; Parker et al., 2016). As earlier educational attainment and later attendance at higher educational institutions are related (Gemici et al., 2013), the primary effects of class differentials (i.e., achievement differentials based on social status) must be considered as an important aspect influencing inequities in educational access (Boudon, 1974; Parker et al., 2016). As suggested by Van de Werfhorst and Hofstede (2007), these primary effects are again primarily due to a transfer of cultural capital (e.g., cultural beliefs, parental time investment, parental education) (Bourdieu, 1986). Moreover, secondary effects of class differentials (i.e., non-achievement, choice-related differentials in the context of cost-benefit analyses of higher education) play a central role in creating and maintaining EI (Boudon, 1974; Czarnecki, 2018). Accordingly, as Czarnecki (2018) outlines, families of socioeconomically privileged students might better recognize the benefits related to attending tertiary education. In addition, individuals from SED families often have no choice but to work immediately after completing compulsory schooling, or at least to take up part-time employment alongside their higher education, which significantly impairs or even prevents their chances of a successful higher education career (Hurst, 2018).

1.1.2.2 Educational inequity in terms of migration biography

There is a wealth of literature on the unequal distribution of educational opportunities and achievements among students with and without migration biographies² (e.g., Ayala, 2022; Cobb-Clark et al., 2012; Hopf, 2007; Ma et al., 2018; Volante et al., 2017). In particular, the results of international competency tests have indicated for decades that there are significant differences in test results between students with and without migration biographies in the areas of reading, mathematics, and science, which work to the disadvantage of students with

² Students have a migration biography if they themselves (i.e., 1st generation migration biography) or their parents or legal guardians (i.e., 2nd generation migration biography) were born outside the country in which they currently live (United Nations Economic Commission for Europe, 2006).

migration biographies (OECD, 2007; 2009; 2010). Several researchers have argued that mastery of the language of instruction is crucial for learners with migration biographies to minimize differences in cognitive performance and social exclusion (e.g., Jaspers, 2011; Schneeweis, 2010). Against this backdrop, empirical evidence points to the importance of the timing of arrival in the destination country and language practices in the parental home, as well as the associated differences in academic achievement (Cobb-Clark et al., 2022). For example, those who immigrated during high school miss out on the intensive instruction in numeracy and literacy that they would have received in elementary school (Cobb-Clark et al., 2022). Furthermore, Miyamoto et al. (2020) emphasize that exposure to the language of the destination country (i.e., frequent use of the language of the destination country in their everyday interactions) is an essential prerequisite for translating positive educational orientations into achievement and academic motivation. According to the Austrian National Education Report, students with migration biographies tend to have several so-called “risk factors” (p. 177), which are considered to be characteristics that impair education (Oberwimmer et al., 2021). Specifically, Oberwimmer et al. (2021) name parents or legal guardians with maximum compulsory schooling, low occupational status of the parents or legal guardians and a non-German first language of the students as characteristics that hinder a successful educational career. According to data from the National Education Report, 4% of students with migration biographies exhibit all three risk factors, 89% exhibit either one or two risk factors, with an upward trend since 2015 (Oberwimmer et al., 2021). In this context, however, it should be noted that the authors do not in any way claim that these three characteristics are not in themselves factors of disadvantage. In this sense, Oberwimmer et al. (2021) also do not draw attention to how and to what extent educational institutions create or strongly influence disadvantage. Furthermore, previous studies have shown that differences in educational outcomes between students with and without migration biographies remain even when controlling for SES (Dronkers et al., 2012). Due to differences in performance and, consequently, differences in school grades, students with migration biographies have a higher risk of not completing upper secondary education (Lavrijsen & Nicaise, 2015; Perreira et al., 2006). Concerning Austria, the results of a study by Bacher (2020) indicate that students with migration biographies are less likely to attain an educational attainment beyond compulsory schooling than students without migration biographies. It should be emphasized, however, that 2nd generation students (i.e., students were born in Austria) of with migration biographies are more likely to graduate from high school than 1st generation students (i.e., students were born outside of Austria). In addition, several findings suggest that school leavers with migration biographies have a higher risk of

becoming unemployed than those without migration biographies, which puts them at even greater risk of having limited opportunities to enter the workforce and advance socially and economically, as well as to share in the social benefits associated with productive careers (e.g., Hunkler, 2014; Wilson et al., 2010; Zimmermann, 2022).

Triggered by the Coleman Report (Coleman, 1966), research on the relative importance of individual and school factors was initiated. Accordingly, Dronkers et al. (2012) find that students with migration biographies are better off in certain education systems than in others, suggesting that structural and institutional settings have a significant impact on learners' educational careers. For example, highly differentiated education systems that involve early tracking (i.e., sorting students by ability) can have a detrimental impact on students' educational success and lead to greater educational inequity (e.g., Le Donne, 2014; Ruhose & Schwerdt, 2016; Van de Werfhorst & Mijs, 2010). In addition, the impact of school composition (e.g., social, cultural and linguistic diversity in schools and classrooms) has a major influence on student performance, with previous studies indicating that (Dronkers et al., 2012). Moreover, several previous and current findings indicate that teachers tend to have more negative attitudes towards students with migration biographies than their peers without migration biographies, indicating stigmatizing and discriminating practices and processes prevalent in some classrooms, which in turn largely impact students' educational success (e.g., Costa et al., 2022; Glock et al., 2019; Schwab & Alnadhi, 2023). At this point, however, it should be noted that students with migration biographies (as well as SED students and students with SEN) cannot be considered as a homogeneous group. Rather, research should consider not only one characteristic (e.g., migration status) but as many as possible, as well as specific variations within markers of difference (e.g., first or second generation, age of arrival, country of origin, etc.) (Levels et al., 2008).

1.1.2.3 Educational inequity in terms of SEN

There are a variety of definitions and conceptualizations of SEN across countries, which in turn significantly influence the policy approaches and practices that focus on education for students with SEN (Brussino, 2020; Lebeer et al., 2010). Historically, three paradigms of disability and functioning have emerged and since prevailed in respective official country-specific documents: Medical, social, and biopsychosocial models of disability (Brussino, 2020). The medical model is characterized by a strong emphasis on disability as a problem of the person caused by disease or health condition (WHO, 2007; Brussino, 2020). The social model, in turn, focuses on the social conditions that contribute to the success or failure of the individual's inclusion in society (Brussino, 2020). Therefore, disabilities are not understood as problems

that originate from the individual, but from the environment (WHO, 2007). Finally, the biopsychosocial model, which can be considered the most holistic approach to conceptualizing disability (i.e., it takes into account both medical and social aspects), aims to address different domains of life by conceptualizing a person's well-being as a function of various biological, psychosocial, and social responses to his or her disability (Brussino, 2020). Consequently, according to the biopsychosocial model, interventions that address the needs of the individual as well as those that involve their environment are necessary (WHO, 2002). Although the social and biopsychosocial models have replaced the medical model, at least in educational research, “narrow” definitions of SEN with a medical focus continue to play a role in educational policy and practice (Brussino, 2020, Lebeer et al., 2010). Thus, in Austria, as in other countries (e.g., Romania, Poland), policy regulations take a medical approach that adopts a deficit-oriented view that includes multiple categories of SEN and emphasizes only those perceived impairments that emanate from the learner and impede participation in mainstream schooling, including multiple categories of SEN³. However, even within Austria and in other countries (e.g., Germany), there are very different identification rates, as there is no universal approach to defining SEN (Schwab, 2021). In this context, O'Connor and Fernandez (2006) point out that SEN identification processes are often subjective and can vary greatly depending on local context and professional group, i.e., they depend on (legal) frameworks, diagnostic criteria, or raters, among other factors. Furthermore, a look at the regulations on special educational needs shows that policy makers and thus educational practice still pay little attention to the social conditions that create barriers for learners with SEN in the first place (Schwab, 2021).

Although the number of students with SEN in mainstream schools has increased across countries over the past decade, these learners continue to face numerous disadvantages throughout their school careers (Schwab, 2021). Accordingly, several previous and current findings suggest that students with SEN have lower academic achievement than their peers without SEN, with the school context (i.e., mainstream vs. special school) being particularly important (e.g., Baker et al., 1994; Kojac et al., 2015; Peetsma et al., 2001; Tometten et al., 2021). In particular, empirical data suggest that mainstream schools provide an environment conducive to learning that promotes academic competence and, in turn, academic achievement (e.g., Bos et al., 2010; Kojac et al., 2014; 2015). However, against the backdrop of continuing difficulties in promoting IE in the sense that students with SEN consistently receive quality

³ Pursuant to section 8(1) of the Compulsory Education Act 1985, a student is deemed to have special educational needs if, as a result of a not merely temporary physical, mental or psychological functional impairment or impairment of sensory functions, he or she is unable to follow lessons at elementary school, lower secondary school or polytechnic school without special educational support.

education in mainstream schools, they continue to face some obstacles. As outlined in several studies, teachers often demonstrate more negative attitudes toward students with SEN than toward students without SEN (e.g., Krischler & Pit-ten Cate, 2019; Schwab & Alnadhi, 2023), which has profound implications for future educational success (Vlachou et al., 2014). In particular, Krischler & Pit-ten Cate (2019) report that students with learning disabilities or challenging behavior have below-average teacher ratings of their competencies and academic skills in math and German. In addition, a previous study commissioned by the European Agency for Special Needs Inclusive Education (2017) shows that students with SEN - particularly those with so-called high-level SEN (e.g., learning disabilities, emotional and social support needs) - across Europe often do not successfully make the transition from school to vocational training and leave the education system early. In line with this, international studies show that the transition to upper secondary education is particularly challenging for students with SEN (e.g., Yeager & Morgan, 2023). For Austria, a recent special analysis of the education-related employment career monitoring of Statistik Austria (2022) shows that the experienced breaks and discontinuities of the school years persist in many biographies. For instance, about 56% of special school graduates are neither in education nor in employment 18 months after finishing compulsory school (compared to 1% at the Gymnasium⁴ and 7% at the Mittelschule⁵).

In addition to disadvantages in academic achievement and educational attainment, empirical findings also indicate that students with SEN perform worse on social-emotional measures than their peers without SEN (Crede et al., 2019). Accordingly, several studies, also from the Austrian context, suggest that students with SEN have fewer friends on average (Crede et al., 2019; Henke et al., 2017) and lower subjectively perceived well-being (e.g., McCoy & Banks, 2017) than their peers without SEN. However, it is important to reiterate at this point that many empirical studies fail to do justice to the diversity of children with SEN because they do not differentiate between different forms of appearance of SEN and also do not take into account intersections with other characteristics (e.g., SES, gender, migration biography) that might become disadvantages due to the current educational environment (Tometten et al., 2021).

1.1.2.4 Intersecting dimensions of diversity

As mentioned above, the characteristics of students who suddenly turn into disadvantages upon entering the educational system (e.g., migration biography) should by no means be considered

⁴ Gymnasium is a branch of school attended by students in grades 5 to 12. It prepares them for higher education.

⁵ Middle school is a branch of school attended by students in grades 5 to 8. It prepares them to attend a secondary school to complete the compulsory nine years of schooling.

in isolation from each other. Thus, in light of an intersectional approach that builds on the foundational ideas of Haynes et al. (2020), uniaxial frameworks for understanding inequalities in education should be challenged. Rather, as with the intersectionally disadvantaged group of Black women described by Haynes et al. (2020), it is important to consider that learners receive certain attributions of characteristics, categories, and labels at an early age, which in turn have profound effects on educational trajectories. Against this background, the consideration of processes of disadvantage in schools through an intersectional perspective, helps us to “illuminate specific details that are often overlooked, or missed, or have fallen through the cracks in typical analyses” (Haynes et al., 2020, p. 2).

Over the past decades, research projects in education that adopt an intersectional perspective have gained considerable prominence (Perzigian & Aziz, 2023). Accordingly, numerous scholars have adapted their research approach to focus more on intersecting social identities (e.g., multilingualism, disability, gender) and their mutual interactions that lead to significant disadvantages in educational opportunity and achievement (e.g., Gabel et al., 2009; Lenkeit et al., 2022; Oliver & Singal, 2016; Singh et al., 2021; Tometten et al., 2021). Specifically, empirical findings suggest a detrimental interaction between SEN and migration biographies, leading to poorer academic and social-emotional performance among students who exhibit both characteristics (e.g., Jørgensen et al., 2021; Oliver & Singal, 2016; Tometten et al., 2021). Researchers have also reported that, on average, students with SEN are more likely to come from SED families than their peers without SEN (e.g., Kincaid & Sullivan, 2017; Lenkeit et al., 2022). However, the findings of Kvande et al. (2018) and Lenkeit et al. (2022) do not indicate a clear correlation between SEN and SES in predicting achievement outcomes, suggesting that SEN and SES remain independent risk factors for school success. Regarding the links between migration biography and SES, Volodina et al. (2021) suggest in a study that students with migration biographies from socioeconomically privileged families, in contrast to SED families, have better academic language skills, which in turn contributes to academic success. Along these lines, Davoli and Entorf’s (2018) findings based on PISA results demonstrate that students with non-German language spoken at home and with parents or legal guardians with low educational attainment (i.e., a proxy for SES) perform particularly poorly in the PISA test domains.

For the Austrian context, several researchers have addressed the aspect of intersectionality in the context of educational disadvantage. For example, the findings of Bešić et al. (2020b) highlight the intersectional relationship between refugee status and disability, with results suggesting that teachers have more positive attitudes toward refugee girls with

disabilities than toward their non-refugee peers. Moreover, Singh et al. (2021) report that education professionals have little awareness of the intersecting challenges for students with migration biographies and SEN, resulting in profound effects on educational biographies. Finally, as suggested in the Austrian National Education Report (Oberwimmer et al., 2021), there tends to be more students with so-called social risk factors (i.e., parents or legal guardians with maximum compulsory education, low occupational status of parents or legal guardians, and non-German first language) among students with migration biographies. Interestingly, however, Oberwimmer et al. (2021) emphasize that the dimension of migration biography itself cannot be considered a risk factor for educational success. This, in turn, suggests that parental educational attainment and occupational status, as well as students' first language, are indeed recognized as risk factors for educational success and represent EI as a problem of fit between learners' educational needs and educational provision, thereby silencing inequity-producing and -reproducing factors within the educational system (Rothe, 205).

1.1.3 COVID-19 and educational inequity

As noted earlier, even before COVID-19, EI posed a serious threat to the educational careers of many students, who face numerous disadvantages due to the nature of educational systems. However, COVID-19 pandemic has had a detrimental impact on students' academic and socio-emotional development, exacerbating pre-existing disparities as a result of sudden changes to regular school operations. Accordingly, several review studies and meta-analyses indicate that student achievement has generally declined since the outbreak of COVID-19, regardless of learner characteristics (e.g., Di Pietro, 2023; Hammerstein et al., 2021; Kaffenberger, 2021; König & Frey, 2022; Kuhfeld et al., 2020). Moreover, as the findings of Betthäuser et al. (2023) and Di Pietro (2023) show, students were unable to recover from learning deficits caused by the pandemic, suggesting that well-planned and implemented support from schools is necessary to avoid long-term consequences. Although these findings regarding the overall decline in learners' academic performance are concerning in themselves, numerous results show that some groups of students experienced particular difficulties during COVID-19. For instance, Engzell et al. (2021) report that SED students were disproportionately affected by overall learning loss. This is consistent with the findings of a review study by Helm et al. (2021a), which focused on results from Austria, Germany, and Switzerland and indicated that COVID-19-induced distance learning is associated with disadvantages in learning outcomes, especially for SED learners. According to the authors, this can mainly be attributed to difficulties in self-directed learning and the limited availability of technological devices at home among SED students (Helm et al., 2021a).

Empirical data suggest that, in addition to SED students, learners with migration biographies faced various barriers during COVID-19-induced distance learning (e.g., Primdahl et al., 2020; Seynhaeve et al., 2022; Szelei et al., 2022). Thus, Primdahl et al.'s (2020) findings indicate that teachers had difficulty connecting with learners with migration biographies due to limited access to digital devices and language barriers, which most likely negatively impacted student learning. In addition to difficulty sustaining learning, Seynhaeve et al. (2022), highlighting the perspective of newly arrived students with migration biographies, reported that learners felt disconnected from their peers and lacked student-teacher interaction, which could have more negative effects due to difficulties with autonomous learning (i.e., feeling unready) compared to their peers without migration biographies. The findings of Szelei et al. (2022), based on large-scale data from six European countries, also reported a general decline in the sense of belonging among students with migration biographies, but this decline was not statistically significant.

Empirical evidence suggests that, in addition to SED students and students with migration biographies, students with SEN were also severely affected by COVID-19's disruption of regular schooling (e.g., Nusser, 2021; Petretto et al., 2020; 2021; Pihlainen et al., 2023; Yakut, 2021). The results of several studies indicate that students with SEN often had difficulty working in e-learning environments, largely due to the fact that teachers were unable to plan and deliver instructional content in a way that matches the child's neuropsychological, cognitive, and emotional profile (Petretto, 2020, 2021). In addition, the findings of Asbury et al. (2021), Nusser (2021) and Pihlainen et al. (2023) suggest that parents or legal guardians of students with SEN experienced a lack of support from schools and teachers during distance learning, which in turn might have negatively impacted the learners themselves and their academic development. In summary, international studies point to numerous difficulties in facilitating home-based instruction without training for students with SEN, leading to the conclusion that learners' right to inclusion may not always have been upheld (Couper-Kenney & Riddell, 2021).

In Austria, too, those exacerbations of previously existing disadvantages for certain groups of students became apparent as a result of COVID-19. Accordingly, the results of several studies suggest that SED students (Holtgrewe et al., 2021; Seda and Ottacher, 2020; Steiner et al., 2020), students with migration biographies (Holtgrewe et al., 2021; Steiner et al., 2020), and students with SEN (Bešić et al., 2020a; Möhlen & Prummer, 2023) were particularly affected by COVID-19. In particular, studies report that socioeconomic conditions (e.g., (non)availability of technical resources), (non)availability of parental support (e.g., due to high

employment intensity or single parenthood), and language proficiency have widened the preexisting gap between privileged and disadvantaged students (Holtgrewe et al., 2021; Seda & Ottacher, 2020; Steiner et al., 2020). Moreover, Holtgrewe et al.'s (2021) findings suggest that children whose parents are both unemployed or both work outside the home, and female students in general, were more likely than average to feel insecure and overwhelmed during the distance learning phase. Teachers interviewed in Steiner et al.'s (2020) study indicated that they face overlapping vulnerabilities with SED students who have difficulty with distance education due to their migration biographies, due to technical limitations and limited capacity of parents or legal guardians to assist with school activities at home (e.g., homework). Some of the responses from participating educators also illustrate a rather pejorative view, using the overlap of Ramadan and distance learning as an example of time structures that are incompatible with school, as learners would have completed assignments during the night and would not be available for school-related matters during the day (Steiner et al., 2020). Of particular concern were the comments of many teachers who described their educational institution as a residual school due to the cumulative accumulation of students who are disadvantaged in the educational system, and who perceive heterogeneity as a major challenge due to the composition of classes with learners from different social, cultural, and linguistic backgrounds (Steiner et al., 2020). Finally, concerning students with SEN, the results of Bešić et al. (2020a) indicate that distance education and associated online learning tasks posed a serious obstacle for students with visual impairments. Teachers interviewed in the Bešić et al. (2020a) study also reported that for students with autism spectrum disorders, the change in daily structure associated with COVID-19-related distance learning was problematic. Along these lines, Möhlen and Prummer's (2023) findings suggest that students with SEN can be considered "silent actors" (p. 107) who often go unrecognized in policy decisions during COVID-19 and beyond (e.g., students with SEN in special schools were collectively forced to physically attend school despite the high risk of infection, while students in mainstream schools could participate in online instruction).

Overall, both international and national studies (related to the Austrian context) show an unmistakable deterioration in the learning and socio-emotional development of many students, but especially those who were already disadvantaged by the school systems before the outbreak of the COVID-19 pandemic. The rapid and unexpected disruption of regular school operations also further highlighted that teachers are viewed as critical to promoting student learning and positive socio-emotional experiences, and generally play an essential role in promoting school integration (Audley-Piotrowski et al., 2015; Baumert & Kunter, 2013).

1.1.4 The role of teachers in combating educational inequity and fostering IE

Despite past and current challenges related to IE, Salamanca has set the hare running and brought the world's attention to the long history of excluding students with SEN from mainstream schools (Florian, 2019). Moreover, it subsequently set in motion a “post-Salamanca conceptualization” (Florian, 2019, p. 702) of IE that was particularly important given the growing linguistic and cultural diversity of students. In this new and contemporary IE paradigm, differences are seen as intrinsic and valuable human characteristics that need to be recognized in education at all levels (Florian, 2019; Moberg et al., 2020). In addition to challenging traditional education systems, policies and practices related to IE aim to improve the overall quality of education to support academic learning for all students (Goddard et al., 2015; UNESCO, 2020b). Although aiming to provide access to and participation in a broad range of educational opportunities can be considered key elements in supporting the realization of IE (Hollenweger et al., 2015), several researchers point to the often-overlooked importance of addressing non-academic outcomes (e.g., Pozas & Schneider, 2020; Schwab & Alnahdi, 2020). Accordingly, as IE can be considered a complex phenomenon involving the creation and strengthening of inclusive communities within schools, it has significant implications for the social sphere of daily life (Felder, 2021; Patoulioti & Nilholm, 2023). In light of this, schools aligned with IE are committed to promoting not only academic development but also social inclusion for all learners (Hassani et al., 2022). With this in mind, teachers are expected to provide a quality education to all students, as teacher support has been identified as an essential characteristic for promoting student learning (Finkelstein et al., 2021; Tometten et al., 2021). In this context, teachers' attitudes (i.e., their beliefs and feelings toward the inclusion of students with SEN in mainstream schools) (Forlin et al., 2011; Moberg et al., 2020) and self-efficacy (i.e., individuals' belief in their ability or competence to succeed in a given situation) (Bandura, 1977; Yada et al., 2019) have been shown to be important factors influencing the implementation of inclusive education. In particular, a recent review study by Lindner et al. (2023), which summarizes 36 research papers from the past 15 years, shows that teachers' attitudes toward inclusion of students with SEN continue to be highly dependent on the type of disability. Accordingly, although Lindner et al. (2023) found majority positive or at least neutral attitudes among teachers in all studies, teachers' attitudes were more negative toward children with more complex needs (e.g., autism spectrum disorders, behavioral difficulties), suggesting that many teachers, regardless of their attitudes, still do not support inclusion for all. In relation to teacher self-efficacy, Wray et al. (2022) identified demographic factors (e.g., country),

teacher internal characteristics (e.g., attitudes), teacher training, experience working with individuals with disabilities, and school climate as influential factors in their study.

Building on the equity-as-equality stance (Calabrese Barton & Tan, 2020) which places the teacher at the center of the most important sources of EI, but expands this perspective by recognizing that barriers to IE are rooted and maintained in many fundamental societal and global structures, the current work attempts to focus precisely on that larger systems perspective and its influencing factors on the success or failure of inclusive education from the perspective of teachers (Anderson et al., 2014; Bronfenbrenner, 1967; 1979). Accordingly, as suggested by Alexiadou and Essex (2016) following Smyth et al. (2009), (more or less) inclusive classroom practices are embedded in political discourses that problematize assumed deficit views about different groups of learners. Moreover, practices in schools are incorporated in a broader learner environment and in the interactions among the basic microsystems in which students are nested (Olechowska, 2020). In this vein, as previously mentioned, although some students are assigned a SEN, this does not mean that they are part of a homogenous and self-contained group. Rather, building on Bronfenbrenner (1976; 1979), each student (with and without SEN or migration biography) represents a unique, functioning individual shaped by numerous proximal and distal socialization and educational influences and their interactions with one another, making generalization or comparison of multiple personalities nearly impossible. However, as teachers remain one of the most influential factors in students' trajectories and thus part of the microsystem, helping to shape or stand in the way of a more inclusive education system, gathering information about their perspectives, views, and experiences can be considered an important task for research.

In sum, inequities in education remain a pressing issue affecting both educational policy and practice and must continue to be an important topic for educational research. Moreover, as IE is a tool for promoting equity in the sense of a comprehensive pedagogical approach that recognizes differences as opportunities and promotes participation, achievement, and value of person for all requires much more investment than inclusive practices in the classroom but extends far beyond school structures, it is important to consider proximal and distal factors that influence the success or failure of IE (Anderson et al., 2014; Olechowska, 2020).

1.1.5 Objectives and research questions

The objective of this dissertation is threefold. First, it aims to examine how proximal and distal influencing factors within the educational system (i.e., factors located in the micro-, exo-, macro-, and chrono-systems) and their interrelationships affect teachers' experiences during the school years affected by COVID-19, particularly with regard to academic progress and parental

involvement of a diverse student body. Second, it seeks to determine how teachers practice inclusive pedagogy in the classroom after returning to face-to-face teaching in the schoolyear 2022/23. Third, based on the data collected, it aims to identify factors at the teacher level that contribute to or hinder the promotion of IE, and thus either promote or counteract EI.

Against the backdrop of these overarching objectives, the following research questions were derived for the current research project:

RQ1: How do the changes brought about by COVID-19 at different levels of the ecology of inclusive education framework affect teachers' experiences, particularly regarding a diverse student body throughout the school years?

RQ2: Which adaptive classroom routines are being used by teachers following the return to face-to-face instruction?

As a starting point, the first contribution (Woltran et al., 2021), which uses a multi-method approach, highlights the experiences of elementary school teachers during the period of sudden disruption to regular teaching and learning (RQ1). Due to the large scope of the INCL-LEA (Inclusive Home Learning) study, this paper focuses exclusively on the views and experiences of elementary school teachers and highlights the initial and most dramatic effects of the COVID-19 pandemic on the education system. In this contribution, factors in the micro-system (e.g., instructional routines), their interaction with each other (meso-system), and the exo-system (e.g., resource allocation) are discussed to recognize the overarching ecosystemic approach following Bronfenbrenner (1976; 1979) and Anderson et al. (2014). Papers two (Woltran et al., submitted) and three (Woltran et al., 2023) shed light on more distal factors located in the macro-system (e.g., political context) and exo-system (e.g., school governance structures) and their effects on the micro-system, comprehensively expanding knowledge to answer RQ1. In this context, contributions two and three highlight processes and practices that are further from the center (i.e., learners) and their serious implications for (more or less) inclusive instructional practices, shifting the attention of the discourse on the responsibility for providing an equitable education beyond schools (Anderson et al., 2014). Contribution four (Woltran et al., submitted) also draws attention to macro-systemic factors in answering RQ1 by highlighting the role of broader societal forces (e.g., deeply rooted social inequities) as well as more proximal factors in the exo-system (e.g., school policies and procedures) and the movement of time (i.e., the chrono-system). Contribution five (Woltran, 2023), also addressing RQ1, emphasizes the role of teachers' perceptions of parental involvement and its implications

for EI, drawing attention to patterns of cooperation (i.e., parents or legal guardians). Finally, contribution six (Woltran et al., submitted) focuses on the innermost sphere surrounding the learner according to Anderson et al. (2014), focusing on the implementation of inclusive instructional strategies (specifically: differentiation) and teachers' rationale for their choice to answer RQ2.

By applying this comprehensive approach, which is deeply infused with the ecology of inclusive education model (Anderson et al., 2014) and reconceptualizes the ideas of Bronfenbrenner (1976; 1979), this dissertation fills several research gaps. First, it draws on the perspectives of those at the center of the inclusive community (i.e., teachers), whose thinking and actions significantly influence the practical implementation of IE and thus equitable education (Ainscow, 2007; Moberg et al., 2020). Second, it provides information on Austrian teachers' experiences throughout COVID-19 and is not limited to the initial phase of the pandemic, reflecting the perspective of IE as a dynamic and evolving process (Anderson et al., 2014). Third, it illuminates factors outside the immediate environment of learners and teachers, as well as the relationships among factors in different environments (i.e., systems) that affect IE, contributing to a broader understanding that situates responsibilities inside and outside classrooms and schools. Fourth, the thesis draws attention to the worrying situation of several groups of students who are traditionally at risk of disadvantage (i.e., SED students, students with SEN, students with migration biographies) due to the persistent problematization of their educational needs, for which the current educational system is unable to provide adequate services. In this context, the results of this work make an important contribution to shedding light on deep-rooted inequities both inside and outside the classroom and to creating derivations for education policy makers, but especially for teacher training and upcoming comprehensive reforms towards a more inclusive education system. Finally, conclusions can be drawn for future crisis management, considering future exceptional circumstances due to long-term crises, armed conflicts, and natural disasters and the resulting increased risk to children.

2. Synopsis of the publications

This chapter contains a tabular overview with all relevant information on authors, title, medium and status of the publication, research design and contribution of the submitter, followed by a summary of each article of this dissertation.

2.1 Overview of the articles

Table 2 gives an overview of the contributions resulting from this dissertation. All papers were either submitted or published in an international, English-language journal. The author of this dissertation assumed the role of first author for each publication and thus bore responsibility for the smooth running of the submission, review, and publication process. In addition, the author of this dissertation contributed significantly to each of the papers, making significant intellectual contributions to the work, participating in the design and planning of the study, from which data was used for the current project, generating data defined objectives and pursuing methodological approaches to achieve them. In total, five of the six contributions were made in collaboration with other researchers. Paper five is a single-authored paper that demonstrates the doctoral candidate's ability to compose, write, submit, and publish a scientific paper without the involvement of other, more experienced researchers. All six contributions used data from the large-scale, nationwide INCL-LEA study conducted by the Center for Teacher Education at the University of Vienna.

2.2 Summaries of the individual contributions

The following chapters provide a summary for each of the six publications that evolved in the course of this doctoral project. Each of the summaries contains information about the author(s), the title of the paper, the rationale, the main findings, and the stage of editing/development of an as yet unpublished manuscript.

Table 2. Overview of contributions

No.	Authors	Title	Medium of publication	Status of publication	Language	Research project	Design	Contribution of submitter
01	Woltran, F., Chan, R., Lindner, K.-T., & Schwab, S.	Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19	Frontiers in Education (journal, peer-reviewed)	Published	English	INCL-LEA (INCLusive Home LEArning) SCHELLE	Empirical qualitative (multi methods)	Conceptualization, methodology, analysis, writing of original draft, revision and adjustment
02	Woltran, F., Lindner, K.-T., & Schwab, S.	(Mis) Communication between Educational Policy and Practice: Teachers' Perceptions of Educational Policy Communication during COVID-19	Teachers and Teaching (journal, peer-reviewed)	Submitted (under review)	English	INCL-LEA (INCLusive Home LEArning)	Empirical qualitative (multi methods)	Conceptualization, methodology, analysis, writing of original draft
03	Woltran, F., Lindner, K.-T., & Schwab, S.	Pandemic Education – Insights into Teachers' Perceptions of Hygiene Measures in Schools due to COVID-19	International Journal of Environmental Research and Public Health (journal, peer-reviewed)	Published	English	INCL-LEA (INCLusive Home LEArning)	Empirical quantitative and qualitative	Conceptualization, methodology, analysis, writing of original draft, revision and adjustment
04	Woltran, F., Lindner, K.-T., & Schwab, S.	Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development	Educational Studies (journal, peer-reviewed)	Submitted (under review)	English	INCL-LEA (INCLusive Home LEArning)	Empirical quantitative and qualitative	Conceptualization, methodology, analysis, writing of original draft
05	Woltran, F.	Insights into Teachers' Perceptions of Parental Involvement as a Predictor of Educational Inequity	Education 3-13 – International Journal of Primary, Elementary and Early Years Education (journal, peer-reviewed)	Published	English	INCL-LEA (INCLusive Home LEArning)	Empirical quantitative and qualitative	Conceptualization, methodology, analysis, writing of original draft
06	Woltran, F., Pozas, M., & Letzel-Alt, V.	DI Practices as a Strategy to Address Educational Inequities? A Cross-National Comparative Study of Teacher Perspectives	International Journal of Inclusive Education (journal, peer-reviewed)	Submitted (under review)	English	INCL-LEA (INCLusive Home LEArning)	Empirical qualitative	Conceptualization, methodology, analysis, writing of original draft

2.2.1 Summary of contribution 1

Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19

Authors: Woltran, F., Chan, R., Lindner, K.-T., & Schwab, S.

Journal: Frontiers in Education

Language: English

Keywords: emergency distance teaching; COVID-19; elementary schools; Austrian elementary teachers; main professional challenges

Due to the COVID-19 pandemic outbreak in early 2020, regular teaching and learning processes were unexpectedly and widely disrupted. This resulted in over 1.8 billion children and youth from 188 countries having to quickly adapt to a new and unfamiliar way of teaching in just a matter of days or even hours (OECD, 2020a). In Austria, personal encounters between students and educators have been suspended as of March 16, 2020. However, as important information about the further procedure was only passed on by political decision-makers a few days before the school closure, school staff had little time to make all the necessary preparations so that the teaching and learning process could continue to run smoothly despite the adverse circumstances. Despite the inclusion of digital teaching and learning in national curriculum agendas (Siddiq et al., 2016), many education systems were hit unexpectedly by the rapid transition to online teaching (Helm et al., 2021a). In this context, implementing instruction through digital formats has been challenging for many teachers, but especially for elementary teachers, as spatially segregated knowledge delivery was used much less frequently in elementary schools prior to the COVID-19 era than in higher grades (Kim & Asbury, 2020; Klieme, 2020; Thies & Klein, 2020). Moreover, as the teaching profession and teacher identity are often characterized by high levels of emotionality and empathy, especially when working with younger and vulnerable children, daily contact with students that was limited or even interrupted by COVID-19 may have led to even higher levels of stress among teachers (Klapproth et al., 2020).

Although there is a growing body of empirical evidence pointing to difficulties for teachers during the period of initial school closures (e.g., Huber et al., 2020; Kim & Asbury, 2020), more in-depth research on teachers' perceptions and experiences was needed to derive potential implications for future planning, adaptation, and implementation of educational policy

and practice. Against this background, the aim of this study was to identify the main challenges that elementary school teachers in Austria perceived in the context of the first national school closure in early 2020, particularly regarding students at risk of facing disadvantages in education. To this end, two qualitative datasets generated as part of the INCL-LEA study were processed and analyzed using a multistage coding process according to Froschauer & Lueger (2003). Specifically, the two datasets were first coded individually by the two authors before the data were synthesized using the triangulation of qualitative data sources formulated by Patton (1999). Dataset 1 included a total of 803 responses from elementary school teachers (92.7% female; mean age 44 yrs.; mean teaching experience 19 yrs.) to open-ended questions that were part of an online questionnaire. Dataset 2 comprises responses from elementary school teachers collected in 8 semi-structured interviews (75% female; mean age 38 yrs.; mean teaching experience 12 yrs.) in collaboration with the SCHELLE study at the University of Trier (Letzel et al. 2020).

Five main categories emerged from the analysis and synthesis of the two datasets: (1) *Personal contact with students* (n = 115), (2) *workload and stress* (n = 108), (3) *technical equipment* (n = 87), (4) *digital skills* (n = 43); and (5) *individual support for at-risk students* (n = 26). Most participants identified the lack of face-to-face contact with students as the biggest challenge, which highlights the critical teaching element of building social communities in the classroom. In addition, teachers reported an overwhelming increase in workload and a shift in job demands (i.e., technical equipment and digital skills) that had a profound impact on their work-life balance. Finally, participants indicated that it was extremely difficult to provide individualized instruction to at-risk students (i.e., SED students, students with SEN, students with migration biographies) during distance learning. In addition, teachers reported that it takes a lot of time and commitment to prevent at-risk students from falling further behind in their academic and socio-emotional development.

Although the results paint an alarming picture, the changed classroom conditions provided teachers with an opportunity to reflect on their practiced and internalized pedagogical thinking and actions, and to redesign classroom activities to meet the educational and socio-emotional needs of a diverse student population.

Citation:

Woltran, F., Chan, R., Lindner, K.-T., & Schwab, S. (2021). Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19. *Frontiers in Education (Lausanne)*, 6. <https://doi.org/10.3389/feduc.2021.759541>

2.2.2 Summary of contribution 2

(Mis) Communication between Educational Policy and Practice: Teachers' Perceptions of Educational Policy Communication during COVID-19

Authors: Woltran, F., Lindner, K.-T., & Schwab, S.

Journal: Teachers and Teaching

Language: English

Keywords: COVID-19; leadership; educational policy; communication

Given the rapidly and constantly changing overall societal and pandemic situation in the COVID-19 era, but especially in 2020 and 2021, and the resulting impact on the education sector, ministries and public administrations around the world were compelled to rapidly plan and communicate education policies and interventions for schools (Fotheringham et al., 2021). Accordingly, policymakers have had to give equal consideration to protecting the health of all those involved in schooling while maintaining minimum levels of education and care (OECD, 2020a). Over time, however, reports of experience accumulated that communication between actors at the level of policy and educational staff was often unsatisfactory during COVID-19 (Argyropoulou et al., 2021). For example, the findings of Khlaif et al. (2021) suggest that policymakers have not met their responsibilities to provide sufficient information to schools in a clear and timely manner and to acknowledge the voices of those who are directly affected by policies. This is at odds with empirical findings that point to the importance of teachers' and principals' participation in key policy decisions for their subjectively perceived job satisfaction, which also includes recognition of teachers' expert knowledge of internal school processes (Gouédard et al., 2020; Stosisch, 2021). In addition, especially in times of crisis and associated uncertainty, advocacy groups from school practitioners must play a major role in considering further strategies (Gouédard et al., 2020).

Given numerous international studies conducted at the onset of the pandemic that indicated unsatisfactory processes in planning and communicating COVID-19-related interventions in schools at the policy level and an accompanying limited or lack of attention to teachers' need for routine and predictability (Kim & Asbury, 2020), this study aimed to shed light on Austrian teachers' perceptions of policy communication in the winter of 2021. For this purpose, two qualitative datasets were generated as part of the INCL-LEA study. Dataset 1 comes from a statewide online questionnaire distributed to schools from mid-November to mid-December 2021. Dataset 2 comes from a follow-up interview study conducted during the same

time period. Dataset 1 contained data from 907 teachers (82% female; mean age 45 yrs.; mean teaching experience 19 yrs.). Data set 2 included responses from a total of five teachers (80% female; mean teaching experience 15 yrs.). Due to the large number of responses, data from the first dataset were analyzed using Braun and Clarke's (2013) thematic analysis. For the analysis of the second dataset, the in-depth approach of the documentary method of Nohl (2017) was used.

The results of the analysis of dataset 1 revealed two main categories and eight subcategories, with four subcategories belonging to each of the two main categories. Accordingly, in the category *perception of education policy measures* (n = 1,295), most statements refer to *unspecific negative evaluation of education policy and communication* (n = 574), meaning that the respective answers contain individual key words without addressing what the teachers explicitly rate as negative. Moreover, teachers (n = 284) pointed to the issue of *dissemination of information through mass media*, suggesting that policies and strategies were often not routed through official channels. Participants also reported *delayed dissemination of information* (n = 278) and a perceived *ambiguity of information* (n = 159). The results of the detailed analysis of dataset 2 underscore the findings of the first data set and show that teachers perceived the wording for new regulations to be vague and received information through the public media and in the short term.

In summary, the results of this study suggest that the quality of communication of COVID-19-related measures did not improve in the 2019/20 and 2020/21 school years, which may subsequently lead to lower job satisfaction (Lindner et al., 2021) and resulting negative consequences for the implementation of inclusive pedagogy (Volosnikova et al., 2022). Finally, because high-quality instruction to support a diverse student body requires adequate time for preparation as well as recognition of individual student needs, which runs counter to a 'one-size-fits-all' approach (Bradley et al., 2020), schools must be given a greater degree of autonomy in decision making.

Citation:

Woltran, F., Lindner, K.-T., & Schwab, S. (2022, under review). Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19.

Date of submission:

November 7, 2022

2.2.3 Summary of contribution 3

Pandemic Education – Insights into Teachers’ Perceptions of Hygiene Measures in Schools due to Covid-19

Authors: Woltran, F., Lindner, K.-T., & Schwab, S.

Journal: International Journal of Environmental Research and Public Health

Language: English

Keywords: masked education; COVID-19; facemasks; hygiene measures

In Austria and other countries, in addition to school closures and subsequent distance learning, strict hygiene measures such as the wearing of face masks and regular COVID-19 testing were introduced in 2020 and remained part of school life for several months (Im Kampe et al., 2020). These additional hygiene measures, as well as alternative instructional changes such as reduced class sizes and staggered schedules, were implemented in light of the profound impact of the suspension of face-to-face instruction on children's health and well-being, as well as inequities (Greweng et al., 2021; Bekova et al., 2021). Although these strategies represented a promising approach to containing the spread of the virus (Spitzer, 2021), they were not without obstacles for teachers and students. For example, wearing face masks can create serious difficulties for verbal and nonverbal communication, block emotional signals between students and teachers, and thus seriously affect the academic and socio-emotional development of all students, but especially those with special educational or health care needs (e.g., children who are hard of hearing) (Esposito et al., 2021). In addition, COVID-19 testing, which is considered an effective strategy for rapidly identifying infected individuals (Krishnaratne et al., 2020), is often fraught with bureaucratic obstacles for school personnel (Unger et al., 2021).

Although previous empirical studies have shed light on teachers’ and school principals’ perception of COVID-19 related hygiene measures, no study had investigated differences in teachers’ perceptions depending on the type of school or looked at relationships between teaching experience, job satisfaction, and teachers’ satisfaction with the COVID-19 testing. Against this background, data from the third measurement point of the INCL-LEA study were used, as new infection control measures were implemented in schools in Austria at this point (end of 2021). Study 1 (quantitative dataset) included data from 1,170 participants (80% female; mean age 45 years; mean teaching experience 18 yrs.; 36.6% elementary teachers, 27.5% middle school teachers, 14.6% gymnasium teachers, 13.7% special education teachers, 7.9%

other school types). Study 2 comprised data from five teachers who voluntarily participated in an additional interview study (80% female; mean teaching experience 15 yrs.).

For data collection during Study 1, self-developed items were used to measure teachers' satisfaction with COVID-19 testing. Moreover, teachers' job satisfaction was assessed using a scale developed by Enzmann and Kleiber (1989). All items were rated on a four-point Likert-scale from 1 (strongly disagree) to 4 (strongly agree). Data from Study 1 were analyzed descriptively before a Pearson correlation analysis was subsequently conducted to examine the relationships between teaching experience, job satisfaction, and satisfaction using the COVID-19 test. Univariate and multivariate analyses were conducted to examine differences between school types. Study 2 used the qualitative approach of semi-structured interviews (Hopf, 1995), which included questions based on the core dimensions of teachers' professional well-being (OECD, 2020b), but also considered changes due to COVID-19 (e.g., wearing face masks). Data from Study 2 were analyzed in depth using the Nohl (2017) documentary method.

Descriptive results from Study 1 indicated that the COVID-19 testing worked well for most teachers. However, half of the participants reported that they felt a great deal of stress from the testing. Results of multivariate analysis showed a significant mean effect for school type. Subsequent univariate analyses showed that testing was less satisfying for special education teachers than for elementary and middle school teachers. In addition, elementary teachers perceived higher levels of additional stress from testing compared to middle and special education teachers. Finally, middle school teachers felt less stressed by the testing than high school teachers. The results of a Pearson correlation analysis indicated that higher teacher experience was positively associated with a well-functioning testing process. In addition, job satisfaction was higher when tests worked well and when teachers perceived stress to be lower. However, the effect sizes were very small. Results from Study 2 suggested differences in perceptions of reasons for difficulty or success on the COVID-19 testing (e.g., lack of student practice, student familiarity, bureaucratic burden, secretarial support), suggesting differences in the school environment. Results also indicated that teachers perceived face masks as either a protective measure for teachers or a source of problems for students or teachers.

Citation:

Woltran, F., Lindner, K.-T., & Schwab, S. (2023). Pandemic Education—Insights into Teachers' Perceptions of Hygiene Measures in Schools Due to COVID-19. *International Journal of Environmental Research and Public Health*, 20(6), 5207. <https://doi.org/10.3390/ijerph20065207>

2.2.4 Summary of contribution 4

Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development

Authors: Woltran, F., Lindner, K.-T., & Schwab, S.

Journal: Educational Studies

Language: English

Keywords: educational inequities; teacher perception; academic development

There is a wealth of empirical data suggesting that students' academic development deteriorated during the COVID-19 period because regular teaching and learning processes were interrupted for long periods of time, resulting in missed learning opportunities (e.g., Amin et al., 2021; Betthäuser et al., 2022; Engzell et al., 2021; Zheng et al., 2022). In this context, several research papers summarizing the results of individual studies suggest that these adverse consequences are particularly true for SED students (e.g., Andrew et al., 2020; Crawford et al., 2021).

In light of existing research that undoubtedly points to academic learning losses for all students, but especially for those who are disadvantaged in educational systems, this study chose to investigate whether this is also true for the Austrian context. Moreover, given social reproduction theory, which views education as a cultural good that is granted or denied across generations, the question arose as to whether teachers are aware of these very differences in available resources that lead to (de)privileging processes in coping with COVID-19 and the associated adverse conditions for learning (Bourdieu, 1986; Mohan et al., 2021). Against this background, this study aimed to shed light on teachers' awareness of the prevailing discriminatory environment in schools and its impact on the production and reproduction of EI. To this end, quantitative (t1-t4) and qualitative data (t4) from four measurement points of the INCL-LEA study were used as individual snapshots of teachers' perceptions (cross-sectional studies). Study 1 (t1) included data from 2,497 teachers (83% female; mean age 45 years; mean teaching experience 19 years), Study 2 (t2) from 2,498 teachers (81% female; mean age 44 years, mean teaching experience 18 years), Study 3 (t3) from 1,204 teachers (80% female; mean age 45 years, mean teaching experience 19 years), and Study 4 (t4) from 480 teachers (77% female; mean age 48 years; mean teaching experience 22 years). To gain deeper insights into teachers' explanations for perceived inequities across a diverse student body and thus draw conclusions about their awareness of discriminatory structures in schools, qualitative data were

used from 620 participants (78% female) (from Study 4) who responded to the open-ended questions at the end of the online questionnaire.

Teachers' perceptions of students' academic development were surveyed using self-developed items. In all four survey periods, participants were presented with four fictitious students (i.e., SED students, students with SEN, students with migration biographies in German language support classes (GLSC), and students without these characteristics (mainstream students)) on which they were asked to answer the questions. To gather more in-depth information throughout Study 4, teachers were asked at the end of the questionnaire what factors they thought contributed to EI and what changes would be needed to address these inequities. Quantitative data (t1-t4) were analyzed descriptively, followed by t-tests and analyses of variance for repeated measures. Qualitative data (t4) were analyzed using Brown and Clarke's (2022) reflexive-thematic approach.

In line with previous findings, participants perceived a general decline in academic development across all four student groups. In detail, teachers rated the academic development of mainstream students most positive, followed by students with SEN, students in GLSC and SED students. Interestingly, teachers' ratings of the impact of COVID-19 on students' academic development studies 2 and 3 did not differ between students in GLSC and SED students, pointing to intersecting social identities. However, teacher ratings were more positive for GLSC students than for SED students in Study 4, suggesting that SED students' academic progress in the 2022/23 school year was not as well caught up compared to that of GLSC students. Moreover, considering that SED students, GLSC students, and students with SEN were already disadvantaged by the Austrian school system prior to COVID-19, it is unmistakable that the disruption of regular instruction exacerbated these inequities from the teachers' perspective. Finally, the qualitative findings suggest that teachers' awareness of discriminatory processes in schools is limited. Thus, many participants (n = 109 codings) expressed a tendency to reject their personal responsibility for encountering EI and instead emphasized aspects of students' living environments (e.g., family SES). However, teachers (n = 103 codings) also considered factors located in the education system and related policies and practices (e.g., lack of school staff, large class sizes).

Citation:

Woltran, F., Lindner, K.-T., & Schwab, S. (2023, under review). Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development.

Date of submission:

March 27, 2023

2.2.5 Summary of contribution 5

Insights into Teachers' Perceptions of Parental Involvement as a Predictor of Educational Inequity

Author: Woltran, F.

Journal: Education 3-13

Language: English

Keywords: educational inequity; parental involvement; at-risk students; teacher perspective

Educational research has always held that parental involvement (PI) is an important component of a successful school career (e.g., Benner et al., 2016). This is also consistent with the theoretical approach underlying this study, according to which the connections and interrelationships between the school and home environments are critical to individual development (Bronfenbrenner, 1976). Although there is a wealth of literature suggesting that PI is a key determinant of students' educational success, researchers have recently begun to raise awareness of equity issues that arise from a narrow view of PI that focuses on the school agenda and demands much of parents (e.g., Antony-Newman, 2019). For example, according to Souto-Manning and Swick (2006, p. 189), the "parents who care" narrative, according to which parents are continuously involved in students' education, falls short when it comes to students' diverse backgrounds, thereby masking inequities in resources and differences in cultural practices. This shift in paradigm is supported by empirical evidence, pointing to difficulties for parents with migration biographies to live up to the schools' expectations due to language barriers or low self-efficacy in helping their children with homework (Antony-Newman, 2019).

Against the background of previous studies on PI and related inequities, the current study aimed to investigate this topic from the perspective of teachers in Austria. In particular, the aim was to draw attention to teachers' perceptions of PI in a diverse student body and to examine how this contributes to persistent EI. For this purpose, data were collected from 485 teachers (77% female; mean age 48 years; mean teaching experience 22 years; 43.3% elementary school teachers, 27.6% middle school teachers, 8.9% high school teachers, 8.9% vocational school teachers, 3.7% special education teachers, 7.9% other school types, remaining school types unknown). Information on teachers' perceptions of PI was collected using a modified and shortened version of Fantuzzo et al.'s (2000) Family Involvement Questionnaire,

which takes into account established aspects of PI, namely involvement at home and at school, and home-school conferencing. Teachers were asked to answer questions about PI in relation to four types of students: (1) students not at risk of disadvantage, (2) SED students, (3) students with migration biographies, and (4) students with SEN. To assess teachers' ratings of the role of PI in addressing EI, a self-developed item was used. To allow participants to share their thoughts on assumptions about the reasons for differences in PI between student groups, an open response format was introduced at the end of the online questionnaire. Descriptive statistics, t-tests, and univariate analyses of variance were used to analyze the quantitative data. Qualitative data (i.e., answers in open response format) were analyzed using Braun and Clarke's (2022) reflexive thematic analysis.

Descriptive results show that participants believe that parents of SED students and students with migration biographies are the least involved in school activities and the least able to support students in completing school tasks. Findings also show that teachers perceive the PI of SED students most negatively, followed by students with migration biographies, students with SEN, and students not at risk of disadvantage. No significant differences in teachers' ratings of PI of SED students and students with migration biographies were found, which is not surprising given the partial overlap between these students in Austria (BMBWF, 2021). Data analysis also showed that, on average, teachers agreed or strongly agreed with the statement that PI is equally important to reduce EI for all four student groups, which to some extent contradicts previous findings emphasizing that certain student groups (e.g., students with migration biographies) may particularly benefit from efforts to promote home-school collaboration (Barger et al., 2019). Finally, the qualitative results paint a rather alarming picture in the sense that some participants made derogatory and stereotyping statements about SED parents and parents with migration biographies. For example, several teachers argued that students' parents are reluctant to participate in home-school conferencing activities. In addition, numerous participants indicated that they felt that parents with low levels of education showed little or no interest in their children's education and did not appreciate the hard work of teachers. In summary, the results of the present study show that teachers' views continue to contribute to discriminatory processes in the Austrian education system, which further reinforces the dependence of educational success on students' family backgrounds and thus EI.

Citation:

Woltran, F. (2023). Insights into teachers' perceptions of parental involvement as a predictor of educational inequity. *Education 3-13*, 1–14. <https://doi.org/10.1080/03004279.2023.2265392>.

2.2.6 Summary of contribution 6

DI Practices as a Strategy to Address Educational Inequities. A Cross-National Comparative Study of Teacher Perspectives

Author: Woltran, F., Pozas, M., & Letzel-Alt, V.

Journal: International Journal of Inclusive Education

Language: English

Keywords: differentiated instruction; COVID-19; cross-country comparison

With empirical studies indicating that the gap between disadvantaged and non-disadvantaged students in the education system is widening (e.g., Hammerstein et al., 2021), inclusive teaching practices such as differentiated instruction (DI) have become increasingly important to overcome barriers to learning and consequently promote equity among students (UNESCO, 2020c). Specifically, DI is viewed as an instructional approach that effectively addresses student diversity by assessing student readiness, needs, and learning profiles so that learning content, processes, and products can be adapted (Letzel et al., 2020). Based on the findings from studies that point to the need to adapt teaching and learning arrangements when returning to school after COVID-19-induced distance learning, it seems relevant to examine how teachers currently support disadvantaged students (Terhart, 2021). Moreover, as the implementation of inclusive pedagogical approaches varies widely across educational systems (Moberg et al., 2020), cross-national research projects are proving to be pioneering projects that allow for comparison and knowledge exchange, which in turn informs policy and practice. This study decided to take a comparative research approach by contrasting data from two countries, both of which have long histories of inequities in their respective education systems. Accordingly, in both countries, students experience severe EI due to their SES, migration biographies, and SEN status (Mayrhofer et al., 2019; OECD, 2021).

Data were collected from twenty secondary school teachers (ten participants per country) to examine teachers' DI practices in Austria and Mexico and their explanations for using DI practices in the 2022/2023 school year. In the Austrian sample, three teachers taught in mainstream classes, three in special education classes, and four in inclusion classes. In the Mexican sample, two teachers taught in mainstream classes and eight taught in inclusive classes. After conducting semi-structured interviews with teachers (Flick, 2023) drawing on

Pozas and Schneider's (2019) DI taxonomy during the interview protocol, data were analyzed using an inductive and deductive coding paradigm (Saldaña 2021).

As a result of the coding process, the authors arrived at 39 inductively and deductively formed categories. In summary, the results indicated that most participants from both countries differentiate their teaching mainly through the use of tiered assessments, intentional composition of (heterogeneous) student groups and open education, which is consistent with previous findings (e.g., Letzel-Alt et al., 2021). The findings also showed that participants from Austria rarely use tutoring systems and staggered nonverbal learning aids. In terms of differences between the two samples, one interesting finding was that teachers from Mexico used mastery learning more frequently than teachers from Austria. However, this is consistent with previous empirical findings that point to a common practice among Mexican teachers in adapting and personalizing the curriculum for students to set goals for everyone (Pozas et al., 2021). Another finding of the current study, that Mexican teachers use fewer DI practices than their counterparts from Austria, contradicts empirical findings from before the pandemic and suggests that COVID-19 has had a significant impact on the country's educational landscape. Results on teachers' explanations for using DI showed a frequent combination of different practices. For example, teachers reported that they form heterogeneous groups to initiate tutoring or to support project-based work. In addition, statements also noted the importance of fostering not only academic but also nonacademic outcomes among students, such as friendships and responsibility for their learning. Taken together, the findings of this study indicate that teachers do indeed have specific intentions behind their DI use, which adds to the body of scholarly knowledge about reflective DI practice.

Citation:

Woltran, F., Pozas, M., & Letzel-Alt, V. (2023, under review). DI Practices as a Strategy to Address Educational Inequities. A Cross-National Comparative Study of Teacher Perspectives.

Date of submission:

September 11, 2023

3. Discussion

Following Bronfenbrenner (1976; 1979) and Anderson et al. (2014), this dissertation examined the influence of numerous proximal and distal factors located in different domains of the educational system and their interactions during the school years affected by COVID-19 on teachers' experiences with students who are traditionally disadvantaged by the Austrian educational system. Second, given the importance that those in positions of responsibility place on factors, this research work explored how teachers' perceptions of parental involvement affect existing EI. Third, considering the relevance of further promoting inclusive pedagogical approaches in the micro-system, the practice of differentiated instruction in the classroom was investigated following the return to face-to-face teaching and learning. The following sections highlight the main conclusions of this dissertation, its placement in the existing research context, its implications for policy and practice, and limitations and promising approaches for future empirical studies. In a concluding discussion, the contributions that emerged from this dissertation are once again presented in their entirety.

3.1 Teachers' experiences throughout COVID-19

Contributions 1 to 5 addressed various proximal and distal factors that affected teachers' experiences with a diverse student group throughout COVID-19. Contribution 1 focussed on elementary school teachers' perceptions of professional challenges during the first nation-wide school lockdown in early 2020. Results indicated that participants found lack of face-to-face interactions with students to be the most challenging. In this context, it was highlighted that teachers were confronted with new overlapping personal and professional domains, which led to a sharp increase in working hours. In addition, the findings suggested that the lack of allocation of technological resources (e.g., mobile devices and computers) had far-reaching implications for teachers' ability to provide sufficient e-learning opportunities for all students (i.e., micro-system). Finally, the results of contribution 1 pointed to serious consequences for the teaching a diverse student population, as participants reported that individualized support was difficult or impossible due to digital teaching and learning arrangement.

The findings of contribution 1 were extended by contributions 2 and 3, which highlighted other, more distant factors influencing teachers' experiences and perceptions. In particular, the results of contribution 2 indicated an exceptionally unsatisfactory perception of the quality and quantity of education policy communication in the 202/21 school year. However, the results of contribution 3 showed that COVID-19-induced hygiene measures led to an

increase in perceived stress levels for many teachers, but particularly difficulties for special education teachers and higher perceived stress for elementary school teachers.

The findings of contribution 1 pointed to significant shortcomings on resource allocation among and within schools, referring to aspects that sit within Anderson et al.'s (2014) exo-system. It revealed that faculty perceived the provision of technical equipment for teachers and learners to be inadequate to enable equitable, individualized, and high-quality distance learning, thereby contributing to the existing EI. In addition to inadequacies in resource allocation, the results of contribution 1 also pointed to other difficulties related to the digital divide that indicate teachers' dissatisfaction with their own digital literacies. This finding indicates that aspects of professional learning, which Anderson et al. (2014) suggest resides in the exo-system, significantly influence IE success or failure. Finally, the results of contribution 1 showed that participants found lack of face-to-face interactions with students to be the most challenging, supporting previous empirical findings that indicate significant teacher strain due to lack of opportunities for personal encounters and interactions with learners during school closure (e.g., Kim & Asbury, 2020; Klapproth et al., 2020). Moreover, this finding once again underscores the powerful impact that distal educational system factors, outside of the immediate environment in which the learner is located, have on pedagogical practices (i.e., the micro-system) and thus on the overarching three factors considered to constitute effective IE (e.g., participation, achievement, and value of person) (Anderson et al., 2014; Booth & Ainscow, 2002).

Contributions 2 and 3 extended the findings from contribution 1 by explicitly highlighting the interactions between more distant factors (i.e., global context, political context, school policies, and school governance structures) on teachers' instructional experiences. Since schooling activities take place in a specific historical-cultural environment determined by socio-political factors (Oleckowska, 2020), it is not surprising that the serious challenges triggered by COVID-19 in decision-making and policy implementation at the level of ministries of education had a profound impact on children's education, social development, and the well-being of all members of the education system (Nutsa Kobakhidze, 2023). This was also evident in contributions 2 and 3, which referred to participants perceived unfavorable educational conditions, reflected in teachers' lack of participation in decision-making, dubious decisions, confusion, insufficient and unclear information, which strongly influence their daily experiences in the classroom throughout COVID-19. This raises the question of whether education policy actors in Austria ever learned from their mistakes after the initial and unexpected outbreak of the pandemic and the difficulties it caused. Moreover, as the successful

implementation of unpopular but thoughtful policies is highly dependent on how society perceives the competence, credibility, integrity, and fairness of political stakeholders and processes (Nutsa Kobakhidze, 2023), the contributions to this dissertation point to clear grievances in this regard.

In summary, contributions 1, 2, and 3 highlighted specific factors that are all located in different systems of the ecology of inclusive education model (e.g., exo-system, macro-system) and their interaction on the success or failure of IE (Anderson et al., 2014). In this sense, the results of these studies show that factors that exist outside of the physical environment of the classroom or even the school nevertheless have a strong influence on teachers' and learners' experiences of schooling. This is closely related to the assumption that considering the child's individual characteristics and environment is insufficient to gain a comprehensive overview of all factors associated with granting access to IE (Anderson et al., 2014; Bronfenbrenner, 1976; 1979; Olechowska, 2020). Rather, Olechowska's (2020, p. 249) proposed consideration of the "complex, hierarchical and two-way relationship between these environments" proves to be a promising approach to advancing a comprehensive conceptual understanding of the factors and their interrelationships involved in establishing an inclusive educational system. In addition, the results contribute to the general knowledge of how and to what extent policy decisions were understood and accepted by teachers in Austria and how they contributed to the perceived challenges.

Contribution 4 presented teachers' perceptions of the impact of COVID-19 on student academic development, introducing exo- and macro-system factors that explicitly address broader social and economic inequities, as well as patterns of collaboration (e.g., parent-school collaboration), resources, assignment, and school policies and procedures. In particular, the results showed that Austrian teachers perceive persistent inequities in academic development due to COVID-19, which were already evident from pre-pandemic data (Gerhartz-Reiter, 2018; Mayrhofer et al., 2021). Contribution 4 again demonstrated that not only from an empirical point of view, but also from the perspective of teachers, students have different chances of successfully passing through the Austrian education system depending on various influencing factors over which they themselves have no control (Gerhartz-Reiter, 2018). Shockingly, the so-called risk factors for a successful school career (i.e., parents or legal guardians with maximum compulsory schooling, low occupational status of the parents or legal guardians and a non-German first language of the students) mentioned in the preamble and identified in the National Education Report have not changed over the years (Oberwimmer et al., 2021; Vogtenhuber et al., 2016). The issue of problematizing students' educational prerequisites

instead of reflecting on the educational opportunities that underlie the formulation of students' risk factors was also evident throughout the findings of contribution 4. Thus, many participants pointed to explanations for COVID-19-related differences in students' academic development that are beyond the school's control and thus due to causes that lie in the characteristics of the students themselves. Finally, contribution 4 not only highlighted deficits in teachers' awareness of discriminatory environments in the education system, but also undoubtedly pointed to a deterioration in the educational situation of those students who have so far been disadvantaged by the Austrian education system, suggesting that policy and practice have not been able to reduce educational differences between different groups of students even slightly.

Contribution 5 also addressed RQ1 but highlighted a specific factor that Anderson et al. (2014) found to be part of the exo-system, namely collaborative patterns (i.e., parents or legal guardians). This was done against a long history of intergenerational transmission of educational status, supported by sociological theoretical explanations of EI by Bourdieu (1986) and Boudon (1974). Accordingly, both authors consider EI as the result of aspects and decisions that take place in the sphere of families of origin, thus ignoring other underlying discriminations within the structures of the educational system (Brake & Büchner, 2012). This made it necessary to shed light on the role of parents' perceptions of parental involvement in educational processes and their awareness of the living conditions of students' families, as well as other forms of parental involvement that do not conform to the school's traditional agenda focused on the privileged middle and upper classes. Consistent with previous findings (e.g., Andersen et al., 2021; D'Haem & Griswold), the results of contribution 5 showed large differences in teachers' perceptions of parental involvement in a diverse student body, with parental involvement of SED students and students with migration biographies perceived as most negative. In addition, qualitative findings revealed that participating teachers held stereotypical and stigmatizing ideas about certain families (e.g., socioeconomically disadvantaged families).

In sum, the findings of contributions 1-5 certainly illustrate the importance of various proximal and distal factors within the educational system to teachers' experiences. This underscores the fundamental influence of external factors, as well as factors internal to the school and classroom, and their interrelationships on teachers' experiences with a diverse student body, and thus on IE success or failure (Anderson et al., 2014). The findings of all three contributions underline that the processes within the ecology of inclusive education framework are complex and interwoven, with each domain (e.g., the exo-system) containing multiple factors that do not stand in isolation from one another, but rather have a dynamic, reciprocal relationship that significantly influences the processes within the innermost domain (Anderson

et al., 2014). This was also previously emphasized by Malho (2013), who stresses that Bronfenbrenner's theory (1967; 1979) is a useful conceptual tool for understanding IE policy issues. Accordingly, Bronfenbrenner's approach provides a fruitful perspective for understanding the complexity of influences, interactions, and relationships between the immediate environment in which the learner is embedded and the larger social, political, and historical context (Malho, 2013).

The results of the contributions related to RQ1 have several implications for educational policy and practice. First and foremost, in the event of future crises and subsequent disruptions to regular teaching and learning, accurate vulnerability information and risk analysis must be conducted to subsequently provide equitable resources in the spirit of vertical equity, which recognizes historical and socioeconomic inequities in education and calls for a structural, transformative approach to combating inequity (Cairney & Kippin, 2022; Cochran-Smith et al., 2016). Second, contributions 2 and 3 suggest that policy actors need to ensure clear and sufficient information is shared with schools in a timely manner, subsequently leaving room for autonomous, school-specific decisions tailored to the interests and needs of all stakeholders (Lennox et al., 2021). Third, the findings illustrate that high-quality policy communication and implementation requires stakeholder engagement and collaboration with schools, as well as intellectual humility the part of policymakers in times of uncertainty (Cairney & Kippin, 2022; Huynh & Senger, 2021; Lennox et al., 2021). In this regard, recognizing and communicating the ambiguity and complexity of social, health, and educational issues (e.g., in the context of COVID-19) offers opportunities to build trust and legitimacy, while feigning knowledge fosters mistrust (Nutsa Kobakhidze, 2023). Contributions 4 and 5 emphasize the need to raise teachers' awareness of discriminatory structures and practices in the school system, as well as their own (conscious or unconscious) discriminatory tendencies, in initial and in-service training. In addition, both contributions highlight the need for further initiatives to raise awareness of the underlying reasons for a lack of economic and psychological constraints that can prevent families from aligning with the traditional school agenda, as well as to accept and recognize other forms of parental involvement. Finally, based on these awareness efforts, mandatory education, training, and professional development programs would be needed to prepare or train elementary and secondary teachers to work with diverse families and communities in schools.

Although all five contributions provide important insights into the frameworks at different levels of the education system and their impact on teachers' experiences throughout COVID-19, there are some limitations that must be considered. First, all data considered for this study are cross-sectional, which limits the analysis of perceptions of the same sample of

teachers over time. In addition, it can be assumed that the present dissertation is subject to sampling bias due to the non-representativeness of the data. Finally, all the studies considered in this research project illuminate only the perspective of teachers, thereby inadvertently disregarding the viewpoints of other stakeholders (e.g., students, parents, or legal guardians). Finally, due to the research design of this study, which resulted from severely limited opportunities to interview students during times of school closures and strict health and safety regulations in schools, an intersecting approach could not be employed.

In light of these limitations, more longitudinal, multi-perspective studies that apply an intersecting approach to IE are needed. In this context, future studies need to illuminate the voices of those who should be at the center of any effort to create a more inclusive education system (i.e., students) and consider their individuality in all its facets using participatory research methods. In addition, parents or legal guardians need to be included as co-researchers to maximize research participation, encourage researchers to reflect and explain their work on multiple levels, and provide insights into family dynamics that may not be accessible by using the teacher perspective alone. Given that parent or legal guardian involvement in students' education appears to continue to play a role in promoting students' academic achievement (e.g., Barger et al., 2019), more qualitative, in-depth approaches to a non-conventional approach to parental involvement should be developed regarding contribution 5. Finally, as teachers' attitudes and beliefs are critical in the context of promoting IE and addressing EI (e.g., Moberg et al., 2020), intervention studies should be conducted to provide teachers with opportunities to reflect and adapt underlying discriminatory patterns of thought and action.

3.2 Adaptive classroom routines following the return to face-to-face instruction

Contribution 6 shed light on the innermost sphere of the educational system around the learner who needs to participate, achieve, and feel valued (Anderson et al., 2014). The findings of this contribution, answering RQ2 and using a cross-national comparative research approach, showed that teachers in both countries use a variety of methods to differentiate their instruction, but tend to follow certain paths to match content, processes, and products to students' readiness, interest, and learning profiles. Participants differentiated their instruction primarily through the use of tiered assignments, grouping students, and open education, which is consistent with previous pre-pandemic studies (e.g., Bešić et al., 2017; Letzel, 2021). For the Austrian context, the results of contribution 6 are somewhat consistent with the findings of Bešić et al. (2017), who suggest that teachers use differentiated instruction using student grouping and tiered assignments in relation to quality (i.e., offering students the opportunity to work on the same content at different levels). However, while grouping in Bešić et al.'s (2017) study refers to the

separation of students with similar abilities and learning levels, the results of contribution 6 suggest that students are grouped into heterogeneous groups. In this sense, recognizing and leveraging student diversity through heterogeneous group composition appears to be a wishful scenario in the pre-pandemic study by Bešić et al. (2017), but is considered a central component of instruction in the context of contribution 6. However, the findings of Buchner (2021), which shed light on the practice of ability-space regimes in so-called “integration classes”⁶ in secondary schools prior to COVID-19, should not be ignored. Nevertheless, the results of contribution 6 are encouraging in that they point to the frequent use of various DI practices (e.g., open instruction, heterogeneous group composition) by Austrian teachers and thus to a continuous implementation of the basic ideas of IE. However, it is important to keep in mind that DI cannot be viewed as just a set of activities (e.g., tiered assignments), but rather as a comprehensive pedagogical approach that involves teachers’ skills and expertise, including communication and collaboration with various stakeholders and continuous development of their teaching (Hattie, 2023, Molbaek, 2018). In this context, it should be noted that the results of contribution 6 confirm, in line with Bešić et al. (2017), that DI is a promising approach but often difficult to implement in schools due to restrictive frameworks.

Against this backdrop, the findings of contribution 6, have several implications for policy and practice. First, class size can be a major barrier to teachers implementing high-quality adaptive teaching practices (e.g., Suprayogi et al., 2017), requiring a reduction in the number of students in a classroom or the use of financial resources to augment with highly qualified staff. Second, because collaboration and co-teaching among multiple teachers can facilitate the creation of differentiated lessons (Lindner & Schwab, 2020), creating an inclusive community in schools must be considered a priority for stakeholders in educational policy and practice. Third, as teacher education in Austria is still not aligned with a comprehensive, inclusive ideology that equips educators with the knowledge and skills to account for student needs in initial and continuing education⁷, the principles and specific applications of IE must finally find their way into mainstream university courses.

Despite its insightful nature in terms of Mexican and Austrian teachers’ use of DI and explanations for it, the current study has some limitations in terms of sample size (i.e., representativeness), focus on a single perspective (i.e., teachers), and narrow view of DI as

⁶ Integration classes require that approximately 5-8 students with SEN are taught together with students without SEN in mainstream classes (Buchner, 2023).

⁷ In Austria, prospective teachers can take a separate course of study at universities that deals exclusively with aspects of inclusive education. Inclusive education is thus not understood as a comprehensive pedagogical orientation inherent to each subject but is still treated separately.

specific practices, which are illustrated using the DI taxonomy introduced by Pozas and Schneider (2019). With this in mind, future studies need to focus on teachers' and students' understandings of DI in order to consider broader approaches to adaptive teaching and learning that expand current knowledge of inclusive pedagogy. Moreover, to gain deeper insights into teachers' explanations for using DI, in-depth qualitative studies must accompany educators as they plan adaptive instruction. In this vein, research projects need to specifically shed light on Austrian teachers' perceptions of facilitating and hindering factors of adaptive teaching.

3.3 Concluding discussion

This dissertation addressed various factors that sit within different spheres of the ecology of inclusive education framework (Anderson et al., 2014), thus contributing to a holistic perspective on IE and EI. Despite some limitations which are inherent for every research endeavor, using data at different points during the COVID-19 pandemic (i.e., spring 2020, fall 2020, fall 2021, and fall 2022) provided an overview of the changing environment and its impact on faculty experiences, as well as the implications for IE and EI. Accordingly, contributions 1-5 focused on teachers' immediate experiences during the initial COVID-19 outbreak, issues related to communication and policy implementation, teachers' perceptions of the academic development of a diverse student population, and the role of parental involvement in EI. Contribution 6, on the other hand, offered insights into teachers' use and explanations of adaptive instructional practices (i.e., DI) in the fall of 2022, at a time when there were no longer COVID-19-related constraints in schools.

The ecology of inclusive education approach introduced by Anderson et al. (2014), which draws on the theoretical underpinnings of Bronfenbrenner (1976; 1979), served as an appropriate framework for gaining a comprehensive perspective on relevant factors, located and interrelated at different levels of the education system, that significantly influenced teachers' experiences in the schoolyears affected by COVID-19 and beyond. Thus, the evidence generated in this dissertation argues for a contextual, flexible, and holistic approach to IE in terms of equitable education for all by recognizing the basic needs for participation, achievement, and a sense of feeling valued (Anderson et al., 2014; Nilholm, 2021). This means that a range of contextually different environments, as well as their relationships and interconnections, must be considered when creating a more inclusive, and therefore more equitable, education system. Consequently, attempts to simplify the complex circumstances lead to a dead end, while efforts to explore chaos and the interwoven factors therein prove to be a promising approach to expand current knowledge about the preconditions of IE. However, as outlined by Moberg et al. (2020) and reiterated by Nilholm (2021), global efforts to make

school systems more inclusive have been rather slow. This is due in part to larger historical and societal forces and assumptions, which in turn have a strong influence on systemic, institutional, or ideological aspects of IE (Artiles et al., 2006; Anderson et al., 2014). In addition, as explained in the preamble, inconsistencies, and ambiguities about the meaning of IE within the research community play a critical role in the hesitancy to implement appropriate policies and procedures (e.g., Nilholm & Göransson, 2017). The resulting impact on (more or less equitable) education is obvious and extremely serious, but it is particularly dramatic for those directly affected. As shown in this dissertation, the academic situation of students who were already disadvantaged by the Austrian school system before COVID-19 worsened significantly, according to teachers, despite the return to regular instruction and classroom learning. In this sense, this work underscores earlier assumptions that achieving IE is proving difficult even for countries that have long pushed the agenda (Allan, 2011). Moreover, it demonstrated that the nature of the different levels and the factors within them in the Austrian education landscape fall far short of the OECD's (2012, p. 15) expectations for an equitable education system, i.e., one that "can offset the effect of broader social and economic inequalities". With this in mind, this research can be understood as a critique of an education system and those responsible acting within it that does not reflect on global and national contexts that impact macro- and exo-systemic factors, as well as their interconnectedness and effects on the world of teachers and learners (i.e., the microsystem) and, as a result, fails to initiate change and reform (Anderson et al., 2014). To advance policy and practice toward a more equitable and inclusive education system, future initiatives must consider as many factors and their interrelationships as possible to "make the physical, social, cultural and educational arrangement of schooling better for all" (Slee, 2011, p. 13).

4. Abstract

English

As educational inequity (EI) continues to severely impact the academic and socioemotional development of students around the world, significantly exacerbated by COVID-19-induced changing frameworks, a comprehensive, context-sensitive approach must be taken to guide inclusion efforts in educational research, practice, and policy (Anderson et al., 2014; Cochran-Smith et al., 2016). Against this backdrop, and based on Anderson et al.'s (2014) framework of the ecology of inclusive education inspired by Bronfenbrenner's (1976; 1979) seminal work on impact factors and their interrelationship on the development of individuals, the main aim of this thesis is to contribute to this perspective by addressing the following research questions: (1) How do the changes brought about by COVID-19 at different levels of the ecology of inclusive education framework affect teachers' experiences, particularly regarding a diverse student body throughout the school years? (2) Which adaptive classroom routines are being used by teachers following the return to face-to-face instruction? To meet the requirement of an in-depth but comprehensive insight into the topic and to adequately answer the research questions, this thesis applied various research methods using data from the large-scale INCL-LEA (Inclusive Home Learning) study. The first contribution (Woltran et al., 2021) uses a multi-method approach to shed light on teachers' experiences during the first nationwide school closures in the early 2020. Both the second (Woltran et al., under review) and third contributions (Woltran et al., 2023) highlight various macro- and exo-systemic factors that strongly influence teachers' classroom experiences, shifting the attention of the discourse on the responsibility for equitable education beyond schools. The fourth paper (Woltran et al., under review) examines how teachers perceive the impact of COVID-19 on the academic development of a diverse student body, shedding light on broader societal forces and more proximal factors in the exo-system as well as the movement of time (i.e., the chrono-system). Contribution five (Woltran, 2023) focuses on the role teachers attribute to parental involvement in educational inequity, drawing attention to the interactions between micro- and exo-system factors. Finally, contribution six (Woltran et al., under review) addresses the innermost sphere surrounding the learner (i.e., micro-system) and sheds light on the implementation of inclusive teaching strategies after the return to face-to-face instruction. In summary, results of the six contributions point to complex and interwoven relationships of factors located in different domains of the ecology of inclusive education framework (Anderson et al., 2014), suggesting that future efforts in research, policy, and practice need to consider social, political, historical, and global contexts,

as well as other factors in different domains in which schools operate. In this context, the findings underscore Calabrese Barton and Tan's (2020) assumption that viewing equity in education as inclusion at the classroom and school level never fully accounts for inequitable sociohistorical power dynamics and the associated limitation of rights of certain individuals. Ultimately, the success or failure of IE and subsequent reinforcement or mitigation of EI may not be influenced by student characteristics, but rather by the environment and factors therein, as well as relationships and connections (Anderson et al., 2014).

German

In Anbetracht der Tatsache, dass Bildungsungleichheit die akademische und sozio-emotionale Entwicklung von Schüler:innen weltweit nach wie vor stark beeinträchtigt und durch COVID-19-bedingte veränderte Rahmenbedingungen noch erheblich verschärft wurde, muss ein umfassender, kontextsensitiver Ansatz gewählt werden, um die Bemühungen um Inklusion in der Bildungsforschung, -praxis und -politik zu navigieren (Anderson et al., 2014; Cochran-Smith et al., 2016). Vor diesem Hintergrund und basierend auf Anderson et al.'s (2014) ecology of inclusive education framework, inspiriert durch Bronfenbrenners (1976; 1979) bahnbrechende Arbeit über Einflussfaktoren und ihre Wechselbeziehung auf die Entwicklung von Individuen, ist das Hauptziel dieser Dissertation, einen Beitrag zu dieser Perspektive zu leisten, indem die folgenden Forschungsfragen behandelt werden: (1) Wie wirken sich die Veränderungen, die COVID-19 auf den verschiedenen Ebenen des ecology of inclusive education frameworks mit sich bringt, auf die Erfahrungen der Lehrkräfte aus, insbesondere im Hinblick auf eine vielfältige Schüler:innenschaft während der gesamten Schulzeit? (2) Welche adaptiven Unterrichtsroutinen werden von den Lehrkräften nach der Rückkehr zum Frontalunterricht eingesetzt? Um dem Anspruch einer eingehenden, aber umfassenden Betrachtung dieser Thematik gerecht zu werden und die Forschungsfragen adäquat zu beantworten, wurden in dieser Arbeit verschiedene Forschungsmethoden unter Verwendung von Daten aus der groß angelegten INCL-LEA-Studie (Inclusive Home Learning) angewendet. Im ersten Beitrag (Woltran et al., 2021) wird ein multimethodischer Ansatz verwendet, um die Erfahrungen der Lehrpersonen während der ersten landesweiten Schulschließungen Anfang 2020 zu beleuchten. Sowohl der zweite (Woltran et al., under review) als auch der dritte Beitrag (Woltran et al., 2023) thematisieren verschiedene makro- und exo-systemische Faktoren, welche die Erfahrungen von Lehrer:innen im Klassenzimmer stark beeinflussten und die Aufmerksamkeit des Diskurses über die Verantwortlichkeit für eine inklusive und gerechte Bildung über die Schule hinaus verlagern. Beitrag vier (Woltran et al., under review) untersucht, wie Lehrkräfte die Auswirkungen von COVID-19 auf die akademische Entwicklung einer vielfältigen Schüler:innenschaft wahrnehmen, und beleuchtet dabei breitere gesellschaftliche Kräfte und proximale Faktoren im Exo-System sowie den Lauf der Zeit (d. h. das Chrono-System). Beitrag fünf (Woltran, 2023) befasst sich mit der Rolle, die Lehrpersonen dem elterlichen Engagement in Bezug auf Bildungsungleichheit zuschreiben, und lenkt die Aufmerksamkeit auf die Wechselwirkungen zwischen Mikro- und Exo-systemfaktoren. Beitrag sechs (Woltran et al., under review) befasst sich schließlich mit der innersten Sphäre, welche die Lernenden umgibt (d. h. dem Mikro-system), und beleuchtet die Umsetzung inklusiver

Unterrichtsstrategien nach der Rückkehr zum Frontalunterricht. Zusammenfassend weisen die Ergebnisse der sechs Beiträge auf komplexe und miteinander verwobene Beziehungen von Faktoren hin, die in verschiedenen Bereichen des ecology of inclusive education frameworks angesiedelt sind, was darauf hindeutet, dass künftige Bemühungen in Forschung, Politik und Praxis soziale, politische, historische und globale Kontexte sowie andere Faktoren in verschiedenen Umfeldern, im Rahmen deren Schulen agieren, berücksichtigen müssen. Letztendlich darf der Erfolg oder Misserfolg inklusiver Bildung und die daraus resultierende Verstärkung oder Abschwächung von Ungleichheiten nicht von Schüler:innenmerkmalen beeinflusst werden, sondern von Umweltfaktoren und deren Beziehungen und Wechselwirkungen (Anderson et al., 2014).

5. References

- Aiello, P., Pace, E. M., Sharma, U., Rangarajan, R., Sokal, L., May, F., Gonzalez Gil, F., Loreman, T., Malak, S., Martín, E., McIlroy, A.-M., & Schwab, S. (2023). Identifying teachers' strengths to face COVID-19: narratives from across the globe. *Cambridge Journal of Education*, 53(3), 357–374. doi: 10.1080/0305764X.2022.2159013
- Ainscow, M. (2007). From Special Education to Effective Schools for All: A Review of Progress so Far. In L. Florian (ed.), *The Sage Handbook of Special Education* (pp. 146–159). SAGE.
- Alexiadou, N., & Essex, J. (2016). Teacher education for inclusive practice - responding to policy. *European Journal of Teacher Education*, 39(1), 5–19.
<https://doi.org/10.1080/02619768.2015.1031338>
- Allan, J. (2011). Complicating, not explicating: Taking up philosophy in learning disability research. *Learning Disability Quarterly*, 34(2), 153-161.
<https://doi.org/10.1177/073194871103400206>
- Andersen, S. C., Gregersen, M. K., Nielsen, H. S., & Thomsen, M. K. (2021). Parent Involvement, Socioeconomic Status and Reading Performance. *Scandinavian Journal of Educational Research*, 65(7), 1279–1294.
<https://doi.org/10.1080/00313831.2020.1840429>
- Anderson, J., Boyle, C., & Deppeler, J. (2014). The Ecology of Inclusive Education. In H. Zhang, P. Wing Keung Chang, & C. Boyle (eds.), *Equality in Education* (pp. 23–34). SensePublishers. https://doi.org/10.1007/978-94-6209-692-9_3
- Anderson, A. B., Aronson, B., & Ellison, S. (2022). Assessing Systemic Inequity: Teacher Perspectives, Solutions, and “Radical Possibilities”, *The Urban Review*, 54(1), 113–137. <https://doi.org/10.1007/s11256-021-00606-1>
- Antony-Newman, M. (2019). Parental Involvement Policies in Ontario: A Critical Analysis. *The School Community Journal*, 29(1), 143–169.
- Argyropoulou, E., Syke, C.-H., & Papaioannou, M. (2021). School Leadership in Dire Straits: Fighting the Virus or Challenging the Consequences. *International Studies in Educational Administration*, 49(1), 18-27.
- Artiles, J. A., Harris-Murri, N., & Rostenberg, D. (2006). Inclusion as Social Justice: Critical Notes on Discourses, Assumptions, and the Road Ahead. *Theory into Practice*, 45(3), 260–268. https://doi.org/10.1207/s15430421tip4503_8
- Asbury, K., Fox, L., Deniz, E., Code, A., & Toseeb, U. (2021). How is COVID-19 Affecting the Mental Health of Children with Special Educational Needs and Disabilities and

- Their Families? *Journal of Autism and Developmental Disorders*, 51, 1772–1780.
<https://doi.org/10.1007/s10803-020-04577-2>
- Audley-Piotrowski, S., Singer, A., & Patterson, M. (2015). The role of the teacher in children's peer relations: Making the invisible hand intentional. *Translational Issues in Psychological Science*, 1(2), 192–200. <https://doi.org/10.1037/tps0000038>
- Avvisati, F. (2020). The measure of socio-economic status in PISA: a review and some suggested improvements. *Large-Scale Assessments in Education*, 8(1), 1–37.
<https://doi.org/10.1186/s40536-020-00086-x>
- Ayala, M. C. (2022). Academic achievement in math and language of migrant and local students: The role of teachers' educational expectations and ethnic composition. *Education Policy Analysis Archives*, 30.
<https://doi.org/10.14507/epaa.30.6337>
- Bacher, J. (2020). NEET-Jugendliche in Österreich: Problemausmaß, volkswirtschaftliche Kosten und Handlungsempfehlungen. *Momentum Quarterly*, 9(1), 18.
<https://doi.org/10.15203/momentumquarterly.vol9.no1.p18-34>
- Baker, E. T., Wang, M. C., & Walberg, H. J. (1994). The effects of inclusion on learning. *Educational Leadership*, 52, 33–35.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191. <https://doi.org/10.1037/0033-295X.84.2.191>
- Barger, M. M., Kim, E. M., Kuncel, N. R., & Pomerantz, E. M. (2019). The Relation Between Parents' Involvement in Children's Schooling and Children's Adjustment: A Meta-Analysis. *Psychological Bulletin*, 145(9), 855–890.
<https://doi.org/10.1037/bul0000201>
- Baumert, J., & Kunter, M. (2013). The COACTIV model of teachers' professional competence. In M. Kunter, J. Baumert, W. Blum, U. Klusmann, S. Krauss, & M. Neubrand (eds.), *Cognitive activation in the mathematics classroom and professional competence of teachers. Results from the COACTIV project* (pp. 25–48). Springer.
https://doi.org/10.1007/978-1-4614-5149-5_2
- Bekova, S. K., Terentev, E. A., & Maloshonok, N. G. (2021). Educational Inequality and COVID-19 Pandemic: Relationship between the Family Socio-Economic Status and Student Experience of Remote Learning. *Voprosy Obrazovaniya / Educational Studies Moscow*, 1, 74–92. <https://doi.org/10.17323/1814-9545-2021-1-74-92>
- Benner, A. D., Boyle, A. E., & Sadler, S. (2016). Parental Involvement and Adolescents' Educational Success: The Roles of Prior Achievement and Socioeconomic

- Status. *Journal of Youth and Adolescence*, 45(6), 1053–1064.
<https://doi.org/10.1007/s10964-016-0431-4>
- Bešić, E., Paleczek, L., Krammer, M., & Gasteiger-Klicpera, B. (2017). Inclusive practices at the teacher and class level: the experts' view. *European Journal of Special Needs Education*, 32(3), 329–345. <https://doi.org/10.1080/08856257.2016.1240339>
- Bešić, E., Holzinger, A., Komposch, U., & Wohllhart, D. (2020a). *Fernunterricht für Schüler*innen mit Behinderungen. Perspektiven von Lehrpersonen*. Pädagogische Hochschule Steiermark. 13.
https://www.phst.at/fileadmin/News/SS_2020/Factsheet_Fernunterricht_SchuelerInnen_mit_Behinderungen_final.pdf
- Bešić, E., Paleczek, L., Rossmann, P., Krammer, M., & Gasteiger-Klicpera, B. (2020b). Attitudes towards inclusion of refugee girls with and without disabilities in Austrian primary schools. *International Journal of Inclusive Education*, 24(5), 463–478.
<https://doi.org/10.1080/13603116.2018.1467976>
- Bethhäuser, B. A., Bach-Mortensen, A. M., & Engzell, P. (2023). A systematic review and meta-analysis of the evidence on learning during the COVID-19 pandemic. *Nature Human Behaviour*, 7(3), 375–385. <https://doi.org/10.1038/s41562-022-01506-4>
- Black-Hawkins, K. (2010). The framework for participation: A research tool for exploring the relationship between achievement and inclusion in schools. *International Journal of Research & Method in Education*, 33(1), 21-40.
- BMBWF. (2021). *Nationaler Bildungsbericht*. Bundesministerium für Bildung, Wissenschaft und Forschung (Ed.). BMBWF.
- Booth, T., & Ainscow, M. (2002). *Index for inclusion: developing learning and participation in schools*. CSIE.
- Bormann, I., Brögger, K., Pol, M., & Lazarová, B. (2021). COVID-19 and its effects: On the risk of social inequality through digitalization and the loss of trust in three European education systems. *European Educational Research Journal EERJ*, 20(5), 610–635.
<https://doi.org/10.1177/14749041211031356>
- Boudon, R. (1974). *Education, opportunity, and social inequality*. Wiley.
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood.
- Bos, W., Müller, S., & Stubbe, T. C. (2010). Abgehängte Bildungsinstitutionen: Hauptschulen und Förderschulen. In *Bildungsverlierer* (pp. 375–397). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-92576-9_17

- Bradley, An, M.-W., & Fox, E. (2020). Reopening Colleges during the Coronavirus Disease 2019 (COVID-19) Pandemic - One Size Does Not Fit All. *JAMA Network Open*, 3(7), e2017838–e2017838. <https://doi.org/10.1001/jamanetworkopen.2020.17838>
- Brake, A., & Büchner, P. (2012). *Bildung und soziale Ungleichheit. Eine Einführung*. Kohlhammer.
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage Publications.
- Brennan, J., & Naidoo, R. (2008). Higher Education and the Achievement (and/or Prevention) of Equity and Social Justice. *Higher Education*, 56(3), 287–302.
- Bronfenbrenner, U. (1976). The experimental ecology of education. *Educational Researcher*, 5(5), 5-15.
- Bronfenbrenner, U. (1979). *The ecology of human development: experiments by nature and design*. Harvard University Press.
- Brussino, O. (2020). Mapping policy approaches and practices for the inclusion of students with special education needs. *OECD Education Working Papers*, (227), 0_1–93. <https://doi.org/10.1787/600fbad5-en>
- Buchner, T. (2021). On 'integration rooms', tough territories, and 'places to be': the ability-space-regimes of three educational settings at Austrian secondary schools. *International Journal of Inclusive Education, ahead-of-print(ahead-of-print)*, 1–18. <http://doi.org/10.1080/13603116.2021.1950975>
- Buchner, T. (2023). Inclusive Spaces? Rekonstruktion der Raum-Fähigkeits-Regmine von Integrationsklassen an Neuen Mittelschulen. In M. Hoffmann, T. Hoffmann, L. Pfahl, M. Rasell, H. Richter, R. Seebo, M. Sonntag, & J. Wagner (eds.), *Raum. Macht. Inklusion. Inklusive Räume erforschen und entwickeln* (pp. 43-57). Verlag Julius Klinkhardt.
- Cairney, P., & Kippin, S. (2022). The future of education equity policy in a COVID-19 world: A qualitative systematic review of lessons from education policymaking. *Open Research Europe*, 1, 78–78. <https://doi.org/10.12688/openreseurope.13834.2>
- Calabrese Barton, A., & Tan, E. (2020). Beyond Equity as Inclusion: A Framework of “Rightful Presence” for Guiding Justice-Oriented Studies in Teaching and Learning. *Educational Researcher*, 49(6), 433–440. <https://doi.org/10.3102/0013189X20927363>
- Cobb-Clark, D. A., Sinning, M., & Stillman, S. (2012). Migrant Youths' Educational Achievement: The Role of Institutions. *The Annals of the American Academy of*

- Political and Social Science*, 643(1), 18–45.
<https://doi.org/10.1177/0002716212440786ieren>
- Cochran-Smith, M., Ell, F., Grundoff, L., Haigh, M., Hill, M., & Ludlow, L. (2016). Initial teacher education: What does it take to put equity at the center? *Teaching and Teacher Education*, 57, 67–78. <https://doi.org/10.1016/j.tate.2016.03.006>
- Coleman, J.S. (1966). *Equality of Educational Opportunity*. National Center for Educational Statistics (DHEW/OE).
- Collins, P. (2002). *Black feminist thought: Knowledge, consciousness and the politics of empowerment*. Routledge.
- Costa, S., Pirchio, S., & Glock, S. (2022). Teachers’ and preservice teachers’ implicit attitudes toward ethnic minority students and implicit expectations of their academic performance. *International Journal of Intercultural Relations*, 89, 56–62.
<https://doi.org/10.1016/j.ijintrel.2022.05.006>
- Couper-Kenney, F., & Riddell, S. (2021). The impact of COVID-19 on children with additional support needs and disabilities in Scotland. *European Journal of Special Needs Education*, 36(1), 20–34. <https://doi.org/10.1080/08856257.2021.1872844>
- Crede, J., Wirthwein, L., Steinmayr, R., & Bergold, S. (2019). Schülerinnen und Schüler mit sonderpädagogischem Förderbedarf im Bereich emotionale und soziale Entwicklung und ihre Peers im inklusiven Unterricht. *Zeitschrift für Pädagogische Psychologie*, 1–15. <https://doi.org/10.1024/1010-0652/a000244>
- Czarnecki, K. (2018). Less inequality through universal access? *Higher Education*, 76(3), 501–518. <https://doi.org/10.1007/s10734-017-0222-1>
- Davies, N. M., Howe, L. D., & Bann, D. (2023). Educational attainment and health. *BMJ*, 382, 1602–1602. <https://doi.org/10.1136/bmj.p1602>
- Davoli, M., & Entorf, H. (2018). *The PISA shock, socioeconomic inequality, and school reforms in Germany, IZA Policy Paper, No. 140*. Institute of Labor Economics (IZA).
- De Schepper, A., Clycq, N., & Kyndt, E. (2023). Socioeconomic Differences in the Transition From Higher Education to the Labour Market: A Systematic Review. *Journal of Career Development*, 50(1), 234–250. <https://doi.org/10.1177/08948453221077674>
- D’Haem, J., & Griswold, P. (2017). Teacher Educators’ and Student Teachers’ Beliefs About Preparation for Working With Families Including Those From Diverse Socioeconomic and Cultural Backgrounds. *Education and Urban Society*, 49(1), 81–109.
<https://doi.org/10.1177/0013124516630602>

- Di Pietro, G. (2023). The impact of Covid-19 on student achievement: Evidence from a recent meta-analysis. *Educational Research Review*, 39, 100530–100530.
<https://doi.org/10.1016/j.edurev.2023.100530>
- Duroisin, N., Beauset, R., & Tanghe, C. (2021). Education and digital inequalities during COVID-19 confinement: From the perspective of teachers in the French speaking Community of Belgium. *European Journal of Education*, 56(4), 515–535.
<https://doi.org/10.1111/ejed.12475>
- Dronkers, J., Van Der Velden, R., & Dunne, A. (2012). Why are Migrant Students Better off in Certain Types of Educational Systems or Schools Than in Others? *European Educational Research Journal EERJ*, 11(1), 11–44.
<https://doi.org/10.2304/eej.2012.11.1.11>
- Dyson, A. (1999). Inclusion and Inclusions: Theories and Discourses in Inclusive Education. In H. Daniels, & P. Garner (eds.), *Inclusive Education. World Yearbook of Education* (pp. 36–53). Kogan Page.
- Easterbrook, M. J., Nieuwenhuis, M., Fox, K. J., Harris, P. R., & Banerjee, R. (2022). ‘People like me don’t do well at school’: The roles of identity compatibility and school context in explaining the socioeconomic attainment gap. *British Journal of Educational Psychology*, 92(3), 1178–1195. <https://doi.org/10.1111/bjep.12494>
- Edwards, D., & McMillan, J. (2015). *Completing university in a growing sector: Is equity an issue?* National Centre for Student Equity in Higher Education.
- Eeckhaut, M. C. W. (2020). Intersecting Inequalities: Education, Race/Ethnicity, and Sterilization. *Journal of Family Issues*, 41(10), 1905–1929.
<https://doi.org/10.1177/0192513X19900529>
- Engelbrecht, P., Savolainen, H., Nel, M., & Malinen, O. (2013.) How Cultural Histories Shape South African and Finnish Teachers’ Attitudes Towards Inclusive Education: A Comparative Analysis. *European Journal of Special Needs Education*, 28(3), 305–318.
<https://doi.org/10.1080/08856257.2013.777529>.
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. *Proceedings of the National Academy of Sciences - PNAS*, 118(17), 1. <https://doi.org/10.1073/PNAS.2022376118>
- Enzmann, D., & Kleiber, D. (1989). *Helfer-Leiden : Streß und Burnout in psychosozialen Berufen*. Asanger.

- Esposito, S., Cotugno, N., & Principi, N. (2021). Comprehensive and safe school strategy during COVID-19 pandemic. *Italian Journal of Pediatrics*, 47(1), 6–6.
<https://doi.org/10.1186/s13052-021-00960-6>
- European Agency For Special Needs Inclusive Education. (2017). *Early School Leaving and Learners with Disabilities and/or Special Educational Needs: Final Summary Report*. Zenodo. <https://doi.org/10.5281/zenodo.5562101>
- Fantuzzo, J., Tighe, E., & Childs, S. (2000). Family Involvement Questionnaire: A Multivariate Assessment of Family Participation in Early Childhood Education. *Journal of Educational Psychology*, 92(2), 367–376. <https://doi.org/10.1037/0022-0663.92.2.367>.
- Felder, F. (2021). *The Ethics of Inclusive Education*. Taylor and Francis.
<https://doi.org/10.4324/9781003221326>
- Ferreira, F. H. G., & Gignoux, J. (2013). The Measurement of Educational Inequality: Achievement and Opportunity. *The World Bank Economic Review*, 28(2), 210-246.
<https://doi.org/10.1093/wber/lht004>
- Fibbi, R., & Truong, J. (2015). Parental Involvement and Educational Success in Kosovar Families in Switzerland. *Comparative Migration Studies*, 3(1), 1-17.
<https://doi.org/10.1186/s40878-015-0010-y>.
- Finkelstein, S., Sharma, U., & Furlonger, B. (2021). The inclusive practices of classroom teachers: A scoping review and thematic analysis. *International Journal of Inclusive Education*, 25(6), 735–762. <https://doi.org/10.1080/13603116.2019.1572232>
- Florian, L. (2019). On the necessary co-existence of special and inclusive education. *International Journal of Inclusive Education*, 23(7-8), 691–704.
<https://doi.org/10.1080/13603116.2019.1622801>
- Fokken, S. (2020). *Schule in Zeiten von Corona: Was wir jetzt über Hamburg, das Lernen lernen*. DER SPIEGEL.
- Forlin, C., Earle, C., Loreman, T., & Sharma, U. (2011). The Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACIE-R) scale for measuring preservice teachers' perceptions about inclusion. *Exceptionality Education International*, 21(3), 50–65. <https://doi.org/10.5206/eei.v21>
- Fotheringham, P., Harriott, T., Healy, G., Arengé, G., McGill, R., & Wilson, E. (2020). Pressures and influences on school leaders navigating policy development during the COVID-19 pandemic. *British Educational Research Journal*, 48(1), 201–227.
<https://doi.org/10.1002/berj.3760>

- Frempong, G., Ma, X., & Mensah, J. (2012). Access to postsecondary education: can schools compensate for socioeconomic disadvantage. *Higher Education*, 63(1), 19–32.
<https://doi.org/10.1007/s10734-011-9422-2>
- Froschauer, U., & Lueger, M. (2003). *Das qualitative Interview: zur Praxis interpretativer Analyse sozialer Systeme*. Univ.-Verl.
- Gabel, S. L., Curcic, S., Powell, J. J. W., Khader, K., & Albee, L. (2009). Migration and ethnic group disproportionality in special education: an exploratory study. *Disability & Society*, 24(5), 625–639. <https://doi.org/10.1080/09687590903011063>
- Gemici, S., Lim, P., & Karmel, T. (2013). *The impact of schools on young people's transition to university*. NCVER.
- Gerhartz-Reiter, S. (2018). Bildungsungleichheit und vorzeitiger Bildungsausstieg in Österreich. In G. Quenzel, & K. Hurrelmann (eds.), *Handbuch Bildungsarmut* (pp. 523–544). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-19573-1_20
- Gitschthaler, M., Erling, E. J., Stefan, K., & Schwab, S. (2022). Teaching Multilingual Students During the COVID-19 Pandemic in Austria: Teachers' Perceptions of Barriers to Distance Learning. *Frontiers in Psychology*, 13, 805530–805530.
<https://doi.org/10.3389/fpsyg.2022.805530>
- Glock, S., Kovacs, C., & Pit-ten Cate, I. (2019). Teachers' attitudes towards ethnic minority students: Effects of schools' cultural diversity. *British Journal of Educational Psychology*, 89(4), 616–634. <https://doi.org/10.1111/bjep.12248>
- Goddard, R., Goddard, Y., & Minjung, K. (2015). School instructional climate and student achievement: an examination of group norms for differentiated instruction. *American Journal of Education*, 122, 111–131. <https://doi.org/10.1086/68329>
- Goldan, J., Geist, S., and Lütje-Klose, B. (2020). Schüler*innen mit sonderpädagogischem Förderbedarf während der Corona-Pandemie: Herausforderungen und Möglichkeiten der Förderung – das Beispiel der Laborschule Bielefeld. In D. Fickermann, & B. Edelstein (eds.), „Langsam vermisste ich die Schule...“. *Schule während und nach der Corona-Pandemie* (pp. 189-201). Waxmann.
- Gouëdard, Pont, B., & Viennet, R. (2020). Education responses to COVID-19: Implementing a way forward. *IDEAS Working Paper Series from RePEc*, 224, 0_1–44.
<https://doi.org/10.1787/8e95f977-en>

- Göransson, K., & Nilholm, C. (2014). Conceptual diversities and empirical shortcomings - a critical analysis of research on inclusive education. *European Journal of Special Needs Education*, 29(3), 265–280. <https://doi.org/10.1080/08856257.2014.933545>
- Graham, L., & Slee, R. (2008). An illusionary interiority: Interrogating the discourse/s of inclusion. *Educational Philosophy and Theory*, 40(2), 277-293.
- Grewenig, E., Lergetporer, P., Werner, K., Woessmann, L., & Zierow, L. (2021). COVID-19 and educational inequality: How school closures affect low- and high-achieving students. *European Economic Review*, 140, 103920–103920. <https://doi.org/10.1016/j.euroecorev.2021.103920>
- Ha, C. (2023). How parental factors influence children's literacy development: Inequity in education. *Education 3-13*, 51(3), 493–508. <https://doi.org/10.1080/03004279.2021.1981422>
- Hammerstein, S., König, C., Dreisörner, T., & Frey, A. (2021). Effects of COVID-19-related school closures on student achievement – A systematic review. *Frontiers in Psychology*, 12, 746289. <https://doi.org/10.3389/fpsyg.2021.746289>
- Hassani, S., Schwab, S., & Boda, Z. (2022). Primary school students' attitudes towards peers displaying hyperactivity: Examining impacts of homophily and inter-group contact on students' social inclusion. *Social Development (Oxford, England)*, 31(3), 765–781. <https://doi.org/10.1111/sode.12581>
- Hattie, J. (2023). Epilogue. A Set of Challenges for Differentiated Instruction. In M. Pozas, & V. Letzel-Alt (eds.), *Differentiated Instruction Around the World. A Global Inclusive Insight* (pp. 275-286). Waxmann.
- Haynes, C., Joseph, N. M., Patton, L. D., Stewart, S., & Allen, E. L. (2020). Toward an understanding of intersectionality methodology: A 30-year literature synthesis of Black women's experiences in higher education. *Review of Educational Research*, 90(6), 751–787. <https://doi.org/10.3102/0034654320946822>
- Helm, C., Huber, S. G., & Loisinger, T. (2021a). Was wissen wir über schulische Lehr-Lern-Prozesse im Distanzunterricht während der Corona-Pandemie? *Zeitschrift für Erziehungswissenschaft*, 24(2), 237–311. <https://doi.org/10.1007/s11618-021-01000-z>
- Helm, C., Huber, S. G., and Postlbauer, A. (2021b). Lerneinbußen und Bildungsbenachteiligung durch Schulschließungen während der Covid-19-Pandemie im Frühjahr 2020. Eine Übersicht zur aktuellen Befundlage. In D. Fickermann, B. Edelstein, J. Gerick, & K. Racherbäumer (eds.), *Schule und Schulpolitik während der Corona-Pandemie: Nichts gelernt?* (pp. 59-1). Waxmann.

- Henke, T., Bosse, S., Lambrecht, J., Jäntschi, C., Jaeuthe, J., & Spörer, N. (2017). Mittendrin oder nur dabei? Zum Zusammenhang zwischen sonderpädagogischem Förderbedarf und sozialer Partizipation von Grundschülerinnen und Grundschülern. *Zeitschrift für pädagogische Psychologie (Bern, Switzerland)*, 31(2), 111–123.
<https://doi.org/10.1024/1010-0652/a000196>
- Hollenweger, J., Pantić, N., & Florian, L. (2015). *Tool to Upgrade Teacher Education. Practices for Inclusive Education*. Council of Europe.
- Holtgrewe, U., Lindorfer, M., Siller, C., & Vana, I. (2021, 15. June). *Lernen im Ausnahmezustand 2020 – Betroffenheiten und Perspektiven*. Zentrum für soziale Innovation. https://www.zsi.at/object/news/6013/attach/Lernen_im_Ausnahmezustand_ZSI-wwtf15_06_21.pdf
- Hopf, C. (1995). Befragungsverfahren. Qualitative Interviews in der Sozialforschung. Ein Überblick. In U. Flick, von Kardorff, E., Keupp, H., von Rosenstiel, L., & Wolff, S. (eds.), *Qualitative Sozialforschung. Grundlagen, Konzepte, Methoden und Anwendungen* (pp. 349-360). Beltz.
- Hopf, D. (2007). Mehrsprachigkeit und Schulerfolg bei Schülern mit Migrationshintergrund. *Sprache, Stimme, Gehör: Zeitschrift für Kommunikationsstörungen*, 31, 162–169.
- Huber, S. G., Günther, P. S., Schneider, N., Helm, C., Schwander, M., Schneider, J. A., & Pruitt, J. (2020). *COVID-19 – Aktuelle Herausforderungen in Schule und Bildung. Erste Befunde des Schul-Barometers in Deutschland, Österreich und der Schweiz*. Waxmann.
- Hunkler, C. (2014). *Ethnische Ungleichheit beim Zugang zu Ausbildungsplätzen im dualen System*. Springer
- Hurst, A. L. (2018). Classed outcomes: How class differentiates the careers of liberal arts college graduates in the US. *British Journal of Sociology of Education*, 39(8), 1075–1093. <https://doi.org/10.1080/01425692.2018.1455495>
- Huynh, H. P., & Senger, A. R. (2021). A little shot of humility: Intellectual humility predicts vaccination attitudes and intention to vaccinate against COVID-19. *Journal of Applied Social Psychology*, 51(4), 449–460. <https://doi.org/10.1111/jasp.12747>
- Im Kampe, E. O., Lehfeld, A.-S., Buda, S., Buchholz, U., & Haas, W. (2020). Surveillance of COVID-19 school outbreaks, Germany, March to August 2020. *Euro Surveillance: Bulletin Européen Sur Les Maladies Transmissibles*, 25(38), 2–7.
<https://doi.org/10.2807/1560-7917.ES.2020.25.38.2001645>

- Jaspers, J. (2011). Talking like a ‘zerolingual’: Ambiguous linguistic caricatures at an urban secondary school. *Journal of Pragmatics*, 43(5), 1264–1278.
<https://doi.org/10.1016/j.pragma.2010.05.01>
- Jørgensen, C. R., Dobson, G., & Perry, T. (2021). Migrant children with special educational needs in European schools - a review of current issues and approaches. *European Journal of Special Needs Education*, 36(3), 438–453.
<https://doi.org/10.1080/08856257.2020.1762988>
- Kaffenberger, M. (2021). Modelling the long-run learning impact of the Covid-19 learning shock: Actions to (more than) mitigate loss. *International Journal of Educational Development*, 81, 102326. <https://doi.org/10.1016/j.ijedudev.2020.102326>
- Khlaif, Z. N., Salha, S., Affouneh, S., Rashed, H., and ElKimishy, A. L. (2021). The Covid-19 epidemic: teachers’ responses to school closure in developing countries. *Technology, Pedagogy and Education*, 30(1), 95-109.
<https://doi.org/10.1080/1475939X.2020.1851752>
- Kieffer, M. J., & Thompson, K. D. (2018). Hidden progress of multilingual students on NAEP. *Educational Researcher*, 47(6), 391– 398.
<https://doi.org/10.3102/0013189X18777740>
- Kim, S. won, Cho, H., & Kim, L. Y. (2019). Socioeconomic Status and Academic Outcomes in Developing Countries: A Meta-Analysis. *Review of Educational Research*, 89(6), 875–916. <https://doi.org/10.3102/0034654319877155>
- Kim, L. E., & Asbury, K. (2020). ‘Like a rug had been pulled from under you’: The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90(4), 1062–1083.
<https://doi.org/10.1111/bjep.12381>
- Kincaid, A. P., & Sullivan, A. L. (2017). Parsing the Relations of Race and Socioeconomic Status in Special Education Disproportionality. *Remedial and Special Education*, 38(3), 159–170. <https://doi.org/10.1177/0741932516671199>
- Klapproth, F., Federkeil, L., Heinschke, F., & Jungmann, T. (2020). Teachers’ experiences of stress and their coping strategies during COVID-19 induced distance teaching. *Journal of Pedagogical Research*, 4(4), 444–452. <https://doi.org/10.33902/JPR.2020062805>
- Klieme, E. (2020). Guter Unterricht - auch und besonders unter Einschränkungen der Pandemie in D. Fickermann, & B. Edelstein (eds.), *Langsam vermisste ich die Schule... Schule während und nach der Corona Pandemie* (pp. 117 –135). Waxmann.
<https://doi.org/10.31244/ 9783830992318.07>

- Kocaj, A., Kuhl, P., Kroth, A. J., Pant, H. A., & Stanat, P. (2014). Wo lernen Kinder mit sonderpädagogischem Förderbedarf besser? *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 66(2), 165–191. <https://doi.org/10.1007/s11577-014-0253-x>
- Kocaj, A., Kuhl, P., Rjosk, C., Jansen, M., Pant, H. A., & Stanat, P. (2015). Der Zusammenhang zwischen Beschulungsart, Klassenkomposition und schulischen Kompetenzen von Kindern mit sonderpädagogischem Förderbedarf. In P. Kuhl, P. Stanat, B. Lütje-Klose, C. Gresch, H. A. Pant, & M. Prenzel (eds.), *Inklusion von Schülerinnen und Schülern mit sonderpädagogischem Förderbedarf in Schulleistungserhebungen* (pp. 335–370). Springer VS. https://doi.org/10.1007/978-3-658-06604-8_12.
- Korous, K. M., Causadias, J. M., Bradley, R. H., Luthar, S. S., & Levy, R. (2022). A Systematic Overview of Meta-Analyses on Socioeconomic Status, Cognitive Ability, and Achievement: The Need to Focus on Specific Pathways. *Psychological Reports*, 125(1), 55–97. <https://doi.org/10.1177/0033294120984127>
- Kozleski, E., Artiles, A., Fletcher, T., & Engelbrecht, P. (2007). Understanding the Dialectics of the Local and the Global in Education for All: A Comparative Study. *International Journal of Educational Policy, Research and Practice*, 8, 19–34.
- König, C., & Frey, A. (2022). The Impact of COVID-19-Related School Closures on Student Achievement—A Meta-Analysis. *Educational Measurement: Issues and Practice*, 41(1), 16–22. <https://doi.org/10.1111/emip.12495>
- Krischler, M., & Pit-ten Cate, I. M. (2019). Pre- and in-service teachers' attitudes toward students with learning difficulties and challenging behavior. *Frontiers in Psychology*, 10, 327–327. <https://doi.org/10.3389/fpsyg.2019.00327>
- Krishnaratne, S., Pfadenhauer, L. M., Coenen, M., Geffert, K., Jung-Sievers, C., Klinger, C., Kratzer, S., Littlecot, H., Movsisyan, A., Rabe, J. E., Rehfuess, E., Sell, K., Strahwald, B., Stratil, J. M., Voss, S., Wabnitz, K., & Burns, J. (2020). Measures implemented in the school setting to contain the COVID-19 pandemic: a scoping review. *Cochrane Database of Systematic Reviews*, 12(12), CD013812. <https://doi.org/10.1002/14651858.CD013812>
- Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impact of COVID-19 school closures on academic achievement. *Educational Researcher*, 49(8), 549–565. <https://doi.org/10.3102/0013189X20965918>

- Kvande, M. N., Belsky, J., & Wichstrøm, L. (2018). Selection for special education services: the role of gender and socio-economic status. *European Journal of Special Needs Education, 33*(4), 510–524. <https://doi.org/10.1080/08856257.2017.1373493>
- Lavrijsen, J., & Nicaise, I. (2015). Social inequalities in early school leaving: The role of educational institutions and the socioeconomic context. *European Education, 47*(4), 295–310. <https://doi.org/10.1080/10564934.2015.1098265>
- Le Donne, N. (2014). European variations in socioeconomic inequalities in Students' cognitive achievement: The role of educational policies. *European Sociological Review, 30*(3), 329–343. <https://doi.org/10.1093/esr/jcu040>
- Lebeer, J., Struyf, E., De Maeyer, S., Wilssens, M., Timbremont, B., Denys, A., & Vandeviere, H. (2010). Identifying special educational needs: putting a new framework for graded learning support to the test. *European Journal of Special Needs Education, 25*(4), 375–387. <https://doi.org/10.1080/08856257.2010.513542>
- Lenkeit, J., Hartmann, A., Ehlert, A., Knigge, M., & Spörer, N. (2022). Effects of special educational needs and socioeconomic status on academic achievement. Separate or confounded? *International Journal of Educational Research, 113*, 101957. <https://doi.org/10.1016/j.ijer.2022.101957>
- Lennox, J., Reuge, N., & Benavides, F. (2021). UNICEF's lessons learned from the education response to the COVID-19 crisis and reflections on the implications for education policy. *International Journal of Educational Development, 85*, 102429–102429. <https://doi.org/10.1016/j.ijedudev.2021.102429>
- Letzel, V., Pozas, M., & Schneider, C. (2020). Energetic Students, Stressed Parents, and Nervous Teachers: A Comprehensive Exploration of Inclusive Homeschooling during the COVID-19 Crisis. *Open Education Studies, 2*(1), 159–170. <https://doi.org/10.1515/edu-2020-0122>
- Letzel, V., Pozas, M., & Schneider, C. (2020). 'It's all about the attitudes!' - Introducing a scale to assess teachers' attitudes towards the practice of differentiated instruction. *International Journal of Inclusive Education, ahead-of-print*(ahead-of-print), 1–15. <https://doi.org/10.1080/13603116.2020.1862402>
- Letzel-Alt, V., Pozas, M., Schwab, S., Schneider, C., Lindner, K.-T., Dias, P., & Cadime, I. (2022). Exploring inclusive education in times of COVID-19: An international comparison of German, Austrian and Portuguese teachers. *Frontiers in Education (Lausanne), 7*. <https://doi.org/10.3389/feduc.2022.969737>

- Levels, M., Dronkers, J., & Kraaykamp, G. (2008). Immigrant Children's Educational Achievement in Western Countries: origin, destination, and community effects on mathematical performance. *American Sociological Review*, 73, 835-853.
<http://dx.doi.org/10.1177/000312240807300507>
- Lewin, K. (1931). Environmental forces in child behavior and development. In C. Murchison (ed.), *A handbook of child psychology* (pp. 94–127). Clark University Press.
- Lewin, K. (1935). *A dynamic theory of personality*. McGraw-Hill.
- Lewin, K. (1951). *Field theory in social science, selected theoretical papers*. Harper.
- Lindner, K.-T., Savolainen, H., & Schwab, S. (2021). Development of Teachers' Emotional Adjustment Performance Regarding Their Perception of Emotional Experience and Job Satisfaction During Regular School Operations, the First and the Second School Lockdown in Austria. *Frontiers in Psychology*, 12, 702606.
<https://doi.org/10.3389/fpsyg.2021.702606>
- Lindner, K.-T., Schwab, S., Emara, M., & Avramidis, E. (2023). Do teachers favor the inclusion of all students? A systematic review of primary schoolteachers' attitudes towards inclusive education. *European Journal of Special Needs Education, ahead-of-print*(ahead-of-print), 1–22. <https://doi.org/10.1080/08856257.2023.2172894>
- Liu, J., Peng, P., & Luo, L. (2020). The Relation Between Family Socioeconomic Status and Academic Achievement in China: A Meta-analysis. *Educational Psychology Review*, 32(1), 49–76. <https://doi.org/10.1007/s10648-019-09494-0>
- Liu, J., Peng, P., Zhao, B., & Luo, L. (2022). Socioeconomic Status and Academic Achievement in Primary and Secondary Education: a Meta-analytic Review. *Educational Psychology Review*, 34(4), 2867–2896.
<https://doi.org/10.1007/s10648-022-09689-y>
- Ma, Y., Hou, X., Huang, J., Wang, W., Li, Y., Zhou, X., & Du, X. (2018). Educational inequality and achievement disparity: An empirical study of migrant children in China. *Children and Youth Services Review*, 87, 145–153.
<https://doi.org/10.1016/j.chilyouth.2018.02.026>
- Mahlo, D. (2013). Theory and practice divide in the implementation of the inclusive education policy: Reflections through freire and bronfenbrenner's lenses. *Mediterranean Journal of Social Sciences*, 4(13), 163–170.
<https://doi.org/10.5901/mjss.2013.v4n13p163>
- Mayrhofer, L., Oberwimmer, K., Toferer, B., Neubacher, M., Freunberger, R., Vogtenhuber, S., & Baumegger, D. (2019). C: Prozesse des Schulsystems. In K. Oberwimmer, S.

- Vogtenhuber, L. Lassnigg, & C. Schreiner (eds.). *Nationaler Bildungsbericht Österreich 2018. Das Schulsystem im Spiegel von Daten und Indikatoren* (pp. 123 – 196). Leykam.
- McCoy, S., & Banks, J. (2017). Simply academic? Why children with special educational needs don't like school. *European Journal of Special Needs Education*, 27, 81–97. <https://doi.org/10.1080/08856257.2011.640487>
- Miyamoto, A., Seuring, J., & Kristen, C. (2020). Immigrant students' achievements in light of their educational aspirations and academic motivation. *Journal of Ethnic and Migration Studies*, 46(7), 1348–1370. <https://doi.org/10.1080/1369183X.2018.1538772>
- Moberg, S., Muta, E., Korenaga, K., Kuorelahti, M., & Savolainen, H. (2020). Struggling for inclusive education in Japan and Finland: teachers' attitudes towards inclusive education. *European Journal of Special Needs Education*, 35(1), 100-114. <https://doi.org/10.1080/08856257.2019.1615800>
- Molbaek, M. (2018). Inclusive teaching strategies – dimensions and agendas. *International Journal of Inclusive Education*, 22(10), 1048–1061. <https://doi.org/10.1080/13603116.2017.1414578>
- Möhlen, L.-K., & Prummer, S. (2023). Vulnerable Students, Inclusion, and Digital Education in the Covid-19 Pandemic: A Qualitative Case Study From Austria. *Social Inclusion*, 11(1), 102–112. <https://doi.org/10.17645/si.v11i1.5850>
- Nikula, P.-T. (2018). Socioeconomic inequalities in higher education: a meta-method analysis of twenty-first century studies in Finland and New Zealand. *Studies in Higher Education (Dorchester-on-Thames)*, 43(12), 2305–2320. <https://doi.org/10.1080/03075079.2017.1326024>
- Nilholm, C. (2021). Research about inclusive education in 2020 - How can we improve our theories in order to change practice? *European Journal of Special Needs Education*, 36(3), 358–370. <https://doi.org/10.1080/08856257.2020.1754547>
- Nilholm, & Göransson, K. (2017). What is meant by inclusion? An analysis of European and North American journal articles with high impact. *European Journal of Special Needs Education*, 32(3), 437–451. <https://doi.org/10.1080/08856257.2017.1295638>
- Nohl, A.-M. (2017). *Interview und Dokumentarische Methode: Anleitungen für die Forschungspraxis* / (5th ed. 2017.). Springer.
- Nusser, L. (2021). Learning at home during COVID-19 school closures - How do German students with and without special educational needs manage? *European Journal of*

- Special Needs Education*, 36(1), 51–64.
<https://doi.org/10.1080/08856257.2021.1872845>
- Nutsa Kobakhidze, M. (2023). In search of legitimacy: covid-19, education policy response and the emergence of 'digital compradors' in Georgia. *Globalisation, Societies and Education, ahead-of-print*(ahead-of-print), 1–17.
<https://doi.org/10.1080/14767724.2023.2191934>
- Oberwimmer, K., Zintl, R., Juen, I., & Vogtenhuber, S. (2021). Indikatoren A: Kontext des Schul- und Bildungswesens. In BMBWF (ed.), *Nationaler Bildungsbericht Österreich 2021* (pp. 158–193). BMBWF.
- O'Connor, C., & Fernandez, S. D. (2006). Race, Class, and Disproportionality: Reevaluating the Relationship between Poverty and Special Education Placement. *Educational Researcher*, 35(6), 6–11. <https://doi.org/10.3102/0013189X035006006>
- OECD (2007). *PISA 2006: Volume 2—Data*. OECD.
- OECD (2009). *PISA 2009 Assessment framework—Key competencies in reading, mathematics, and science*. OECD.
- OECD (2010). *Education at a glance 2010*. OECD.
- OECD (2012). *Equity and education in education: supporting disadvantaged students and schools*. OECD Publishing.
- OECD (2020a). *Education and COVID-19: Focusing on the Long-Term Impacts of School Closures*. OECD Publishing.
- OECD (2020b). *Teachers' Well-Being. A Framework for Data Collection and Analysis*. OECD Publishing.
- OECD (2021). *Education at a Glance 2021: OECD Indicators*. OECD Publishing.
<https://doi.org/10.1787/b35a14e5-en>.
- Olechowska, A. (2020). The Student through Bronfenbrenner's "Glasses" – Teachers' Knowledge of Students with Special Educational Needs from a Micro- and Mesosystemic Perspective. *Konteksty Pedagogiczne*, 2(15).
<https://doi.org/10.19265/kp.2020.2.15.280>
- Oliver, C., & Singal, N. (2017). Migration, disability and education: reflections from a special school in the east of England. *British Journal of Sociology of Education*, 38(8), 1217–1229. <https://doi.org/10.1080/01425692.2016.1273757>
- Page, A., Charteris, J., Anderson, J., & Boyle, C. (2021). Fostering school connectedness online for students with diverse learning needs: inclusive education in Australia during

- the COVID-19 pandemic. *European Journal of Special Needs Education*, 36(1), 142–156. doi: 10.1080/08856257.2021.1872842
- Palardy, G. J. (2015). High school socioeconomic composition and college choice: Multilevel mediation via organizational habitus, school practices, peer and staff attitudes. *School Effectiveness and School Improvement*, 26(3), 329–353.
- Parker, P. D., Jerrim, J., Schoon, I., & Marsh, H. W. (2016). A multination study of socioeconomic inequality in expectations for progression to higher education: the role of between-school tracking and ability stratification. *American Educational Research Journal*, 53(1), 6–32. <https://doi.org/10.3102/0002831215621786>
- Patoulioti, E., & Nilholm, C. (2023). What is meant by 'community' in different theoretical traditions? An analysis of influential educational research. *European Journal of Special Needs Education, ahead-of-print*(ahead-of-print), 1–15. <https://doi.org/10.1080/08856257.2023.2172892>
- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research*, 34(5), 1189–1208.
- Peetsma, T., Margaretha V., Jaap R., & Sjoerd K. (2001). Inclusion in education: Comparing pupils' development in special and regular education. *Educational Review*, 53, 125–135.
- Perreira, K. M., Harris, K. M., & Lee, D. (2006). Making it in America. *Demography*, 43(3), 511–536. <https://doi.org/10.1353/dem.2006.0026>
- Perzigian, A. B. T., & Aziz, N. (2023). *Multicultural special education for inclusive classrooms: intersectional teaching and learning*. Routledge.
- Petretto, D. R., Masala, I., & Masala, C. (2020). Special educational needs, distance learning, inclusion and COVID-19. *Education Sciences*, 10(6), 1–2. <https://doi.org/10.3390/educsci10060154>
- Petretto, D. R., Carta, S. M., Cataudella, S., Masala, I., Mascia, M. L., Penna, M. P., Piras, P., Pistis, I., & Masala, C. (2021). Some lessons learned in the use of distance learning with students with special educational needs during covid-19 outbreak. *Education Sciences*, 11(3), 108. <https://doi.org/10.3390/educsci11030108>
- Piaget, J. (1962). *Play, dreams and imitation in childhood*. Routledge and Paul.
- Pihlainen, K., Turunen, S., Melasalmi, A., & Koskela, T. (2023). Parents' competence, autonomy, and relatedness in supporting children with special educational needs in emergency remote teaching during COVID-19 lockdown. *European Journal of Special Needs Education*, 38(5), 704–716. <https://doi.org/10.1080/08856257.2022.2159280>

- Pozas, M., & Schneider, C. (2019). Shedding light into the convoluted terrain of differentiated instruction: proposal of a taxonomy of within-class differentiation in the heterogeneous classroom. *Open Educational Studies*, 1, 73–90.
<https://doi.org/10.1515/edu-2019-0005>
- Primdahl, N. L., Borsch, A. S., Verelst, A., Jervelund, S. S., Derluyn, I., & Skovdal, M. (2021). 'It's difficult to help when I am not sitting next to them': How COVID-19 school closures interrupted teachers' care for newly arrived migrant and refugee learners in Denmark. *Vulnerable Children and Youth Studies*, 16(1), 75–85.
<https://doi.org/10.1080/17450128.2020.1829228>
- Rothe, D. (2015). „Lebensbegleitendes Lernen für alle“. Chancengleichheit – Chancengerechtigkeit – Bildungsgerechtigkeit. Zur ambivalenten Produktivität einer begrifflichen Transformation. In S. Fegter, F. Kessl, A. Langer, M. Ott., D. Rothe, & D. Wrana (eds.), *Erziehungswissenschaftliche Diskursforschung. Empirische Analysen zu Bildungs- und Erziehungsverhältnissen* (pp. 363–384). Springer VS.
- Rother, P., & Buchna, J. (2020). Bildungsbenachteiligung. In P. Bollweg, J. Buchna, T. Coelen, & H.-U. Otto (eds.), *Handbuch Ganztagsbildung* (pp. 379–389). Springer.
- Ruhose, J., & Schwerdt, G. (2016). Does early educational tracking increase migrant-native achievement gaps? Differences-in-differences evidence across countries. *Economics of Education Review*, 52, 134–154. <https://doi.org/10.1016/j.econedurev.2016.02.004>
- Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers*. Fourth edition. SAGE Publications Ltd.
- Schneeweis, Nicole. 2010. Educational institutions and the integration of migrants. *Journal of Population Economics*, 24 (4), 1281–1308.
- Schneider, N., Schneider, J., Schwander, M., Huber, S. G., Günther, P. S., Helm, C., & Pruitt, J. (2020). *COVID-19 und aktuelle Herausforderungen in Schule und Bildung*. Waxmann Verlag.
- Schuelka, M. J., Johnstone, C. J., Thomas, G., & Artiles, A. J. (eds.). (2019). *The SAGE Handbook of Inclusion and Diversity in Education*. SAGE.
- Schwab, S. (2021). Inclusive and special education in Europe. In Sharma, U. (ed.). *Oxford Research Encyclopedia of Education*. Oxford University Press.
- Schwab, S., & Alnahdi, G. H. (2020). Do they practice what they preach? Factors associated with teachers' use of inclusive teaching practices among in-service teachers. *Journal of Research in Special Educational Needs*, 20, 321–330. <https://doi.org/10.1111/1471-3802.12492>

- Schwab, S., & Alnahdi, G. H. (2023). Does the same teacher's attitude fit all students? Uncovering student-specific variance of teachers' attitudes towards all of their students. *International Journal of Inclusive Education, ahead-of-print*(ahead-of-print), 1–16. <https://doi.org/10.1080/13603116.2023.2221235>
- Seda, C., & Ottacher, G. (2020). *Umfrage: Homeschooling benachteiligter Kinder. Teach for Austria*. <https://www.teachforaustria.at/story/homeschooling-benachteiligter-kinder/>
- Selvitopu, A., & Kaya, M. (2021). A Meta-Analytic Review of the Effect of Socioeconomic Status on Academic Performance. *Journal of Education (Boston, Mass.)*, 2205742110319. <https://doi.org/10.1177/00220574211031978>
- Seynhaeve, S., Deygers, B., Simon, E., & Delarue, S. (2022). Interaction in online classes during Covid-19: the experiences of newly-arrived migrant students. *Educational Research (Windsor)*, 64(3), 334–352. <https://doi.org/10.1080/00131881.2022.2090981>
- Shavit, Y., Arum, R., Gamoran, A., & Menachem, G. (2007). *Stratification in higher education: a comparative study*. Stanford University Press.
- Siddiq, F., Hatlevik, O. E., Olsen, R. V., Throndsen, I., & Scherer, R. (2016). Taking a future perspective by learning from the past – A systematic review of assessment instruments that aim to measure primary and secondary school students' ICT literacy. *Educational Research Review*, 19, 58–84. <https://doi.org/10.1016/j.edurev.2016.05.002>
- Singh, S. S., Pellech, C., Gutschik, A., Proyer, M., & O'Rourke, I. (2021). Intersectional aspects of education at the nexus of disability and forced migration: Perspectives of parents, educational experts, and school authorities in greater Vienna. *Education Sciences*, 11(8), 423. <https://doi.org/10.3390/educsci11080423>
- Sirin, S. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417–453. <https://doi.org/10.3102/00346543075003417>
- Slee, R. (2011). *The irregular school: Exclusion, schooling and inclusive education*. Routledge.
- Smyth, J., Angus, L., Down, B., & McInerney, P. (2008). *Critically Engaging Learning: Connecting to Young Lives*. Peter Lang.
- Souto-Manning, M., & Swick, K. J. (2006). Teachers' beliefs about parent and family involvement: Rethinking our family involvement paradigm. *Early Childhood Education Journal*, 34(2), 187–193. <https://doi.org/10.1007/s10643-006-0063-5>

- Spitzer, M. (2021). Open schools! Weighing the effects of viruses and lockdowns on children. *Trends in Neuroscience and Education*, 22, 100151–100151.
<https://doi.org/10.1016/j.tine.2021.100151>
- Statistik Austria (2022). *Bildungsbezogenes Erwerbskarrierenmonitoring – BibEr*.
https://www.statistik.at/fileadmin/pages/275/bibEr-Kurzbericht2022_barrierefrei.pdf
- Stein, D. S. (2020). “Keeping the promise of distance education” in Handbook of Research on Ethical Challenges in Higher Education Leadership and Administration. eds. J. Keengwe and V. Wang (Pennsylvania: IGI Global)
- Steiner, M., Leitner, A., & Pessl, G. (2020, June). *Lehren und Lernen unter Pandemie-Bedingungen Was tun, damit aus der Gesundheits- nicht auch eine Bildungskrise wird?* Institut für höhere Studien. <https://irihs.ihs.ac.at/id/eprint/5873/24/ihs-report-2021-steiner-koepping-leitner-pessl-lassnigg-lehren-und-lernen-unterpandemiebedingungen.pdf>
- Stosich, E. L. (2021). "Are We an Advisory Board or a Decision Making Entity?": Teachers' Involvement in Decision Making in Instructional Leadership Teams. *Leadership and Policy in Schools, ahead-of-print*(ahead-of-print), 1–19.
<https://doi.org/10.1080/15700763.2021.1995879>
- Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, 67, 291–301. <https://doi.org/10.1016/j.tate.2017.06.020>
- Szelei, N., Devlieger, I., Verelst, A., Spaas, C., Jervelund, S. S., Primdahl, N. L., Skovdal, M., Opaas, M., Durbeej, N., Osman, F., Soye, E., Colpin, H., De Haene L., Aalto, S., Kankaanpää, R., Peltonen, K., Andersen, A. J., Hilden P. K., Watters, C., & Derluyn, I. (2022). Migrant Students’ Sense of Belonging and the Covid-19 Pandemic: Implications for Educational Inclusion. *Social Inclusion*, 10(2), 172–184.
<https://doi.org/10.17645/si.v10i2.5106>
- Tan, E., & Barton, A. C. (2012). *Empowering science and mathematics education in urban schools*. University of Chicago Press.
- Tengler, K., Schrammel, N., & Brandhofer, G. (2020). Lernen trotz Corona. Chancen und Herausforderungen des *Distance Learnings* an österreichischen Schulen. *Medienimpulse*, 58, 37. <https://doi.org/10.21243/mi-02-20-24>
- Terhart, E. (2021). Zukunftsthemen der Schulforschung. In D. Fickermann, B. Edelstein, J. Gerick, & K. Racherbäumer (eds.), *Schule und Schulpolitik während der Corona-*

- Pandemie. Nichts gelernt?* (pp. 147–175). Waxmann.
<https://doi.org/10.25656/01:23872>
- Thies, L., & Klein, Y. (2020). *Unter Druck. Die Situation von Eltern und ihren schulpflichtigen Kindern während der Schulschließungen*. https://www.vodafone-stiftung.de/wp-content/uploads/2020/04/Vodafone-Stiftung-Deutschland_Studie_Unter_Druck.pdf
- Tometten, L., Heyder, A., & Steinmayr, R. (2021). Links between teachers' knowledge about special educational needs and students' social participation and academic achievement in mainstream classes. *Contemporary Educational Psychology*, 67, 102022.
<https://doi.org/10.1016/j.cedpsych.2021.102022>
- Topping, K. (2012). Conceptions of inclusion: Widening ideas. In C. Boyle & K. Topping, K. (Eds.), *What Works in Inclusion?* (pp. 124–130). Open University Press, McGraw-Hill Education.
- Trani, J.-F., Bakhshi, P., & Nandipati, A. (2012). 'Delivering' education; maintaining inequality. The case of children with disabilities in Afghanistan. *Cambridge Journal of Education*, 42(3), 345–365. <https://doi.org/10.1080/0305764X.2012.706259>
- UNESCO (1994). *The Salamanca Statement and Framework for Action on Special Needs Education*. UNES.
- UNESCO (2020a). *Inclusion and education: All means all*. UNESCO.
- UNESCO (2020b). *Towards Inclusion Education: Status, Trends, and Challenges: The UNESCO Salamanca Statement 25 Years On*. UNESCO.
- UNESCO. (2020c). *Global education monitoring report, 2020: Inclusion and education: all means all*. United Nations Educational, Scientific and Cultural Organization.
- Unger, J. B., Soto, D., Lee, R., Deva, S., Shanker, K., & Sood, N. (2023). COVID-19 Testing in Schools: Perspectives of School Administrators, Teachers, Parents, and Students in Southern California. *Health Promotion Practice*, 24(2), 350–359.
<https://doi.org/10.1177/15248399211066076>
- United Nations Economic Commission for Europe. (2006). *Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing*. United Nations.
- Usher, A., & Medow, J. (2010). *Global Higher Education Rankings 2010. Affordability and Accessibility in Comparative Perspective*. Higher Education Strategy Associates.

- Van de Werfhorst, H. G., & Hofstede, S. (2007). Cultural capital or relative risk aversion? Two mechanisms for educational inequality compared. *The British Journal of Sociology*, 58, 391–415.
- Van de Werfhorst, H. G., & Mijs, J. J. B. (2010). Achievement inequality and the institutional structure of educational systems: A comparative perspective. *Annual Review of Sociology*, 36(1), 407–428. <https://doi.org/10.1146/annurev.soc.012809.102538>
- Vandelannote, I., & Demanet, J. (2021). Unravelling socioeconomic school composition effects on higher education enrollment: the role of students' individual and shared feelings of futility and self-efficacy. *Social Psychology of Education*, 24(1), 169–193. <https://doi.org/10.1007/s11218-021-09608-z>
- Veas, A., Castejón, J., Miñano, P., & Gilar-Corbí, R. (2019). Relationship between parent involvement and academic achievement through metacognitive strategies: A multiple multilevel mediation analysis. *British Journal of Educational Psychology*, 89(2), 393–411. <https://doi.org/10.1111/bjep.12245>
- Vlachou, A., Eleftheriadou, D., & Metallidou, P. (2014). Do learning difficulties differentiate elementary teachers' attributional patterns for students' academic failure? A comparison between Greek regular and special education teachers. *European Journal of Special Needs Education*, 29(1), 1–15. <https://doi.org/10.1080/08856257.2013.830440>
- Vogtenhuber, S., Lassnigg, L., Stöger, D., Bönisch, M., Trenkwalder, K., & Bruneforth, M. (2016). F: Outcome – Wirkungen des Schulsystems. In M. Bruneforth, L. Lassnigg, S. Vogtenhuber, C. Schreiner, & S. Breit (eds.), *Nationaler Bildungsbericht Österreich 2015. Band 1* (pp. 207–238). Leykam.
- Volante, L., Klinger, D., Bilgili, Özge, & Siegel, M. (2017). Making Sense of the Performance (Dis)advantage for Immigrant Students Across Canada. *Canadian Journal of Education*, 40(3), 329–361.
- Volodina, A., Heppt, B., & Weinert, S. (2021). Effects of socioeconomic status and language use on academic language proficiency in children with a migration background: An evaluation using quantile regressions. *Contemporary Educational Psychology*, 65, 101973. <https://doi.org/10.1016/j.cedpsych.2021.101973>
- Volosnikova, L., Ignatjeva, S., Fedina, L., & Bruk, Z. (2022). Teacher in an Inclusive Classroom: Relationship between Attitudes towards Inclusive Education and Job Satisfaction. *Voprosy Obrazovaniya / Educational Studies Moscow*, (2), 60–87. <https://doi.org/10.17323/1814-9545-2022-2-60-87>

- World Health Organization (WHO). (2002). *Towards a Common Language for Functioning, Disability and Health. ICF*. WHO.
- WHO. (2007). *International Classification of Functioning, Disability and Health. Children and Youth Version*. WHO.
- Wilson, S. J., Lipsey, M. W., Tanner-Smith, E. E., Huang, C., & Steinka-Fry, K. (2010). PROTOCOL: Dropout Prevention and Intervention Programs: Effects on School Completion and Dropout Among School-aged Children and Youth. *Campbell Systematic Review*, 6(1), 1–35. <https://doi.org/10.1002/CL2.66>
- Withers, J. D. A., & Sik-Lanyi, C. (2021). Sustaining inclusive, quality education during COVID-19 lockdowns. *Sustainability (Basel, Switzerland)*, 13(23), 13481. <https://doi.org/10.3390/su132313481>
- Wray, E., Sharma, U., & Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teaching and Teacher Education*, 117, 103800. <https://doi.org/10.1016/j.tate.2022.103800>
- Yada, A., Tolvanen, A., Malinen, O. P., Imai-Matsumura, K., Shimada, H., Koike, R., & Savolainen, H. (2019). Teachers' self-efficacy and the sources of efficacy: A cross-cultural investigation in Japan and Finland. *Teaching and Teacher Education*, 81, 13–24. <https://doi.org/10.1016/j.tate.2019.0>
- Yakut, A. D. (2021). Educators' experiences in special education institutions during the COVID-19 outbreak. *Journal of Research in Special Educational Needs*, 21(4), 345–354. <https://doi.org/10.1111/1471-3802.12533>
- Yeager, K. H., & Morgan, J. J. (2023). Transition Perspectives of High School Students With Learning Disabilities: A Qualitative Metasynthesis. *Learning Disability Quarterly*, 46(3), 191–203. <https://doi.org/10.1177/07319487221140100>
- Yee, K. M. R. (2023). Raising the floor while lowering the ceiling: Reduced inequities in education returns in the Philippines. *International Journal of Educational Development*, 101, 102815. <https://doi.org/10.1016/j.ijedudev.2023.102815>
- Young, I. M. (1990). *Justice and the politics of difference*. Princeton University Press.
- Zeng, Y., Pang, X., Zhang, I., Medina, A., & Rozelle, S. (2014). Gender inequality education in China: a meta-regression analysis. *Contemporary Economics Policy*, 32(2), 474–491. <https://doi.org/10.1111/coep.12006>
- Zimmermann, M. (2022). Explaining gaps in educational transitions between migrant and native school leavers. *Applied Economics*, 54(15), 1759–1786. <https://doi.org/10.1080/00036846.2021.1982130>

6. Contributions

The following pages contain the contributions resulting from this dissertation. The papers are listed in the same order as they appear in the preamble, publication summary, and concluding discussion.



Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19

Flora Woltran^{1*}, Ralph Chan¹, Katharina-Theresa Lindner² and Susanne Schwab^{1,3}

¹Centre for Teacher Education, University of Vienna, Vienna, Austria, ²Department of Education, University of Vienna, Vienna, Austria, ³Research Focus Area Optentia, North-West University, Vanderbijlpark, South Africa

OPEN ACCESS

Edited by:

Charity M. Dacey,
Felician University, United States

Reviewed by:

Laura Sara Agrati,
University of Bergamo, Italy
Adrian Martin,
New Jersey City University,
United States

*Correspondence:

Flora Woltran
flora.woltran@univie.ac.at

Specialty section:

This article was submitted to
Teacher Education,
a section of the journal
Frontiers in Education

Received: 16 August 2021

Accepted: 29 November 2021

Published: 16 December 2021

Citation:

Woltran F, Chan R,
Lindner K-T and Schwab S (2021)
Austrian Elementary School Teachers'
Perception of Professional Challenges
During Emergency Distance Teaching
due to COVID-19.
Front. Educ. 6:759541.
doi: 10.3389/feduc.2021.759541

Schools around the world have transitioned to emergency distance teaching due to the COVID-19 outbreak. In particular, the first lockdown (in early 2020) came unexpectedly for all actors and stakeholders in Austria. School authorities, parents, students and, above all, teachers were faced with considerable challenges. The aim of the present study is to evaluate the perception of Austrian elementary school teachers about distance teaching during the first lockdown. Using two different qualitative data sets from the Inclusive Home Learning (INCL-LEA) study, the following research question was investigated: what are the main challenges that elementary school teachers faced in distance teaching in Austria due to COVID-19? A multimethod qualitative research was carried out to answer the research question, and the data were evaluated using the topic analysis method. The teachers identified five greatest challenges: i) a lack of personal contact with the students; ii) additional workload and more stress, iii) non-existent technical equipment; iv) a lack of digital skills; and v) an inability to offer individual support for students at risk. This study has shown that better policies are needed to avoid these problems. Such solutions not only require the purchase of digital devices, but also the development of pedagogically well-thought-out and planned curricula and the provision of opportunities to improve digital skills. Furthermore, it also showed that sustainable working conditions needed to be created to counter the long-term effects of the heavy workload on teachers. However, the difference between distance teaching in times of the pandemic and regular online teaching also needs to be considered when developing and implementing policies.

Keywords: emergency distance teaching, COVID-19, elementary schools, Austrian elementary teachers, main professional challenges

1 INTRODUCTION

The COVID-19 pandemic led to numerous challenges for nearly all social areas, including education (Huber and Helm, 2020). Because of the pandemic, the school closures in a total of 188 countries resulted in far-reaching challenges and changes for more than 1.8 billion children (OECD, 2020a). Due to the national COVID-19 regulations, elementary school teachers in Austria were forced to adapt to the circumstances and implement forms of teaching that were rarely or not at all used during regular in-person education insofar. Accordingly, elementary school teachers had to become familiar with those teaching methods that could be put into practice during distance teaching, which can be

characterized as the spatially separated transfer of knowledge and skills (Klieme, 2020). The first closing of the schools from March to May especially posed numerous difficulties for all educational staff.

1.1 Conversion to Distance Teaching

Until March 2020, the typical teaching situation at schools occurred in the form of personal encounters between students and teachers. Students were present in the classrooms and had to actively participate in order to subsequently reproduce knowledge in the context of written or oral assessments (König et al., 2020). During the global outbreak of COVID-19 in early 2020, governments asked educational institutions to shift from familiar, traditional forms of in-person instruction to distance teaching (Rogers and Sabarwal, 2020). In Austria, political actors passed on important information on further procedures only a few days before the school closures. Therefore, elementary school teachers, as well as teachers from other school levels, had very little time to adjust to the unusual situation. During the first phase of school lockdowns, teachers were allowed to exclusively repeat content that the students had already learned. Later, however, the teachers were called upon to teach new subject matter as well (Huber and Helm, 2020).

The abrupt school closures during the COVID-19 pandemic occurred at a time of rapid change in technology (König et al., 2020). This growing technical influence is reflected in all areas of life, not least in the area of education. Today, teachers in many countries around the world educate so-called “digital natives” (Prensky, 2001), for whom new technologies are considered an important part of life (Scherer et al., 2019). Accordingly, current developments suggest that several countries are starting to include digital competencies in their respective curricula (e.g., Siddiq et al., 2016; Flórez et al., 2017). The advantages of using technology in classrooms, such as facilitating learning processes (Shute and Rahimi, 2017), motivating students (Saine, 2012) or preparing youths for the digital requirements of their future career (Preston et al., 2015) have been suggested by several studies. However, the rapid transition to distance teaching has caught many schools unprepared (Helm et al., 2021). Accordingly, recent findings suggest that both technology-aware teachers as well as technology-skill-deficient teachers experienced numerous challenges due to the shift to distance teaching (Kundu and Bej, 2020; Kundu and Bej, 2021). Several studies suggest that tendencies of digitalization may have already advanced large parts of education systems and contributed to improvements in learning processes in higher grades (e.g., Lu and Law, 2012; Edmunds and Hartnett, 2014). Nevertheless, little is known about distance teaching in elementary schools (Hilli, 2018).

Staying at home for several weeks with an uncertain outlook for the future was considered a new and unfamiliar situation for all educational stakeholders (Colao et al., 2020). In order to enable learning processes during such a difficult time, teachers had to quickly find new ways of teaching and acquire or develop the necessary skills (König et al., 2020). When circumstances permitted, some teachers decided to use digital teaching methods in order to maintain learning processes (e.g., Cordes

2020; Huber et al., 2020; Schrammel et al., 2020). However, for a large number of teachers, the implementation of digital teaching formats was a major challenge, especially in the area of elementary schooling (e.g., Hilli, 2018; Kim and Asbury 2020). Accordingly, several studies show that digital forms of instruction were used much less frequently in elementary schools than in other school levels (e.g., Eickelmann and Drossel, 2020; Thies and Klein, 2020). Also, compared to teachers in higher levels, elementary school teachers more often provided students with learning material that parents could pick up at school (e.g., Eickelmann and Drossel, 2020; Schwerzmann and Frenzel 2020). One possible reason for this could be the poorer preparation for distance teaching among elementary school teachers (Eickelmann and Drossel, 2020; forsa, 2020). In addition, elementary school students often do not have the necessary level of media literacy that is required for successful distance teaching (Lorenz et al., 2020). Nevertheless, Kämpf and Winetzhammer (2020) reported that at the beginning of the pandemic, elementary school teachers in Austria also frequently used digital teaching and learning tools such as the reading app Antolin or various learning CDs. In addition, some elementary teachers indicated that adapting learning opportunities to the individual circumstances of students' families was an important issue. For this reason, elementary school teachers opted to use digital learning content voluntarily (Kämpf and Winetzhammer, 2020). After a few weeks of continued school closures all over Austria, however, numerous elementary school teachers decided to extend the use of digital learning formats. Thus, at a later stage of the pandemic and in order to stay in contact with the students in the best possible way, more and more teachers found their way to video platforms such as Zoom or Skype (Kämpf and Winetzhammer, 2020).

1.2 The Burden of Distance Teaching

The decision to become a teacher is often driven by the desire to bring about a change in the lives of young individuals (Anderson et al., 2021). Emotionality, empathy and caring for others are considered central aspects of a teachers' professional identity (Jones and Kessler, 2020). However, these qualities of the teachers' personality and work can involve some risks, since multiple studies have shown that about one-third of teachers were stressed or extremely stressed even before the pandemic (e.g., Unterbrink et al., 2007; Zurlo et al., 2013; Moy et al., 2014; Lambert et al., 2015). The lockdown of the schools and the missing contact with students made it more difficult for teachers to provide adequate support to their students as well as to deal with new types of teaching methods using digital media. It can be assumed that these two factors play an important role in the pandemic-related amplification of teacher strain (Klapproth et al., 2020). The COVID-19 pandemic also contributed to a noticeable sense of insecurity among teachers (Anderson et al., 2021). Both uncertainty about what will happen next and concern about students at risk were cited as the most common stressors in the study conducted by Kim and Asbury (2020).

Several studies suggest that teachers felt rather burdened due to the transition to distance teaching and on average experienced

a medium-to-high amount of stress during the school closures (Huber et al., 2020; Klapproth et al., 2020; Anderson et al., 2021). In addition, those teachers who spent a relatively large amount of time in distance teaching felt even more stressed (Klapproth et al., 2020). However, it became apparent that the proportion of elementary school teachers who taught digitally was rather low compared to teachers from other school levels (e.g., Huber et al., 2020; Helm et al., 2021).

Studies also show that some teachers reported a clearly noticeable increase in their workload during distance teaching as well as in psychosomatic problems (e.g., Klapproth et al., 2020; Prado-Gascó et al., 2020; Tengler et al., 2020; Anderson et al., 2021). The additional expenditure for teachers during the first school closures is also reflected in the diminishing “boundaries” between their work and private life, as reported by the teachers interviewed by Kim and Asbury (2020). This fact should not be overlooked when studying the pandemic-related increasing burden of teachers since, in addition to teaching their students remotely, some had to bear other responsibilities such as taking care of their own children or vulnerable family members (Kim and Asbury, 2020).

1.3 Personal Contact and Social Learning

Functioning teacher-student relationships are critical to the emotional well-being of teachers, especially in the area of elementary schooling (e.g., Hargreaves, 2000; Spilt et al., 2011). In the long run, disruptions in this relationship can lead to a strong psychological strain on teachers (Spilt et al., 2011). Also, the lack of contact with teachers may have grave consequences on students. Accordingly, some study results suggest that, compared to students from higher grades, elementary school students missed their teachers more often during the distance teaching (forsa, 2020; Holtgrewe et al., 2020).

Letzel et al. (2020) reported that a number of teachers stated that they were missing their students during the school lockdown and overall suffered greatly from the lack of contact with the learners. In addition, the results of the study by Anderson et al. (2021) show that, during the period of distance teaching, the teachers interviewed named the missing connection to their students as their main stress factor. During this period, teachers had to stay in close contact with their students in order to maintain students' motivation and follow their learning processes (König et al., 2020). Considering the pandemic-related circumstances and the resulting distance teaching, it becomes apparent that social learning processes in which teachers and students work together on learning tasks were only possible to a limited extent.

Because of the school closures, communication between elementary school teachers and students took place primarily through the parents (Huber et al., 2020; Ferguson et al., 2021; Kundu and Bej, 2021). In some cases, this form of alternative communication led to considerable difficulties. Thus, the teachers' challenge of reaching a large number of students and their associated concern about the interrupted relationships has been outlined in several studies (e.g., Huber et al., 2020; Kim and Asbury, 2020; Porsch and Porsch, 2020). According to Schwab and Lindner (2020b), the teachers

interviewed stated that, on average, they could not reach 9.6% of the students at all.

In addition, numerous teachers reported on the importance of parental support in terms of effective distance teaching (Huber et al., 2020; Moss et al., 2020; Kundu and Bej, 2021). Some teachers and school administrators even criticized the parents' lack of digital knowledge, responsibility and support, which further exacerbated the problem of maintaining contact with the students (Huber et al., 2020; Kundu and Bej, 2021). As such, several research works show that teachers found it difficult to establish contact due to the lack of digital skills on the student side (e.g., Stenman and Pettersson, 2020).

Overall, it can be assumed that, following school closure, the educational relationship between students and teachers has been interrupted or at least weakened to a certain extent (Colao et al., 2020), which is otherwise one of the most important sources of enjoyment for teachers (Hargreaves, 2000).

1.4 Teachers' Digital Equipment and Skills

Under normal conditions, teachers must be flexible and imaginative when it comes to the preparation and selection of learning content (Klieme, 2020). Some learning formats that are usually used in in-person teaching were no longer possible due to the new and unfamiliar circumstances of distance teaching. Mixed forms of in-person and distance teaching, such as the use of self-produced explanatory videos for independent familiarization with new learning content, soon became increasingly important (Klieme, 2020). As more evidence of the many possibilities of digital teaching became available (e.g., Saine, 2012; Preston et al., 2015; Chauhan, 2017; Shute and Rahimi, 2017), elementary school teachers had to become familiar with these teaching techniques and learning methods. However, the use of digital teaching methods was often contraindicated in elementary schools since there was a risk of overtaxing the students (e.g., Huber et al., 2020). Also, young students often did not have technical devices or digital skills required to participate in distance learning (e.g., Helm et al., 2021; Kundu and Bej, 2021).

Digitalization in schools gained significant prominence within the past years (König et al., 2020), but it has experienced a particularly clear upturn as a result of the COVID-19 crisis. During the period of the school closures in early 2020, teachers had to be provided with the appropriate technical equipment such as computers, laptops or cell phones in order to maintain a good quality of distance teaching (Tengler et al., 2020; Wu, 2021). Furthermore, it was considered advantageous if both the teachers and the learners had previous knowledge in the use of information and communication technologies (e.g., Bozkurt et al., 2020; Stenman and Pettersson, 2020; Tengler et al., 2020). As such, this development may have been especially challenging for those teachers who have been using traditional pedagogical tools. However, several studies indicate that even young teachers who are considered “digital natives” (Prensky, 2001) often do not possess extensive digital skills (König et al., 2020; Kundu and Bej, 2020; Kundu and Bej, 2021). In accordance with this assumption, numerous findings show that only a small number of teachers had prior knowledge in

digital education (e.g., Tengler et al., 2020; Helm et al., 2021; Wu, 2021).

A recent meta study by Helm et al. (2021), which took into account the results of 97 online surveys with a total of 255,955 participants (students, parents, teachers and school staff) conducted between March 2020 and November 2020, confirms that more than half of the teachers were unprepared or poorly prepared for homeschooling. The findings of the study by Klapproth et al. (2020) suggest that some teachers faced technological problems and therefore had great difficulty in ensuring the smooth operation of distance teaching. The great need for training in the use of digital teaching methods was also reflected in the study by Kundu and Bej (2021).

With regard to the technical equipment, the findings of Schober et al. (2020); see also Huber and Helm, 2020; Huber et al., 2020) show that the resources varied widely both at schools and in the teachers' homes. For example, Switzerland had significantly more and Germany significantly fewer technical resources than Austria. Moreover, governments were not prepared to provide resources for digital forms of teaching at the elementary school level (Helm et al., 2021). Many teachers criticized the fact that there was hardly any technical equipment at the schools and that using private devices was the only way to continue the lessons. Also, Klapproth et al. (2020) concluded that the lack of adequate hardware was considered one of the major obstacles faced by teachers during distance teaching. The findings of the study by Kundu and Bej (2020) suggest that technical difficulties, such as the sudden interruption of internet connection, often further aggravated the already challenging situation for teachers. Overall, the missing resources, time and support played a limiting role in the use of digital teaching and learning methods (Klapproth et al., 2020).

1.5 Aspects of Educational Policy

The school closures posed a major challenge for all actors and stakeholders in the field of education. Therefore, it was considered an important task of the political actors to provide school employees with all necessary information. However, as already mentioned, the insecurity regarding the state of affairs was considered a strong burden for teachers (Anderson et al., 2021). Teachers' lack of knowledge about what needs to be done and how distance learning will be implemented in the upcoming weeks and months was particularly addressed by Huber et al. (2020). Although the majority of the school staff felt that the guidelines passed on by the school authorities were helpful, around 34% stated that they had received too little information about further steps of action. Also, the results of the study by Kim and Asbury (2020) indicate that, shortly after the first school closures, the teachers interviewed felt strongly overwhelmed by the uncertainty of their situation. The teachers reported a lack of clear communication of important information from political leaders. The respondents expressed criticism on the non-involvement of teachers in school-related decisions during the pandemic (Kim and Asbury, 2020).

In conclusion, it appears that the vast majority of the teachers surveyed in the above-mentioned studies rated the communication of educational policy measures as poor.

Therefore, much more government consultation and communication is desirable in order to eliminate uncertainties on the part of education institutions (Kim and Asbury, 2020). Since school closures can have negative long-term consequences, it is of the utmost importance that governments understand the problems faced by students, parents and, especially, teachers and principals. This knowledge will help to develop, if necessary, adapt and implement policies. In an OECD (2020b), the authors made recommendations on how teachers can be involved and supported in such situations. Most importantly, it was recommended that schools quickly adapt their teaching methods to distance teaching conditions. This would thus allow teachers to teach online when schools are closed. In France, for example, a network of local digital education advisors has been mobilized to help teachers transition from face-to-face to distance teaching. The network for digital education also offered school administrators online training courses on how to find and use available digital resources to practice. However, this could only succeed because all actors and stakeholders worked together (Vincent-Lancrin, 2020). Other countries such as the United Kingdom have made efforts to complement school resources and teacher efforts by providing high-quality online classes. In addition, in collaboration with teachers and education experts, they have adapted television programming to support home-schooled students (Van Lieshout, 2020).

2 THE PRESENT STUDY

To capture the teachers' perceptions of the pandemic-related challenges and to derive possible consequences for future educational policy and practice, a multi-method research in the sense of a combination of two qualitative data sets was carried out. Thus, the aim of this paper is to reveal the main challenges of distance teaching for elementary school teachers, who took part in the Inclusive Home Learning (INCL-LEA) project by Schwab and Lindner (2020a). The INCL-LEA study was conducted to learn from the experiences of teachers for future practice and to convert them into practical knowledge that can be implemented in school teaching in Austria. The following article tries to investigate the following research question:

- What main challenges did elementary school teachers in Austria perceive in the context of distance teaching due to COVID-19 during the first national school lockdown?

3 INCL-LEA PROJECT DESCRIPTION

In order to be able to deal with the research interest regarding the perceptions of Austrian elementary school teachers regarding their professional challenges due to distance learning, two different qualitative data sets from the INCL-LEA project were analyzed. The INCL-LEA study (see Schwab et al., 2020) was conducted to identify the effects of emergency school lockdowns in Austria. Besides teaching practices during distance teaching,

TABLE 1 | Characteristics of the interviewed teachers.

	Gender	School affiliation	Age	Teaching experience (years)
Teacher 1	Female	Regular school	49	27
Teacher 2	Male	Regular school (public)	49	4
Teacher 3	Male	Special needs school (public)	47	25
Teacher 4	Female	Regular school (public)	50	25
Teacher 5	Female	Regular school (public)	24	2
Teacher 6	Female	Regular school (public)	27	4
Teacher 7	Female	Regular school (private)	32	5
Teacher 8	Female	Special needs school	25	2

teachers', students' and parents' perceptions were assessed to get deeper insights into stakeholders' individual experience. The INCL-LEA project was developed following a mixed-method design that contains both quantitative and qualitative data collection procedures.

The data collection processes in the context of the INCL-LEA project included a quantitative online survey which 3,467 teachers from all over Austria took part in during the first school lockdown in Austria (April/May 2020) using LimeSurvey. The link to participate was distributed to school principals all over Austria via email. Further, 56 teachers were canvassed by applying the snowball method and interviewed during the same period. The interviews were conducted via Zoom and have been video-taped. The interviews lasted around 45–60 min and were transcribed.

3.1 Sample Description

In the study, only data from elementary school teachers were taken into account. Within the main quantitative sample of 3,467 Austrian teachers, 1,354 teachers worked in primary schools. Of these, only data from 803 teachers were included in the analysis, as this subsample answered all four open questions relevant to the present study. Most of the participants in the online study was female (92.7%). The average age of teachers was 44 years ($M = 43.92$; $SD = 11.17$), ranging from 22 to 64. The participating teachers had an average teaching experience of around 19 years ($M = 19.07$; $SD = 11.98$).

Of the 56, 12 interviews have been used for the analysis as these teachers are currently working within elementary education. Furthermore, for a better overview of the interviewed elementary school teachers who were included in the analysis, a table has been listed below with their most important characteristics, such as gender, if they work at a regular or special needs school, if they work at a private or public school and how long they have been teaching. Only the first eight interviewees (Teacher 1–8) listed in **Table 1** are relevant to this present study.

4 METHODS AND DATA

4.1 Online Survey

In the course of the INCL-LEA study, teachers filled out an online questionnaire including both quantitative and qualitative (open-ended) questions. Considering that the COVID-19 pandemic at this point was relatively new (first COVID-19 case in Austria was

reported on February 25, 2020; see, e.g., Kreidl et al., 2020; the data collection started at the beginning of April 2020), this paper focuses on the teachers' subjectively answered open-ended questions in order to gain actual insight into the experience of the pedagogical professional and to open up the newly oriented phenomenon of homeschooling due to COVID-19. The teachers' perception of distance learning was measured using the following four (open-ended) questions:

1. What are the advantages and challenges of the current transition to home teaching?
2. What do you see as specific advantages as well as challenges for at-risk students (e.g., students with special needs, low-performing students, ...) during home schooling?
3. What specific measures would be necessary to facilitate your work (especially at-risk students) during home teaching?
4. What else would you like to tell us?

These questions were at the end of a longer quantitative survey, including sociodemographic information and rating scales. In principle, answering these questions was voluntary and could be skipped in the course of answering the online questionnaire. To answer the research question, all four open-ended questions of the online questionnaire were considered, since it can be assumed that both implicit and explicit expressions regarding the professional challenges of teachers can be found within teachers' answers regarding all four open questions.

4.2 Interviews

The semi-structured interviews were carried out in collaboration with the SCHELLE study conducted at the University of Trier by Letzel et al. (2020). In the semi-structured interview, the interviewees were asked about three major topics: (a) homeschooling in general, (b) differentiation measures in homeschooling, and (c) evaluation and review of school performance.

In the first block of questions regarding *homeschooling in general*, among other things, the teachers were asked what experiences they had had with home schooling insofar (i.e., how the contact was with students, parents; what everyday school life in homeschooling looks like). They were also explicitly asked how the switch to digital teaching went and whether they had prior experience with using digital instruments for teaching, such as while studying. In the second block of questions regarding *differentiation measures in homeschooling*,

TABLE 2 | Categories qualitative dataset I.**Challenges for elementary school teachers**

Superordinate categories	Sub-Categories
Teaching during distance education	Instructional design Contact/communication with students Rapid changeover Assessment/feedback Finding teaching material No substitute for regular instruction Checking learning processes Transfer of knowledge
Technical equipment	Missing hardware but also lack of skills
Contact/support/communication parents/guardians	Lack of knowledge
Additional workload	Double burden work/private life Constant accessibility
Digital skills	Lack of skills (i.e., was not taught during studies)
At-risk students	Contact/accessibility Individual support Motivation Finding teaching material Checking learning processes Transfer of knowledge
Educational policy	

the interviewees reported on whether differentiation measures in homeschooling were possible. If it was possible, they were asked what form it took place in. In the last block of questions regarding *evaluation and review of school performance*, the teachers were asked how they control assignments and further tasks, assess them and give feedback. They were also invited to reflect on how they respond to the needs of students at risk (i.e., students with special educational needs or from socially disadvantaged families or with a lack of language skills).

4.3 Data Analysis

4.3.1 Analysis of Qualitative Dataset I

The teachers' responses to the four open-ended questions that were part of the quantitative survey of the INCL-LEA study (see **Section 4.1**) were analyzed using the MAXQDA software. In order to systematize the teachers' perceptions and to enable a comparison of code frequencies, the data were coded using a multi-level process. In a first step, an overview-like examination of the entire data was carried out. Subsequently, initial categories were formed in order to summarize key statements of individual teachers under specific terms. The subordinate category *challenges for elementary school teachers* as well as the categories *teaching during distance education*, *technical equipment*, *contact/support/communication parents/guardians*, *additional workload*, *digital skills*, *at-risk students* and *education policy* were created. In order to further specify the already defined categories, subcategories were formed in a next step, which in turn can be examined according to further subordinate categories (Froschauer and Lueger, 2003). Under category *teaching during distance education*, the categories *instructional design*, *contact/communication with students*, *rapid changeover*, *assessment/feedback*, *finding teaching material*, *no substitute for regular instruction*, *checking learning processes* and *transfer of knowledge* were developed. With regard

to category *additional workload* the subcategories *double burden work/private life* and *constant accessibility* were formed. Finally, the following subcategories were added to category *at-risk students*: *contact/accessibility*, *individual support*, *motivation*, *finding teaching material*, *checking learning processes* and *transfer of knowledge*. After a second pass of open coding, those categories most frequently mentioned by the teachers surveyed were determined and structured according to their relative importance for the research question (Froschauer and Lueger, 2003). **Table 2** is a tabulation of the categories formed in the course of analyzing the qualitative data from the online survey.

4.3.2 Analysis of Qualitative Dataset II

The qualitative data from the interviews was also analyzed using a multi-level process and with the analysis software MAXQDA. In the INCL-LEA study, 56 qualitative interviews were conducted with teachers. First, these 56 interview transcripts were read through and evaluated using the topic analysis (Froschauer and Lueger, 2003), which resulted in a categorization. Second, in order to get an overview, the following categories were developed, which are based and adapted to the questions of the interview guide: *consideration of private circumstances and life situations of the students*, *perception of the students and parents regarding distance teaching*, *communication and interaction with students and parents*, *preparation time and extra work of teachers*, *general attitude and everyday life in homeschooling*, *first reaction of teachers when government declared lockdown*, *digital instruments taught in university and used in class*, *if teacher teaches in elementary school*. Third, the interviews were then assigned to these categories. In the further course of the analysis and categorization, the following selection of the twelve interviews resulted, which appeared suitable for a detailed and thoroughly analysis. For this paper, only eight

interviews (see **Section 4.2**) were evaluated in more detail and assigned to specific sub-categories in the joint analysis.

4.3.3 Synthesis of the Two Qualitative Datasets

The synthesis of the two qualitative data sets was carried out taking into account the triangulation of qualitative data sources formulated by Patton (1999). This research method can be characterized as a multimethod qualitative approach since it uses multiple forms of qualitative data. According to the author, this enables a comparison of the consistency of information obtained with different approaches in the context of qualitative methods. Therefore, an analysis of different teacher perspectives was conducted by comparing the information derived from the online survey with the information provided by those teachers who participated in the semi-structured interviews. The aim of triangulating two qualitative datasets is not to ensure a uniform result, but rather to uncover disparities and commonalities between different perspectives (Patton, 1999).

After the initial observation and individual analysis of the two data sets, a summary of the results and categories was created. In order to obtain similar results in the two qualitative data sets, the same categories that have been observed in both data sets were selected as main categories at the beginning of the joint analysis. Only those categories that were deemed relevant process were used for an in-depth analysis. Selected qualitative data were then analyzed in more detail and sub-categories were developed. The evaluation of both qualitative datasets (open answers to the online survey and guided interviews) was carried out using a topic analysis (Froschauer and Lueger, 2003). This evaluation method enables researchers to get an overview of the topics, core statements and the context of the research from a large amount of data. By reducing the text to the central questions, its dimensions and arguments can be analyzed and interpreted on a manifest level. This method is best suited for this sub-study, as the topic analysis in the narrower sense of qualitative research does not require exact transcriptions, since only the manifest content of what is said is conveyed.

In order not to influence the respective analysis process, the integration of the two qualitative datasets took place only in the course of the interpretation phase. As a result of the joint topic analysis, the authors created a system of categories ("topics") in which they assigned both the short statements (online-survey) and the interview quotes. The following paragraph presents the corresponding categories that the researchers found as common categories in both analyses and that are related to the most recent literature review. For a better overview, the results of the online survey are presented first and then supported by quotes from the semi-structured interviews. The original quotes are in German, but they have been translated by the authors of this present article.

5 RESULTS

Based on the results of both qualitative data, the following five main categories will be elaborated upon: 1) *Personal contact with students*; 2) *workload and stress*; 3) *technical equipment*; 4) *digital skills*; and 5) *individual support for at-risk students*.

Regarding the number of coded text passages of the online survey, it appears that statements relating to *category 1* were by far named the most frequently ($n = 115$). Teachers also clearly expressed themselves with reference to those aspects that play a decisive role in *category 2* ($n = 108$). In addition, a large number of the teachers reported a lack of technical equipment ($n = 87$) as well as difficulties with digital skills ($n = 43$), in accordance with *categories 3* and *4*, respectively. Finally, some teachers ($n = 26$) said they faced difficulty in providing individual support to at-risk students, as per *category 5*.

The following section contains a detailed description of each of the main categories. Some answers from the online survey have been included, which are then supported with quotes from interviewed teachers in order to illustrate the selected topics.

5.1 Personal Contact With Students

Teachers stated that they had lost some of the most important elements of regular teaching due to the school closures, namely personal contact and direct interaction with students. The teachers pointed out that these relationships, which are a key element in elementary school, could only be experienced to a small extent during emergency distance teaching.

"I love my job – I really do – but the personal contact with the kids, the social learning, I see that as my calling." (participant 164, female elementary school teacher, age: 41, teaching experience: 16 years)

Also, teachers reported that they suffered greatly from the lack of access to many students. Maintaining contact with students through their parents, which was the only form of communication for many teachers, was perceived as very stressful. In addition, teachers said that not knowing how their students were really feeling and whether they had difficulties with schoolwork made them worried. Therefore, the impossibility of responding to students' questions or problems immediately and without delay was named as a great difficulty.

"I miss the personal, daily contact with the children. There is no substitute for the feedback and reactions of the children in order to be able to respond to their needs immediately." (participant 394, female elementary school teacher, age: 47, teaching experience: 17 years)

Several teachers even stated that some of their students could not be reached despite numerous attempts to establish contact, and towards whom teachers expressed great concern about maintaining their relationship.

Similar concerns were voiced by several other teachers interviewed, of which only a few quotes are shown below. For example, **teacher 1** in her 50s, who has taught for almost 30 years, described the situation as quite difficult. For her, the most pressing difficulty is the lack of immediate response and individual interaction with her students.

"So really difficult, (...) this distance between us and the children. This doesn't normally happen in class with

elementary school children. You get a lot through the interaction, and so everything is delayed now. Of course, I offer that they can get in touch if they have any questions and so on, but that doesn't work so well. So, while it works during these online classes, with the whole class or part of the class, you can of course also do it in groups, and the children can respond, but it just stops after that. It's just a lot more difficult to get immediate feedback and to react quickly. Because the children want to know something at that very moment, and they are unable to reach me, of course they ask their parents first. This makes it more difficult."

Another teacher – named **teacher 2** here – perceived similar obstacles over the course of the lockdown. In contrast to Teacher 1, he was relatively new to the profession (started teaching 4 years ago) but has had similar feelings. The most difficult thing about the whole situation for him was the lack of contact, especially with at-risk students such as those from a migration background. In his opinion, distance teaching was a particularly negative experience for such students.

"In terms of my job, I don't like the situation at all. Well, elementary school teachers and homeschooling don't go together at all and that's where I need to make direct contact. I need the children in front of me and that's a very bad thing because online classes only work well with students from privileged backgrounds, albeit with exceptions, than students from socially vulnerable settings with a migration background. This is the biggest problem. So basically, I don't like it at all. Let me put it this way, I would forego this gained 'free time' if I could go to school normally and I'm glad that it will start again soon."

5.2 Workload and Stress

A large number of elementary school teachers reported a significant increase in their workload over the course of the school closings and the resulting emergency distance learning. Teachers stated that this increased workload was accompanied by an unprecedented mixture of work and living spaces. In particular, teachers who are also parents reported a double burden, as they had to live up to their role as committed teachers on the one hand and meet their parental responsibilities on the other.

"I am a single mom of a six-year-old child. I work for the school and take care of my child at the same time (also having to work on preschool tasks set by the KIGA for her child every day); this was a big challenge." (participant 164, female elementary school teacher, age: 41, teaching experience: 16 years)

"The double burden of taking care of my own children's homeschooling and taking care of my own class is very heavy one. Altogether, I experience it as very stressful!" (participant 163, female elementary school teacher, age: 37, teaching experience: 3 years)

In addition, many teachers stated that they had worked significantly more hours than before they began distance teaching. Some teachers even reported a 50–80-h work week.

"In the beginning, my work week was about 50 h. I also slept very poorly." (participant 503, female elementary school teacher, age: 50, teaching experience: 28 years)

In view of the extensive overtime and despite the difficult circumstances, the majority of the teachers made tireless efforts in order to ensure subject matter was as interesting and multifaceted as possible. The search for suitable teaching methods led to working hours that took on previously unimagined dimensions. The preparation for class, feedback for the students and the correction of completed tasks took a long time, as it was usually not possible for teachers to respond directly to student questions or to clear their doubts.

One of the few male elementary school teachers interviewed – **teacher 3** – said that he was particularly aware of the intertwining of private life and leisure time. Both students and teachers lost track of time due to the lockdown. Free time gave way to work, both becoming somehow connected and interwoven. This, in turn, led students to think the teachers were always available.

"I noticed that this leisure-work thing is extremely intertwined. That it is even less demarcated than it was before. Or it's well delimited otherwise! There is certainly less hourly intensity, but because of the delimitation, there are no boundaries. Class runs throughout the whole day. And the reaction of my own children was very interesting, "Can't you finally put your cell phone down, or can't you finally turn off this computer!" because they had the feeling that my attention was not with them. (...) And why do I have to keep checking my cell phone? And I tried to explain that this is my job that I am doing now. And that when my cell phone rings, I am not texting back and forth with a friend, but that it's part of my job. I then just showed it to them. But it is precisely in this dual role of a parent and a teacher that everything has run into one another and merged now. From early in the morning to late at night, somehow. That's for sure – even if I say that the bottom line is that the hourly workload is definitely less, it's also a way of saying it's exhausting. This [is] permanent. Yes, and then having your own children sit at home and feeling that they should be looked after, the students should be looked after, new learning material should be created, and feedback should be given. This-everything gets mixed up, which makes it tedious."

Teacher 4 had the same experience. She reported that, in her everyday life, being constantly available to the students all the time was exhausting in the long run.

"Well, I was always ready for the concerns of the children and parents. It starts at 6 a.m. with the first messages and ends around 11 p.m. every day. I must be

constantly ready in addition to producing teaching materials and paying attention to students because a lot of personal things must simply be delivered continuously as everyone simply expects an immediate reaction. This is not only with the parents, but also the children, because most of them have cell phones or are allowed to use their parents' cell phones, and the children long to get in touch. It's extremely delightful, but not sustainable in the long run. It's very exhausting."

5.3 Technical Equipment

A large number of teachers reported the dearth of electronic devices. On the one hand, the lack of equipment in the schools was considered a major difficulty. For example, one teacher said that only three laptops were available for a total of 18 teachers in the school.

"In elementary school, we are faced with the problem that the school is very poorly equipped in terms of IT. We have three computers for a staff of 18 teachers." (participant 1,127, female elementary school teacher, age: 59, teaching experience: 38 years)

On the other hand, teachers also stated that they had to purchase network devices because the school authorities did not provide them with any equipment. Many teachers assumed that their own acquisition of technical devices, which was considered a prerequisite for functional distance teaching, was taken for granted.

"We constantly provide ourselves with private terminals and internet connections free of charge." (participant 5,027, female elementary school teacher, age: 54, teaching experience: 38 years)

"The main challenge is the lack of digital equipment not only for students, but especially for teachers at the elementary level. All the teachers I know work from home with their private laptops and private smartphones." (participant 2,334, female elementary school teacher, age: 42, teaching experience: 23 years)

Thus, some elementary school teachers have had to raise funds to put digital teaching methods into practice. As a result, many teachers felt abandoned because the school authorities did not provide them with the appropriate technical equipment in good time.

Interestingly, in contrast to the open questions of the online survey, no indications were given in the qualitative partial study that the teachers had to purchase technical devices themselves.

5.4 Digital Skills

In addition to optimum technical requirements, digital knowledge was considered an important prerequisite for the

successful implementation of distance teaching practices. In particular, the lack of support in setting up and acquiring the tools for digital teaching turned out to be a major obstacle for teachers. Some teachers reported that, due to the rapid transition to distance teaching and the lack of preparation, they had no knowledge of implementing virtual teaching methods. Moreover, several teachers claimed that the transition to distance teaching was especially challenging for their older colleagues as they generally have less experience with new technologies.

"There was no time to adjust to it and learn how to deal with it, which was especially harder on my older colleagues." (participant 3,857, female elementary school teacher, age: 54, teaching experience: 24 years)

Many teachers stated that they had dealt intensively with digital forms of teaching during the school closures in order to be able to virtually deliver teaching content. Although most teachers had no difficulties with common communication tools such as e-mail, some were concerned about the correct use of other internet technologies such as video conferencing. Furthermore, several teachers reported that they had never dealt with digital teaching formats before.

"The challenge is that many teachers (I'm one of them) don't have the special knowledge (of computers) and thus can't handle them that well. This stresses me out. Every week during video conferences, we hear "What else we are supposed to do and offer?" I don't even understand the basics." (participant 3,374, female elementary school teacher, age: 49, teaching experience: 27 years)

Overall, some teachers did not feel well prepared for distance teaching. Teachers stated that digital forms of instruction in elementary schools are hardly used or not used at all under normal conditions. The associated lack of experience and knowledge, according to the teachers, was the main reason that significant difficulties arose during distance learning. When asked whether teachers were prepared to use digital instruments in their studies, **teacher 5** said that she neither encountered nor used them before. It wasn't long ago that she graduated as she only has 2 years of work experience.

"You can forget that, not at all. In no way. I mean, I have to say that, theoretically, we would have to visit this digital learning advanced training course. I haven't done that yet; I haven't gotten around to it yet. That didn't work out. If I had tried that, it might have made a little more sense, but basically, digital media, digital education was actually never an issue. Rather, teachers would say "By the way, you can do this and you could that" and there would be possibilities to change, but no. I don't think anyone expected something like this to be necessary 1 day. Which is actually questionable because anything can always happen."

Teacher 6, who also has little work experience, experienced the situation in a similar way to Teacher 5. She was overwhelmed by the whole situation and the transition, as she did not deal with digitization in education, i.e., the use of digital instruments, during her studies.

“Actually, I wasn’t prepared for this. I don’t know, it wasn’t that long ago for me now. I’ve been a teacher for 4 years and I was in afternoon care for 1 year. That means I just graduated 5 years ago and it wasn’t really that much of an issue at that point. I can imagine that it is already a bit more of an issue in the curriculum, but nobody could have expected it to become so important 1 day. The value of digitalization has only come about in the last two to 3 years; this has now become even more important in the school sector. That’s why I understand why I wasn’t prepared because it wasn’t that much of a topic until now, and especially in elementary schools. I think this was more of a topic in the changing middle school field. At the elementary school level, schools had dealt with it on a voluntary basis; but so far, it wasn’t really mandatory.”

5.5 Individual Support of At-Risk Students

Another key challenge for teachers was dealing with at-risk students (e.g., those with special educational needs, with autism spectrum disorder, of vulnerable socioeconomic status, with poor knowledge of German) during the school lockdowns. Most often the teachers mentioned facing obstacles in offering individualized distance learning to these students.

“Supporting children with learning difficulties is a challenge.” (participant 2,763, female elementary school teacher, age: 38, teaching experience: 17 years)

In addition, the teachers stated that it takes tremendous effort to motivate students at risk to undertake learning tasks. These children often do not receive the necessary support at home that they need to cope with the learning tasks.

“It takes a great deal of personal effort to motivate at-risk students.” (participant 4,710, female elementary school teacher, age: 61, teaching experience: 38 years)

From the teachers’ point of view, giving increased support to pupils at risk turned out to be extremely time-consuming. It took a lot of dedication from the teachers to ensure that these students didn’t fall behind.

Teacher 7, who works at a private school, mentioned that she became more aware of social divides in her class while distance teaching, especially with regard to at-risk students.

“Because now you just notice (...) this social injustice even more. There are children who live in a sheltered home with five cell phones and three tablets and two laptops. They can choose what they want to use today.

And they have parents who explain the tasks to them and siblings who practice with them. And everything is very idyllic, at least on the outside. Certainly, there will be difficulties too, but it’s just a lot easier for them. And then there are children who may have a cell phone and use it, which they must share with their siblings who are also homeschooled, who have no parents, who have to take care of themselves, who have to motivate themselves. So, you notice that very much. Nobody is lost at school or in my class, but you can tell that a lot of children are physically there, but their attention is absent.”

Teacher 8 has had the same experience. In contrast to the other teachers interviewed, she works as a team teacher at a school that teaches children with special educational needs. Teacher 8 said that distance teaching also affected parents, who not only looked after their children but also had to teach them.

“We regularly hear from the parents that it is difficult to get them [their kids] to do something. Wherever we [as teachers] can only say yes, it is actually very, very difficult because that is also difficult for the children in the situation. They don’t know what’s going on either, because normally, they associate being at home with vacations. They have trouble understanding why there is such pressure and such a structural sequence all of a sudden. (...) Now that means, okay, then he didn’t have to do anything for school from 8 to 11 in the morning for school. It’s okay if you offer the children to split it up their time. As always, this is also reflected in their behavior, because everything that is done under pressure and coercion will not get the children any further. (...) [They must be told that this] is an exceptional situation, and you can learn differently this time.”

6 DISCUSSION

During the COVID-19 pandemic, plenty of research have been conducted and already been published (e.g., recent literature overview by Helm et al., 2021). However, within the strict timeline, limited possibilities for preparing studies were available. Further, many published studies have a rather descriptive character and present rather superficial outcomes. Moreover, mixed-method approaches are missing and impede efforts to gain a deeper understanding of the situation. Therefore, the current paper aimed to combine data from a large nationwide online survey as well as data from interviews. The content focus was on elementary teachers’ experience and perceptions towards emergency distance teaching during the first school lockdown due to the spread of COVID-19 in Austria.

The findings revealed that most participating elementary school teachers identified the missing face-to-face contact and direct exchange with students as a significant challenge. This is an

interesting result as previous research focused more on the importance of social contact among peers and less on the lack of contact between teachers and their students. In this context, the dependency of students on their teachers was still dealt with, rather than the other way round – the effects of COVID-19 on the social connection teachers feel with their students. Against this background, several studies pointed out the effects of teacher feedback on students (see, e.g., the meta-analysis of Wisniewski et al., 2020) and hardly observed the other side – teachers also seeking exchanges with their students. The result, however, is in line with a current trend in education: there was a shift from solely focusing on learning outcomes as an indicator of high-quality education to including aspects such as personal wellbeing (of students and teachers) and building social communities that provide a sense of social belonging. For instance, within the OECD Learning Framework 2030 (OECD, 2018), aspects such as attitudes and values are considered important for future education. Further, especially in situations of crisis, it is crucial to take social and emotional needs into account. Therefore, teachers may have viewed missing student contact as challenging having realized that they are unable to address students' individual needs in a sufficient manner. On the other hand, they may have also become aware that face-to-face contact is also a significant need for themselves and not solely for their students.

In line with several other studies all over the world (Kaden, 2020; Klapproth et al., 2020; Prado-Gascó et al., 2020; Tengler et al., 2020; Walker et al., 2020; Anderson et al., 2021), the current study pointed out that the unexpected and unplanned transition from regular teaching to distance teaching resulted in a significant increase in workload. On the one hand, teachers struggled with the challenges of the unexpected work-life balance (e.g., missing workspaces, missing equipment, childcare responsibilities for their own children also at home due to the closure of their schools). On the other hand, their job requirements changed dramatically.

Concerning the long-term effects of the high workload of teachers, programs focusing on the prevention of and intervention in stress factors and burnout have gained even more importance within the educational sector. Even before the spread of COVID-19 (which is still ongoing and still requires flexibility and higher engagement in teachers) and the associated changes and measures, there was a high burnout rate (Spenger et al., 2019) within this occupational group. Over the course of the pandemic, it has already been shown that parameters such as teacher job satisfaction decreased significantly while negative emotional experiences increased (see, e.g., Letzel et al., 2020). As such, appropriate measures are needed – independent of COVID-19 or other emergency situations – that prevent individual crises in teachers such as professional dissatisfaction or burnout while supporting and strengthening teachers in the development of a positive professional self-concept. In line with the latter, implications for practical improvements and educational policy need to be addressed. In this context, public visibility and appreciation of the teaching profession contributes not only to the enhancement of the profession itself, but also to individual

development and professional self-confidence and self-concepts (Carlo et al., 2013).

Interesting results were found regarding challenges faced by teachers on a digital and technical level. Teachers criticize the fact that the mere provision of technical devices is not sufficient for high-quality distance teaching. Although the provision of hardware (laptops, tablets, etc.) and software for the main stakeholders within educational teaching and learning processes (especially teachers and individual students) is considered a basic condition for functioning distance teaching, opportunities for professional acquisition of digital competency for teachers are needed. This demand seems inevitable, as research on COVID-19 and teachers' digital competences shows that mature knowledge of teachers contributes significantly to the appropriate design of online lessons during distance teaching (König et al., 2020; Sánchez-Cruzado et al., 2021). But it is not only in the context of further potential school closures due to COVID-19 that the demand for teacher training seems to be of great importance. The ways in which social structures are shaping everyday life, as well as the participation goals that schools desire, require digital education. In future crises, multimedia education concepts should be derived and developed that can be incorporated into everyday school operation. What has been caused by a sudden and unavoidable shift from regular schooling to distance learning online opens up unimagined (social) possibilities for digital reorientation in the educational context of elementary school. This could be realized, for example, in school partnerships all over the world via digital exchanges through video calls since the technical equipment and its use in schools was necessitated almost everywhere during the last year. As such, the COVID-19 crisis might have started positive trends regarding digital socialization. Nevertheless, in the context of digital teaching and learning, it has to be noted that there is a pivotal difference between emergency distance teaching and intended, planned digital teaching and online learning.

Despite all adversities and challenges, with which teachers felt confronted during school closures and distance teaching, they had the opportunity to reflect on the strengths and weaknesses of their rehearsed and internalized pedagogical actions and approaches and develop a reoriented view on the needs of their students. The insight into the private life worlds of their students can furthermore help to create adequate learning situations during regular school operation and to define pedagogical orientation to the needs of students beyond the borders of the classroom.

Regarding the limitations of the current work, it must be stressed that the findings cannot be generalized. But even if the results are not considered representative, they do offer an insight into the life and work of a total of 803 elementary teachers in Austria. Furthermore, participation in the surveys was voluntary, therefore, more motivated teachers or teachers who felt a greater need to share their experience may have been more likely to take part. Within the online survey, the teachers were not contacted directly, but via their school principals. Therefore, the response rate is unclear as not every school principal might have forwarded the mail to their staff members. A further limitation of the study is

the consequences of the two data sets with different samples and sample sizes converging. Different sample sizes are inherent in the design, since quantitative and qualitative data are usually collected for different purposes: generalization and broad overviews or detailed in-depth description, respectively. Moreover, as in many research efforts during COVID-19, the results obtained cannot solely be considered a result of a changing learning environment. The crisis itself might have caused numerous other challenges, such as a lack of social contact in general, which further interfere with the remote teaching setting as well as intrapersonal challenges such as increased psychological stress. Finally, it would be beneficial if future studies included more mixed-method designs using triangulation because of the nature of the subject. In addition, studies comparing different emergency distance teaching and learning interventions would reveal national and international differences and similarities in education policy measures.

7 CONCLUSION

Against the background of the sudden unexpected change from the established classroom teaching to a completely new format of teaching and learning, the present research project was developed as a rapid scientific evaluation measure to give first insights into teachers' perception of challenges during distance teaching. Despite, or perhaps because of this rapid response, this paper provides rare insights into Austrian teachers' experience of the very initial phase of mandatory homeschooling. The results obtained thus not only reveal new challenges during the homeschooling phase, but also allow conclusions to be drawn about omissions or forgotten subject areas during ordinary teaching in a pre-pandemic period of schooling. The present

study, which is considered a rapid response to the educational turnaround, allows for almost real-time reports right at the beginning of the pandemic, thus highlighting the force of change and challenges Austrian elementary teachers felt confronted with. This allows pre-pandemic failures to come to the force.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Local school authority of Vienna. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

SS and K-TL designed the INCL-LEA study and supervised the data collection. RC drafted the abstract. FW drafted the introduction and results sections. Further, FW analysed the data of the online survey and RC supported within the data analyses of the interview. SS, K-TL and RC drafted parts of the method section. FW, K-TL and SS drafted parts of the discussion section. All authors revised the manuscript critically, contributed significantly to the article and approved the submitted version.

REFERENCES

- Anderson, R. C., Bousselot, T., Katz-Buoincontro, J., and Todd, J. (2021). Generating Buoyancy in a Sea of Uncertainty: Teachers Creativity and Well-Being during the COVID-19 Pandemic. *Front. Psychol.* 11, 614–774. doi:10.3389/fpsyg.2020.614774
- Bozkurt, A., Jung, I., Xiao, F., Vladimirci, V., Schuwer, R., Eropoa, I., et al. (2020). A Global Outlook to the Interruption of Education Due to COVID-19 Pandemic: Navigating in a Time of Uncertainty and Crisis. *Asian J. Distance Educ.* 15, 1–126. doi:10.5281/zenodo.3878572
- Carlo, A., Michel, A., Chabanne, J. C., Bucheton, D., Demougin, P., Gordon, J., et al. (2013). *Study of Policy Measures to Improve the Attractiveness of Teaching Profession in Europe*. Luxembourg: Publications Office of the European Union. doi:10.2766/40827
- Chauhan, S. (2017). A Meta-Analysis of the Impact of Technology on Learning Effectiveness of Elementary Students. *Comput. Educ.* 105, 14–30. doi:10.1016/j.compedu.2016.11.005
- Colao, A., Piscitelli, P., Pulimeno, M., Colazzo, S., Miani, A., and Giannini, S. (2020). Rethinking the Role of the School after COVID-19. *Lancet Public Health* 5, e370. doi:10.1016/S2468-2667(20)30124-9
- Cordes, J. (2020). Umfrage während der Coronakrise. Available at: https://www.ots.at/presseaussendung/OTS_20200422_OTS0006/umfrage-waehrend-der-coronakrise (Accessed July 8, 2021).
- Edmunds, B., and Hartnett, M. (2014). Using Data in Leadership for Learning. *Cambridge J. Educ.* 33, 383–394. doi:10.1080/0305764032000122023
- Eickelmann, B., and Drossel, K. (2020). *Schule auf Distanz. Perspektiven und Empfehlungen für den neuen Schulalltag. Eine repräsentative Befragung von Lehrkräften in Deutschland*. Düsseldorf, Germany: Vodafone Stiftung Deutschland.
- Ferguson, P., McKenzie, M., Mercieca, D., Mercieca, D. P., and Sutherland, L. (2021). Primary Head Teachers' Construction and Re-negotiation of Care in COVID-19 Lockdown in Scotland. *Front. Educ.* 6, 617–869. doi:10.3389/educ.2021.617869
- Flórez, F. B., Casallas, R., Hernández, M., Reyes, A., Restrepo, S., and Danies, G. (2017). Changing a Generation's Way of Thinking: Teaching Computational Thinking through Programming. *Rev. Educ. Res.* 87, 834–860. doi:10.3102/0034654317710096
- forsa (2020). *Das Deutsche Schulbarometer Spezial Corona-Krise*. Berlin: forsa Politik- und Sozialforschung GmbH.
- Froschauer, U., and Lueger, M. (2003). "Das Qualitative Interview," in *Zur Praxis Interpretativer Analyse Sozialer Systeme* (Wien: Facultas).
- Hargreaves, A. (2000). Mixed Emotions: Teachers' Perceptions of Their Interactions with Students. *Teach. Teach. Educ.* 16, 811–826. doi:10.1016/S0742-051X(00)00028-7
- Helm, C., Huber, S., and Loisinger, T. (2021). Was wissen wir über schulische Lehr-Lern-Prozesse im Distanzunterricht während der Corona-Pandemie? - Evidenz aus Deutschland, Österreich und der Schweiz. *Z. Erziehungswiss* 24, 237–311. doi:10.1007/s11618-021-01000-z
- Hilli, C. (2018). Distance Teaching in Small Rural Primary Schools: a Participatory Action Research Project. *Educ. Action. Res.* 28, 38–52. doi:10.1080/09650792.2018.1526695

- Holtgrewe, U., Lindorfer, M., Siller, C., and Vana, I. (2020). "Lernen im Ausnahmezustand – Chancen und Risiken." *Erste Ergebnisse der Schüler_innenbefragung*. Wien: Zentrum für Soziale Integration.
- Huber, S. G., and Helm, C. (2020). COVID-19 and Schooling: Evaluation, Assessment and Accountability in Times of Crises-Reacting Quickly to Explore Key Issues for Policy, Practice and Research with the School Barometer. *Educ. Assess. Eval. Account.* 32, 1–34. doi:10.1007/s11092-020-09322-y
- Huber, S. G., Günther, P. S., Schneider, N., Helm, C., Schwander, M., Schneider, J. A., et al. (2020). "COVID-19 – Aktuelle Herausforderungen in Schule und Bildung." First Findings of the School Barometer in Germany, Austria and Switzerland] in *Erste Befunde des Schul-Barometers in Deutschland, Österreich und der Schweiz [COVID-19 – Current Challenges in School and Education* (Münster, New York: Waxmann).
- Jones, A. L., and Kessler, M. A. (2020). Teachers' Emotion and Identity Work during a Pandemic. *Front. Educ.* 5, 583775. doi:10.3389/educ.2020.583775
- Kämpf, P., and Winetzhammer, A. (2020). Distance Learning während der Corona-Krise an Österreichs Volksschulen. *Medienimpulse* 58, 2. doi:10.21243/mi-02-20-28
- Kaden, U. (2020). COVID-19 School Closure-Related Changes to the Professional Life of a K-12 Teacher. *Educ. Sci.* 10, 165. doi:10.3390/educsci10060165
- Kim, L. E., and Asbury, K. (2020). 'Like a Rug Had Been Pulled from under You': The Impact of COVID-19 on Teachers in England during the First Six Weeks of the UK Lockdown. *Br. J. Educ. Psychol.* 90, 1062–1083. doi:10.1111/bjep.12381
- Klapproth, F., Federkeil, L., Heinschke, F., and Jungmann, T. (2020). Teachers Experiences of Stress and Their Coping Strategies during COVID - 19 Induced Distance Teaching. *J. Pedagogical Res.* 4, 444–452. doi:10.33902/jpr.2020062805
- Klieme, E. (2020). "Guter Unterricht - auch und besonders unter Einschränkungen der Pandemie," in *Langsam vermisste ich die Schule... Schule während und nach der Corona Pandemie*. Editors D. Fickermann and B. Edelstein (Münster; New York: Waxmann), 117–135. doi:10.31244/9783830992318.07
- König, J., Jäger-Biela, D. J., and Glutsch, N. (2020). Adapting to Online Teaching during COVID-19 School Closure: Teacher Education and Teacher Competence Effects Among Early Career Teachers in Germany. *Eur. J. Teach. Educ.* 43, 608–622. doi:10.1080/02619768.2020.1809650
- Kreidl, P., Schmid, D., Maritschnik, S., Richter, L., Borena, W., Genger, J. W., et al. (2020). Emergence of Coronavirus Disease 2019 (COVID-19) in Austria. *Wien Klin Wochenschr* 132, 645–652. doi:10.1007/s00508-020-01723-9
- Kundu, A., and Bej, T. (2020). Toward a Framework for Strengthening Participants' Self-Efficacy in Online Education. *Aaouj* 15, 351–370. doi:10.1108/AAOUJ-06-2020-0039
- Kundu, A., and Bej, T. (2021). Retracted Article: COVID 19 Response: An Analysis of Teachers' Perception on Pedagogical Successes and Challenges of Digital Teaching Practice during New Normal. *Educ. Inf. Technol.* 26, 6879. doi:10.1007/s10639-021-10503-5
- Lambert, R. G., McCarthy, C. J., Fitchett, P. G., Lineback, S., and Reiser, J. (2015). Identification of Elementary Teachers' Risk for Stress and Vocational Concerns Using the National Schools and Staffing Survey. *Educ. Pol. Anal. Arch.* 23, 43–33. doi:10.14507/epaa.v23.1792
- Letzel, V., Pozas, M., and Schneider, C. (2020). Energetic Students, Stressed Parents, and Nervous Teachers: A Comprehensive Exploration of Inclusive Homeschooling during the COVID-19 Crisis. *Open Educ. Stud.* 2, 159–170. doi:10.1515/edu-2020-0122
- Lorenz, R., Lepper, C., Brüggemann, T., and McElvany, N. (2020). *Unterricht während der Corona-Pandemie: Lehrkräftebefragung Ergebnisse Teil I "Der Unterricht"*. Dortmund: Institut für Schulentwicklungsforschung IFS.
- Lu, J., and Law, N. W. Y. (2012). Understanding Collaborative Learning Behavior from Moodle Log Data. *Interactive Learn. Environments* 20, 451–466. doi:10.1080.10494820.2010.52981710.1080/10494820.2010.529817
- Moss, G., Allen, R., Bradybury, A., Duncan, S., Harme, S., and Levy, R. (2020). *Primary Teachers' Experience of the COVID-19 Lockdown – Eight Key Messages for Policymakers Going Forward*. London: UCL Institute of Education.
- Moy, F. M., Hoe, V. C., Hairi, N. N., Buckley, B., Wark, P. A., Koh, D., et al. (2014). Cohort Study on Clustering of Lifestyle Risk Factors and Understanding its Association with Stress on Health and Wellbeing Among School Teachers in Malaysia (CLUSTeR)-Aa Study Protocol. *BMC Public Health* 14, 611–936. doi:10.1186/1471-2458-14-611
- OECD (2018). *The Future of Education and Skills: Education 2030*. Paris: OECD Education Working Papers.
- OECD (2020a). *Education and COVID-19: Focusing on the Long-Term Impacts of School Closures*. Paris: OECD Publishing.
- OECD (2020b). *Strengthening Online Learning when Schools Are Closed: The Role of Families and Teachers in Supporting Students during the COVID-19 Crisis*. Paris: OECD Publishing.
- Patton, M. Q. (1999). Enhancing the Quality and Credibility of Qualitative Analysis. *Health Serv. Res.* 34, 1189–1208.
- Porsch, R., and Porsch, T. (2020). "Fernunterricht Als Ausnahmesituation," in *Langsam vermisste ich die Schule... Schule während und nach der Corona Pandemie*. Editors D. Fickermann and B. Edelstein (Münster, New York: Waxmann), 61–78. doi:10.31244/9783830992318.03
- Prado-Gascó, V., Gómez-Domínguez, M. T., Soto-Rubio, A., Díaz-Rodríguez, L., and Navarro-Mateu, D. (2020). Stay at Home and Teach: A Comparative Study of Psychosocial Risks between Spain and Mexico during the Pandemic. *Front. Psychol.* 11, 566–900. doi:10.3389/fpsyg.2020.566900
- Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon* 9, 1–6. doi:10.1108/10748120110424816
- Preston, J. P., Wiebe, S., Gabriel, M., McAuley, A., Campbell, B., and MacDonald, R. (2015). Benefits and Challenges of Technology in High Schools: A Voice from Educational Leaders with a Freire Echo. *Interchange* 46, 169–185. doi:10.1007/s10780-015-9240-z
- Rogers, F. H., and Sabarwal, S. (2020). The COVID-19 Pandemic: Shocks to Education and Policy Responses. The World Bank. Available at: <https://documents1.worldbank.org/curated/en/365801588601466966/pdf/The-COVID-19-Pandemic-Shocks-to-Education-and-Policy-Responses.pdf> (Accessed July 16, 2021).
- Sánchez-Cruzado, C., Santiago Campión, R., and Sánchez-Compañá, M. T. (2021). Teacher Digital Literacy: The Indisputable Challenge after COVID-19. *Sustainability* 13, 1858. doi:10.3390/su13041858
- Saine, P. (2012). iPods, iPads, and the SMARTboard: Transforming Literacy Instruction and Student Learning. *New Engl. Reading Assoc. J.* 47, 74–79.
- Scherer, R., Siddiq, F., and Tondeur, J. (2019). The Technology Acceptance Model (TAM): A Meta-Analytic Structural Equation Modeling Approach to Explaining Teachers' Adoption of Digital Technology in Education. *Comput. Educ.* 128, 13–35. doi:10.1016/j.compedu.2018.09.009
- Schober, B., Lüftenegger, M., and Spiel, C. (2020). Lernen unter COVID-19-Bedingungen. Available at: https://lernencovid19.univie.ac.at/fileadmin/user_upload/p_lernencovid19/Zwischenbericht_Befragung_5_final.pdf (Accessed July 1, 2021).
- Schrammel, N., Tengl, K., and Brandhofer, G. (2020). Lernen trotz Corona. Chancen und Herausforderungen des Distance Learnings an österreichischen Schulen. Ergebnisse von berufserfahrenen Lehrkräften im Vergleich zu Berufsteigerinnen und Berufsteigern. *Open Online J. Res. Educ.* 14, 1–18. doi:10.21243/mi-02-20-04
- Schwab, S., and Lindner, K.-T. (2020a). Schule in Zeiten von COVID-19. Ergebnisse zur Situation von Lehrer*innen in österreichischen Schulen. Available at: https://lehrerinnenbildung.univie.ac.at/fileadmin/user_upload/p_lehrerinnenbildung/Arbeitsbereiche/Bildungswissenschaft/Projekte/INCL-LEA/Inclusive_Home_Learning_2.0.pdf (Accessed July 20, 2021).
- Schwab, S., and Lindner, K.-T. (2020b). Auswirkungen von Schulschließungen und Homeschooling während des ersten österreichweiten Lockdowns auf Bildungsungleichheit. *Wirtschafts- sozialpolitische Z. WISO.* 4, 49–63.
- Schwab, S., Lindner, K.-T., and Kast, J. (2020). Inclusive Home Learning – Quality of Experience of Students, Teachers and Parents and Current Implementation of home Schooling. Available at: https://lehrerinnenbildung.univie.ac.at/fileadmin/user_upload/p_lehrerinnenbildung/Arbeitsbereiche/Bildungswissenschaft/Projekte/INCL-LEA/INCL-LEA-T_und_STEP.pdf (Accessed July 22, 2021).
- Schwerzmann, M., and Frenzel, S. (2020). *Umfrage zum Fernunterricht. Ergebnisse der Befragung im Juni 2020*. Luzern: Bildungs- und Kulturdepartement.
- Shute, V. J., and Rahimi, S. (2017). Review of Computer-Based Assessment for Learning in Elementary and Secondary Education. *J. Comput. Assist. Learn.* 33, 1–19. doi:10.1111/jcal.1217210.1111/jcal.12172
- Siddiq, F., Hatlevik, O. E., Olsen, R. V., Thronsdens, I., and Scherer, R. (2016). Taking a Future Perspective by Learning from the Past - A Systematic Review of Assessment Instruments that Aim to Measure Primary and Secondary School

- Students' ICT Literacy. *Educ. Res. Rev.* 19, 58–84. doi:10.1016/j.edurev.2016.05.002
- Spenger, J., Katschnig, T., Schrittmesser, I., and Wistermayer, L. (2019). Under pressure: Oder: Berufsvollzugsprobleme und Belastungen von Lehrpersonen. Eine empirische Studie [Under pressure: Or, job performance problems and stresses of teachers. An empirical study]. Available at: <https://journal.ph-noe.ac.at/index.php/resource/article/view/711> (Accessed July 1, 2021).
- Spilt, J. L., Koomen, H. M. Y., and Thijs, J. T. (2011). Teacher Wellbeing: The Importance of Teacher-Student Relationships. *Educ. Psychol. Rev.* 23, 457–477. doi:10.1007/s10648-011-9170-y
- Stenman, S., and Pettersson, F. (2020). Remote Teaching for Equal and Inclusive Education in Rural Areas? an Analysis of Teachers' Perspectives on Remote Teaching. *Int. J. Inf. Learn. Technol.* 37, 87–98. doi:10.1108/IJILT-10-2019-0096
- Tengler, K., Schrammel, N., and Brandhofer, G. (2020). Lernen trotz Corona. Chancen und Herausforderungen des *Distance Learnings* an österreichischen Schulen. *Medienimpulse* 58, 37. doi:10.21243/mi-02-20-24
- Thies, L., and Klein, Y. (2020). Unter Druck. Die Situation von Eltern und ihren schulpflichtigen Kindern während der Schulschließungen. Available at: https://www.vodafone-stiftung.de/wp-content/uploads/2020/04/Vodafone-Stiftung-Deutschland_Studie_Unter_Druck.pdf (Accessed July 14, 2021).
- Unterbrink, T., Hack, A., Pfeifer, R., Buhl-Grießhaber, V., Müller, U., Wesche, H., et al. (2007). Burnout and Effort-Reward-Imbalance in a Sample of 949 German Teachers. *Int. Arch. Occup. Environ. Health* 80, 433–441. doi:10.1007/s00420-007-0169-0
- Van Lieshout, K. (2020). *United Kingdom: BBC Bitesize*. Paris: OECD Publishing.
- Vincent-Lancrin, S. (2020). *France: Réseau de délégués académiques numériques (Network of digital education advisers)*. Paris: OECD Publishing.
- Walker, M., Sharp, C., and Sims, D. (2020). Schools' Responses to COVID-19: Job Satisfaction and Workload of Teachers and Senior Leaders. National Foundation for Educational Research. Available at: <https://files.eric.ed.gov/fulltext/ED608585.pdf> (Accessed July 21, 2021).
- Wisniewski, B., Zierer, K., and Hattie, J. (2020). The Power of Feedback Revisited: A Meta-Analysis of Educational Feedback Research. *Front. Psychol.* 10, 3087. doi:10.3389/fpsyg.2019.03087
- Wu, S.-Y. (2021). How Teachers Conduct Online Teaching during the COVID-19 Pandemic: A Case Study of Taiwan. *Front. Educ.* 6, 675434. doi:10.3389/educ.2021.675434
- Zurlo, M. C., Pes, D., and Capasso, R. (2013). Teacher Stress Questionnaire: Validity and Reliability Study in Italy. *Psychol. Rep.* 113, 490–517. doi:10.2466/03.16.PR0.113x23z9

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Copyright © 2021 Woltran, Chan, Lindner and Schwab. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

(Mis)Communication between Educational Policy and Practice: Teachers' Perceptions of Educational Policy Communication during COVID-19

Author details:

Flora Woltran*

Affiliation: Centre for Teacher Education, University of Vienna

E-mail address: flora.woltran@univie.ac.at

ORCID: <https://orcid.org/0000-0003-0591-3522>

Katharina-Theresa Lindner,

Affiliation: Centre for Teacher Education, University of Vienna

E-mail address: katharina-theresa.lindner@univie.ac.at

ORCID: <https://orcid.org/0000-0001-8236-8834>

Susanne Schwab

Affiliation: Centre for Teacher Education, University of Vienna and Research Focus Area Optentia North-West University, Vanderbijlpark, South Africa

E-mail address: susanne.schwab@univie.ac.at

ORCID: <https://orcid.org/0000-0002-3989-4473>

*corresponding author

Funding details:

No funding.

Disclosure statement:

The authors report there are no competing interests to declare.

Abstract

COVID-19-related distance learning was a very demanding and often chaotic time for teachers around the world. In times of instability, leadership takes on special importance. To ensure smooth operations, education policymakers and school leaders must respond to crises in a timely manner, provide guidance and communicate decisions well. The present study investigated how Austrian teachers perceive the professional communication by representatives of educational policy within two studies. Study 1 includes data from 907 teachers from Austria, collected via an online survey during the third school lockdown. Study 2 (N = 5 teachers) was an interview study, again at the time of the third lockdown. The results show that, overall, teachers were explicitly dissatisfied with the quality and quantity of information provided by education policy stakeholders also within the period of third lockdown. Furthermore, the findings suggest that education policymakers have failed to provide clear guidance in a timely manner in uncertain times.

Keywords: COVID-19, leadership, educational policy, communication;

Introduction

Due to the COVID-19 pandemic that emerged in early 2020, school systems around the world plunged into an unprecedented crisis. In a total of 194 countries, either partial or full school closures were used as a measure to control the incidence of infection in educational institutions (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2020). As a result, teaching in schools has been significantly reorganized (Zhao, 2020). To maintain contact with students and mitigate learning loss, teachers were forced to adapt quickly to this new and unusual situation by resorting to online platforms or various forms of telephone communication to help students learn at home (González et al., 2020). For a large number of teachers, this transition to distance teaching, and especially the associated lack of

social components to teaching, turned out to be an extremely demanding and chaotic period. In addition, it became apparent early on in some countries that there were many teachers who were not prepared for distance teaching using various forms of digital communication (e.g., Huber & Helm, 2020). While teachers were busy finding alternative ways of instruction and overcoming obstacles to communicating with students and parents or guardians, principals had to respond to the demands of the ministries of education and simultaneously develop strategies of support (González et al., 2020). The situation was further complicated by the fact that schools were often informed late about the newly enacted education policies, leaving little time for principals to consult with teachers about further procedures concerning the implementation of the regulations (Fotheringham et al., 2021). Although ministries and public administrators around the world have made efforts to provide guidance to education institutions at the onset of the COVID-19 pandemic in early 2020 and beyond, some studies report a lack of information and guidance on the part of education policymakers (e.g., Hamilton et al., 2020; Kim & Asbury, 2020; La et al., 2020; Srivastava, 2020). In this regard, Fotheringham et al. (2021) and Kim and Asbury (2020) point to the clear and timely disclosure of information, as well as increased communication with principals and teachers, as prerequisites for an effective policy, especially during a global pandemic.

Education policy communication throughout COVID-19

The COVID-19 pandemic has affected education systems and their way of functioning. Around the world, education policymakers were forced to respond quickly to the rapidly increasing numbers of new infections in schools. At the beginning of the COVID-19 crisis in early 2020, protecting the health of teachers and students while maintaining a minimum level of continuing education and care was considered the main concern of education policies (Organization for Economic Co-operation and Development [OECD], 2020a). Over time, however, it became apparent that communication between education policymakers and

schools was often unsuccessful (e.g., Argyropoulou et al., 2021; García & Weiss, 2020).

In both regular and special circumstances, different actors at various levels of the education system differ not only in their tasks but also in their desires and aspirations (Huber, 2021).

While policymakers need to set both short- and longer-term priorities, define measures, make systematic decisions, and fulfil coordination work (OECD, 2020a), schools, in addition to their role as mediators of knowledge, skills, and values, must ensure the implementation of policies and, in light of the COVID-19 pandemic, consideration of medical recommendations (Fotheringham et al., 2021).

Gouédard et al. (2020) argued that the engagement of education stakeholders (i.e., principals, teachers, and other school personnel) in key policy decision-making plays a fundamental role in shaping education systems. The term ‘decision-making’ refers not only to teachers’ ability to determine their own actions within their immediate sphere of influence but also to teachers’ consultation as experts in internal school processes (Stosich, 2021). Accordingly, teachers’ involvement in key decisions that directly affect the school can increase their willingness to develop their instruction and, in turn, improve student achievement (Hitt & Tucker, 2016). A meta-analysis by Borman and Dowling (2008) found that a lack of decision-making power could lead to lower job satisfaction among teachers and increase the likelihood of occupational change. Ingersoll (2003) also suggested that by having the opportunity to participate in important decisions that concern and affect their work, teachers may improve their job satisfaction. In times of crisis, educators still need to be involved in rapid policy responses to immediate and urgent problems (Gouédard et al., 2020). If education staff cannot participate directly in considerations of further strategies, alternative ways of monitoring the effectiveness of implemented interventions may emerge. Thus, education policymakers can ensure that school stakeholders have the opportunity to share information about the effectiveness of interventions through feedback loops (Gouédard et al., 2020).

A glance at previous and current research reveals that education stakeholders are generally not considered when important policy decisions are made. Accordingly, Galway and Sheppard (2015) suggested that political decisions are primarily influenced by pragmatic factors and professional beliefs, whereas representations of interest groups play a rather minor role. However, this insight into the background considerations of policymakers is consistent with the views of stakeholders. Thus, findings from TALIS (2018) highlight that many teachers feel that their views are not valued in the policymaking process (OECD, 2020b). Moreover, this precarious situation does not appear to have changed and may have even worsened with the emergence of COVID-19. Accordingly, studies by Fotheringham et al. (2022) and Kim and Asbury (2020) reported that school leaders felt excluded from key educational decision-making processes, especially at the onset of the global crisis and due to the ever-changing environment.

Quality communication in education not only refers to the design of policies and strategies according to stakeholders' realities but also explicitly requires other conditions, such as timely and clear disclosure of information (Gouëdard et al., 2020). However, several findings suggest that policymakers often failed to fulfil their primary responsibility to communicate sufficient information in a clear, timely, and transparent manner during the COVID-19 crisis (e.g., Khlaif et al., 2021; Kim & Asbury, 2020; Kim et al., 2021). Accordingly, Huber et al. (2020) reported that between 5% and 24% of school personnel reported receiving too little information about additional strategies and interventions in schools at the onset of the COVID-19 pandemic. Furthermore, the results of a study by Fotheringham et al. (2021) suggested that principals mostly learned about government decisions through mass media rather than through official communication channels.

In addition to aspects of information quantity and information channels, late, unclear, or uncertain responses at the education policy level often led to misinterpretation and confusion

on the part of teachers and principals (Fotheringham et al., 2021; Kim & Asbury, 2020). Thus, a study conducted in early 2020 by Argyropoulou et al. (2021) found that school leaders noted a lack of clarity in terms of communication of educational policy and confusion on the part of the Ministry of Education (Argyropoulou et al., 2021). In this regard, Kim and Asbury (2020) and Hascher et al. (2021) pointed to educators' dissatisfaction with education policy communication, citing the lack of governmental guidance, instructions, and regulations, which, at times, created overwhelming negative feelings of uncertainty and panic. In a study by Anderson et al. (2021), teachers also reported feelings of uncertainty and anxiety since they had no information about future policies that would come into effect once schools reopened. With respect to a later point in the COVID-19 pandemic, Kim et al. (2021) focused on difficulties in communication among various stakeholders in education when schools partially reopen. The findings indicated that the teachers still felt a sense of uncertainty, primarily due to confusing messages and a lack of guidance by the government. In addition, teachers stated that policies were often released at the very last minute and without consulting teachers or principals.

Overall, it appears that poor communication of educational policies has resulted in numerous challenges for school principals and teachers. Accordingly, educators reported a lack of sufficient support and guidance from education policymakers, timely communication and clarity of information about measures implemented in schools, and participation in key decision-making processes. Furthermore, it seems reasonable to suppose that frequently expressed feelings of uncertainty and anxiety (e.g., Anderson et al., 2021; Kim & Asbury, 2020) are likely to cause high levels of stress because they can pose a threat to core aspects of teacher identity, including the need for routine and predictability (Kim & Asbury, 2020). Current evidence suggests that studies focusing on communication between education policymakers and schools tend to look at the early stages of the COVID-19 pandemic (e.g.,

Anderson et al., 2021; Fotheringham et al., 2021; Kim & Asbury, 2020). However, given the ever-changing conditions in schools, the way educational policies are communicated and the related reactions of principals and teachers should be closely monitored to learn lessons from the mistakes and failures that have been made.

Aim of the study

The focus of the study is on the regulation of the Austrian school system adopted in November 2021 and the accompanying abolition of compulsory education. In addition, previously adopted regulations are taken into account, which differ significantly in their restrictive features. Given the implementation of various measures to curb COVID-19 infections as part of education policy, it is not yet clear how teachers have perceived the communication of these measures in recent school years (2019/20, 2020/21, 2021/22). In this context, this study examines teachers' perceptions of the professional communication of regulations by representatives of educational policy (e.g., the government, federal ministry, and school boards) during the period of the third lockdown (winter 2021).

- (1) How do teachers in Austria perceive the professional communication of new regulations and measures by education policy representatives throughout the COVID-19 pandemic?
- (2) Which desires related to the professional communication of new regulations and measures do teachers in Austria express?

Against the background of the research questions, qualitative methods were used to capture teachers' perceptions and experiences in the wake of the COVID-19 pandemic and its impact on their professional actions.

Methods

The design of the current study is a sequential explanatory design (Creswell & Plano-Clark 2017). Study 2 (interview study) was a follow-up study on Study 1 (initial online survey). The participants in Study 2 are a (very small) subsample of Study 1. Participation in the survey was voluntary and participants were free to withdraw at any time. Furthermore, participants gave their informed consent that the data obtained may be used in anonymized form for research and teaching purposes.

Study 1

Procedure

The data for Study 1 were derived from a broader research project called Inclusive Home Learning Teachers' Perspectives (INCL-LEA-T; see Schwab & Lindner, 2020). The data used in Study 1 were collected during the third nationwide school closure in Austria (mid-November to mid-December 2021). Data were collected nationwide in Austria by means of an online survey. School principals all over Austria were contacted via email and asked to forward the link to the survey to their teaching staff. As INCL-LEA-T specifically focused on marginalized students, such as students with special educational needs, special schools were overrepresented in the current sample.

Participants

While the sample of the INCL-LEA-T study involved 1,372 teachers, in the current study, data from only those teachers who responded to either one or both of the two open-ended questions at the end of the online questionnaire regarding teachers' views on political communication and what they would like to see from political representatives were included. Therefore, data from 907 teachers were included in the analysis. The mean age of the participants was 44.88 years (SD = 11.21; min = 21; max = 64), and they had an average of 18.68 years of teaching experience (SD = 12.06; min = 1; max = 43). Out of the total, 81.8% of the teachers were

female, 17.7% were male, and 0.4% were diverse. Most of the participants taught in compulsory schools, of which 39.5% were primary school teachers and 29.8% were lower secondary school teachers. The remaining teachers taught in upper secondary schools (15.5%) and special schools (12.3%).

Instrument

To capture teachers' views on communicating pandemic-related policies, the following two open-ended questions at the end of the online questionnaire were included for analysis:

- How do you assess Austria-wide communication of the new measures in the school sector?
- What do you think has been missed in recent months, and what would you like to see from the government in the future?

Data analyses

Teachers' answers to the two open-ended questions at the end of the quantitative online questionnaire were analyzed using thematic analysis by Braun and Clarke (2013). In the first step, the data were analyzed by applying an inductive coding paradigm according to Saldaña (2015). This 'bottom-up approach' (Braun & Clarke, 2013, p. 178) was chosen to grasp teachers' understanding and views in depth, as inductive coding uses participants' actual words to outline the meaning of each sentence. In addition, the researchers did not want to bring in preconceived notions in the form of deductive coding, as COVID-19 presented new challenges to all stakeholders in terms of policy communication. Subsequently, a reduction of data was performed to capture the cross-cutting themes and their prevalence.

Results

To systematize teachers' perceptions of communication regarding COVID-19-related policy measures, codings were first inductively extracted from the material and subsequently formed into main categories and subcategories (i.e., themes). **Table 1** shows the total number of

codings for each category. Subsequently, the main categories and subcategories are explained in more detail, with quotes from teachers to illustrate the selected topics. It should be noted that only the subcategories most frequently mentioned by the participants were included in the results.

Table 1: Total number of codings for each category

Inductive main category	Inductive subcategory/	Total number of codings
Perception of Education Policy Measures		1,295
	Unspecific Negative Evaluation of Education Policy Communication	574
	Dissemination of Information through Mass Media	284
	Delayed Dissemination of Information	278
	Ambiguity of Information	159
Wishes for Decision-Makers in Education Policy		523
	Clarity of Information	193
	Timely Planning and Communication of Measures	189
	Adaption of Measures	71
	Involvement of School Stakeholders in Education Policy Planning and Decision-Making	70

Perception of Education Policy Measures. This main category summarizes a total of 1,295 statements made by participants that could be found in the material on the open-ended question, ‘How do you assess the Austria-wide communication of the new measures in the school sector?’ In the course of inductive coding, the following four subcategories were formed for the superordinate category *Perception of Education Policy Measures*: (1) *Unspecific Negative Evaluation of Education Policy Communication*, (2) *Dissemination of Information through Mass Media*, (3) *Delayed Dissemination of Information*, and (4) *Ambiguity of Information*.

The most frequently assigned code, *Unspecific Negative Evaluation of Education Policy*

Communication (574 codings), refers to statements with negative connotations made by participants, but these do not include clear information about exactly what teachers rate as bad about policy communication. The respective answers contain single keywords or phrases, such as ‘catastrophic’ (T1039), ‘terrible’ (T1331), or ‘very bad’ (T1772), without elaborating on what teachers explicitly rate as negative about the way information is shared between the different actors within the education system.

The second most frequently assigned code, *Dissemination of Information through Mass Media* (284 codings), clearly points to the problem of the participants’ perceived misinformation channels. Accordingly, the teachers reported that information about educational policies and strategies is often communicated through the mass media (e.g., television and newspapers) rather than through official agencies (e.g., principals): ‘We always learn everything from the media. The correct way should be: Inform school principals first and then inform the public through the media’ (T1196). Closely related to this was the problem of parents or caregivers being informed about new policies and strategies in schools before teachers, as indicated by the following statement:

Parents or caregivers receive information about measures implemented in schools earlier than teachers, because the press conferences often take place in the morning, at a time when we have classes. Just once, I would like to be informed earlier than everyone else who is not directly affected by this matter. (T1620)

The subcategory, *Delayed Dissemination of Information* (278 codings), illustrates teachers’ perceived difficulty in obtaining important information about further procedures implemented in schools at too short of notice. In addition, some teachers expressed their lack of understanding about the delay in disseminating information about policies, given that COVID-19 has been part of school life for more than a year:

I understand that information was initially passed on at very short notice because decisions also had to be made at short notice. The fact that this is still the case is something I can no longer comprehend. It really is a great challenge for the school principals and teachers. (T1085)

Furthermore, the issue of the slow disclosure of information by policymakers was closely associated with respondents' perceived problem of information dissemination through mass media, as expressed by participant T1970: 'Based on Friday's press conference, teachers will learn what classes will be like starting Monday. This information will be released on too short notice.'

Ambiguity of Information (159 codings) indicates a lack of clarity perceived by participants regarding the information shared by school authorities. Accordingly, the teachers noted that the statements made by stakeholders within the field of education policy were unclear, confusing, and contradictory. This often led to a sense of insecurity among teachers and chaotic situations in schools, as the sharing of information left ample room for interpretation by school staff, parents, or caregivers and students. Participant T2524 put it as follows: 'Like any business, the school needs clear objectives and a roadmap to get there. Neither is clearly formulated or communicated' (T2524).

Wishes for Decision-Makers in Education Policy. Within this second overarching category, 523 statements from teachers were collected. The corresponding open-ended question included a retrospective and forward-looking aspect, as it asked participants what they thought had been missed in recent months and what they would like to see from the government regarding planning and communicating policy measures implemented in schools. However, in the course of inductive coding, it became clear that the participants did not explicitly distinguish between the omission of past and future requirements in their responses.

Furthermore, as teachers primarily focused on what they expected from education decision-makers, their statements were grouped under a category that focuses exclusively on concrete challenges of politics.

The category *Clarity of Information* (193 codings) refers to teachers' need for precise information to ensure the quality and functionality of school processes during uncertain times. Furthermore, teachers' expressed desire for clear guidance still needs to be considered, as it ensures proper school operations and is seen as a key aspect of the teaching profession:

Clear, feasible and well thought out guidance would be great. Again and again there are circulars or decrees in which important information is missing (...). Often a directive follows days later, which of course again confuses the plans that have already been developed. Proper planning is very important in the teaching profession. That's why I would like to see clearer communication. (T2929)

Timely Planning and Communication of Measures (189 codings) is the second most common theme found in the data concerning the category *Wishes for Decision-Makers in Education Policy*. In addition to clarity of information, this category clearly points to the need for timely planning and communication of actions taken in schools as a result of COVID-19. It also highlights that teachers seek foresighted planning as well as proactive management and communication from policy decision-makers to ensure quality education, as expressed by participant T2305: 'We should receive the information in time so that we can prepare, plan and carry out classroom activities properly.' Furthermore, participants once again articulated their dissatisfaction regarding policymakers' late response to predictable developments (i.e., rising number of COVID-19 infections): 'We are now in the second year of the pandemic and there is still no clear concept for procedures in schools. Policymakers wait, hesitate and face the disaster (...)' (T1508).

The subordinate category, *Adaption of Measures* (71 codings), includes statements expressing a desire to adjust the measures and strategies adopted and communicated by policymakers to the framework conditions of schools. Participant T2264 put it as follows: ‘It is necessary to develop multiple solutions at school sites. There also needs to be more room for manoeuvre for the crisis team in the schools and school-autonomous decisions. The schools themselves know best which solution fits best.’ This is an indication that school autonomy and the associated freedom of choice seem to be important aspects that, according to participants, were not always taken into account in the planning and communication of school policies in the years affected by COVID-19.

The theme *Involvement of School Stakeholders in Education Policy Planning and Decision-Making* (70 codings) is closely linked to *Adaption of Measures*, as some participants combined both aspects in one statement. Accordingly, both issues point to the need to consider stakeholders and their situations in schools when making far-reaching policy decisions. However, *Involvement of School Stakeholders in Education Policy Planning and Decision-Making* represents another factor that can play a role in promoting high-quality communication among stakeholders at different levels of the education system: ‘In my opinion, many decisions were made without the true experts. These, however, are in the classes and do not sit in the office’ (T1492). As expressed by participant T1492, the involvement of teachers who work on the frontline of the education system in strategic decision-making at the policy level is seen as an important aspect that was missed by some of the teachers.

Study 2

Procedure

As a follow-up study for Study 1, Study 2 was carried out between mid-November and mid-December 2021. To capture the experiences of teachers in more depth, the participants in

Study 1 were asked if they also wanted to participate in an interview study.

Participants

Five teachers participated in the current interview study. To provide a better overview of the teachers included in the subsequent data analysis, Table 2 lists key characteristics.

Table 2: Characteristics of the interviewed teachers

	Gender	School type	Years of teaching experience
Teacher 1	Female	Public secondary school	35
Teacher 2	Male	Public primary school	6
Teacher 3	Female	Private inclusive primary and secondary school	5
Teacher 4	Female	Public secondary school	5
Teacher 5	Female	Public secondary school	24

Instrument

To obtain more in-depth information about the participants' perceptions, data collected during guided interviews were used. The guided interview method is considered a semi-structured approach to qualitative data collection (Hopf, 1995) and is one of the basic methods of empirical social research (Brosius et al., 2012). Guided interviews can vary greatly in preparation and execution (e.g., the predetermined questions may be brief or detailed), or interviewers may have more or less freedom in the wording or order of questions (Hopf, 1995). However, they are all united by the principle of 'as open as possible, as structuring as necessary' (Helfferich, 2014, p. 560). This means that, on the one hand, explicitly formulated questions ensure a certain thematic focus. On the other hand, the interlocutor is given as much freedom as possible regarding the course of the conversation.

The guided interviews conducted as part of the current study included questions about teachers' subjectively perceived overall experiences during the 2019/20, 2020/21, and 2021/22 school years, marked by COVID-19. In addition, participants were asked about the differences and similarities between the different phases of the three school years and about aspects of the quality of communication and collaboration, for example, within the teaching

staff. Finally, participants were asked about the potential difficulties posed by the current school situation for vulnerable groups of students (e.g., students with special educational needs) and related trends of worsening educational inequality.

Data analyses

For an in-depth analysis of Study 2, the documentary method of Nohl (2009) was used. The documentary method originally goes back to the pioneering knowledge-sociological work of Mannheim (1980) and was substantially further developed by Bohnsack (1989, 2007, 2014, 2017). However, Nohl (2009) was the first to apply the documentary method specifically to the analysis of interviews. Against the background of the basic idea of uncovering the practical and everyday experiences of individuals or groups, the aim is to reconstruct tacit knowledge structures (Bohnsack, 2014; Nohl, 2009). To achieve this objective, the first two steps of formulating and reflective interpretation are required. According to Nohl (2009), this involves the selection of sections within the interviews based on specific research interests. Subsequently, these text passages are transcribed, paraphrased, and briefly summarized as part of the formulating interpretation. This is followed by a reflective interpretation, in which the way in which certain topics are addressed by the interviewees (i.e., the orientation framework) is examined in more detail.

Results

Teacher 1: Imprecise wordings and unsettled conditions

In the course of describing education policy communication, Teacher 1 first referred to imprecise wordings and formulations for new regulations on the part of the responsible education policy authorities. This was followed by a negatively connoted evaluation of these imprecise formulations as '*more difficult*' prerequisites for the practical implementation of measures. This evaluation was supported by an argument implying that the imprecise formulations did not provide precise guidelines for action for those affected; thus, the actual implementation of applicable measures entailed room for interpretation and scope of action.

Further, Teacher 4 confirmed their own perception through the perception of the parents concerned, who were '*also*' described as '*totally unsettled*.' Additionally, there was a demand for clear guidelines and statements for education policy authorities. According to this, the goal of clear statements should function as a common basis for orientation. It is not clear from the teachers' statements which stakeholders are considered to need this orientation basis or for whom it should apply. Finally, Teacher 4 shared that they had received information about current educational policies, mainly through the public media. It was explicitly pointed out that being '*up-to-date*' was possible due to media consumption. In another description, Teacher 4 stated that emails were '*of course*' forwarded by the school administration, whereby the content of these messages often changed quickly.

Teacher 2: Need for an adequate information loop

In response to the question about the communication of the educational policy measures, Teacher 2 answered that most of the information on educational policy regulations during the COVID-19 pandemic was not received through school authorities but was communicated through the public media. Teacher 5 would have liked the relevant professionals to be informed in advance and the general public to be informed afterwards. Additionally, Teacher 5 stated that official statements about the decided measures, which had already been announced in the media, were sent by email by school management later on. At this point, however, everyone already knew. This was perceived to be '*very, very strange*'. By announcing measures to everyone, the teachers were suddenly confronted with many new regulations and had to react spontaneously. Therefore, Teacher 5 would have liked information to be passed on in the following order: ministry, school staff, and subsequently, media, and guardians via school staff.

Teacher 3: Short-term educational policy communication

When asked how Teacher 3 felt about communication on the part of education policy authorities during the COVID-19 pandemic, they characterized the communication as '*really*

terrible’ and described not having received any meaningful information on the teacher level at all because new regulations and measures were only passed on via the public media or school management. The short notice in communication was also criticized. In some cases, emails to educational stakeholders (schools, principals, and teachers) were sent only hours after public press conferences. According to this, Teacher 6 and their colleagues learned important information at the same time as the entire population through public media channels. What is striking about the evaluations are the extremely negatively connoted assessments of educational communication. The phrases ‘*really terrible*’ and ‘*this is a joke*’ show outrage about what happened.

Teacher 4: Poor educational policy communication

When asked how Teacher 4 felt about communication on the part of education policy authorities, they answered with ‘*poor*.’ This assessment was argued with the flood of information in the media and the little information that school headmasters received through official channels.

Teacher 5: Who knows it first?

Teacher 5 characterized education policy communication on the part of the ministry as ‘*bad*.’ According to this, teachers would have learned at short notice via the official television channel’s press conferences which measures would come into force on the following day. Sometimes, it also happened that the students suddenly shared information in class about the fact that there would be no regular school the next week, as they had checked the news on their smartphones during lessons. On the contrary, the teachers themselves did not know anything about it.

Discussion

In uncertain times, such as the period of school closures due to the COVID-19 pandemic, trustworthy and timely communication of educational policies is essential. The current paper

examined how the teachers perceived the professional communication of new regulations and policies by education policy officials during the third nationwide lockdown.

Overall, the results show that the majority of Austrian teachers are dissatisfied with education policy communication on new measures. This can be seen in both studies. In Study 1, the highest frequency of codings was within the category *Unspecific Negative Evaluation of Education Policy Communication*. The fact that the teachers rated the communication with only one very negative adjective, such as ‘catastrophic’ or ‘terrible,’ may indicate that they were almost speechless. According to Berger (2004), speechlessness can stem from extreme emotional states. In Study 2, all participating teachers raised negative aspects of communication. It is important to add that none of the 907 participants gave positive feedback about educational policy communication. On a related note, the results also indicate that the teachers did not see an improvement in communication between the 2019/20 and 2020/21 school years. One consequence of this could be that teachers are becoming increasingly dissatisfied with their profession. As shown in the results of Lindner et al. (2021), job satisfaction among Austrian teachers was rated lower during the pandemic period (first and second closures) than during the pre-pandemic period.

Overall, the timing and dissemination format of communications received the most criticism. The teachers indicated that they had learned about new measures from the mass media. This means that they received the information at the same time or even later than parents, caregivers, students, etc. As a result, several significant problems could arise.

First, teachers may feel disrespected in their profession because these decisions directly affect them, as they are not pre-informed. In this sense, they may have lost some of their status as experts. For example, in Study 2, a teacher complained that his student was informing her and the entire class about new interventions. This short notice could result in a sudden loss of

knowledge, control, and poor function as a leader in the class. The fact that teachers are informed at the last minute also means that they have to react quickly and flexibly and adapt didactic measures at the last minute, which often leads to a heavy workload. Several study outcomes showed that the workload for teachers during the COVID-19 period of school lockdowns and measures was significantly increased compared to the pre-pandemic area (e.g., Fray et al., 2020; Kaden, 2020). In addition, quality instruction requires time for preparation, especially to support heterogeneous audiences. For example, in Austria, multilingual students attending a German language support class in particular were left behind during the pandemic period (Gitschthaler et al., 2022). A recent trend observed in Austria (Hofinger et al., 2022) and in other countries, such as the United States (e.g., United States Census Bureau, 2021), is that more and more parents or caregivers have decided to educate the students at home instead of leaving the responsibility for their children's education to the school. This could be related to the sometimes poor quality of teaching during COVID-19 closures caused by unfavorable circumstances for teachers and students (e.g., missing social connectedness) (Jaekel et al., 2021).

Not only is the short-term nature of the information problematic but also the fact that the information for the public media is directed at a specific target group. Referring to the results of Study 2, a knowledge gap was identified among teachers. Accordingly, the desire for clarity of information appears to be the most important request teachers make of policymakers at the government level. The results show that the *Ambiguity of Information* category was initially the least criticized by the participants. However, the findings indicate that policymakers have failed to provide clear guidance on proceedings in schools. Thus, the results suggest that the need for clarity on the part of frontline stakeholders was not addressed. However, for this interpretation, the much smaller number of participants who answered the second open-ended question must be taken into account.

Implications for future practice

One very important wish respondents had for the future was that schools and teachers be given a greater degree of autonomy in times of crisis. Accordingly, the teachers pointed to the problem of a ‘one-size-fits-all’ approach (Bradley et al., 2020) that often conflicts with the need to tailor specific interventions to the circumstances of individual educational institutions. This is an indication that school autonomy and related freedom of choice appear to be important issues that the participants felt were not always considered in school policy planning and communication during the years affected by COVID-19. For example, while mandatory hygiene measures, such as regular COVID-19 testing and wearing face masks in and out of classrooms, were more feasible in secondary schools, there may have been problems with implementation in primary schools. In summary, the teachers’ responses in this category indicate a large gap between theory and practice. Furthermore, the findings underscore the need not only to consider the circumstances of individual schools but also to respect and value teachers as experts in their profession and to involve them in key decision-making processes that, in turn, affect them at the front lines of the education system.

Overall, it can be concluded that leadership failed in the pandemic, especially in Austria. Smith and Riley (2012, p. 57) noted several years prior to the pandemic that ‘Leadership in times of crisis is about dealing with events, emotions and consequences in the immediate present in ways that minimize personal and organizational harm to the school and school community.’ Accordingly, principals are viewed as responsible for the well-being of their staff and the education of their students. However, this is not possible if communication is inadequate. Considering the findings of Fotheringham et al. (2020), horizontal communication and collaboration can be helpful, while top-down communication causes stress for school leaders.

Ultimately, the results of this study help to understand the extent to which communication between school and non-school stakeholders in the education system is effective (DeMatthews et al., 2021). Accordingly, the findings suggest that policymakers have not listened to teachers' opinions when making decisions that directly affect their daily work. This suggests that the pandemic decisions of education policymakers were not really pedagogical decisions. Consequently, much of the COVID-19-related legislation (e.g., school closures and hygienic measures; see, e.g., United Nations, 2020) was more concerned with measures to prevent the spread of the virus. However, educational interventions (e.g., support for vulnerable students) have tended to be neglected (see, e.g., Schuurman et al., 2021).

Conclusion

The fact that the results refer to the third nationwide school closure (more than 1.5 years after the unexpected pandemic outbreak) and not to the first or second period of distance education is important for interpreting the current study results. Overall, the negative evaluations of the communication of education policy measures during this period indicate that Austrian education policy has not succeeded in improving communication and smoothing the process. The participating teachers are likely aware that this process was problematic in spring 2020 due to the novelty and unpredictability of the COVID-19 virus, but they seem frustrated that it has not improved over time.

The findings of this study show that education policymakers have not only failed to provide clear guidance in a timely manner but also to meet the need of frontline stakeholders for clarity. These implications are important not only for the documentation of the COVID pandemic but also for all future educational policy decisions. Based on the findings, we recommend establishing a protocol for the process that includes self-directed decision-making and better coordination of information dissemination (e.g., informing school boards,

principals, teachers, and then the public).

Acknowledgements

We thank Alexandra Pirker and Julia Hafenscher for their assistance with data collection and for conducting the interviews with teachers and principals.

Declaration of interest statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Anderson, R. C., Bousselot, T., Katz-Buoincontro, and Todd, J. (2021). Generating Buoyancy in a Sea of Uncertainty: Teachers Creativity and Well-Being During the COVID-19 Pandemic. *Frontiers in Psychology, 11*, 614-774.
<https://doi.org/10.3389/fpsyg.2020.614774>
- Argyropoulou, E., Syke, C.-H., and Papaioannou, M. (2021). School Leadership in Dire Straits: Fighting the Virus or Challenging the Consequences. *International Studies in Educational Administration, 49*(1), 18-27.
- Berger, C. R. (2004). Speechlessness: Causal Attributions, Emotional Features and Social Consequences. *Journal of Language and Social Psychology, 23*(2), 147–179.
<https://doi.org/10.1177/0261927X04263821>
- Borman, G. D., and Dowling, N. M. (2008). Teacher attrition and retention: a meta-analytic and narrative review of the research. *Review of Educational Research, 78*(3), 367-409.
<https://doi.org/10.3102/0034654308321455>

- Bradley, An, M.-W., & Fox, E. (2020). Reopening Colleges during the Coronavirus Disease 2019 (COVID-19) Pandemic - One Size Does Not Fit All. *JAMA Network Open*, 3(7), e2017838–e2017838. <https://doi.org/10.1001/jamanetworkopen.2020.17838>
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage Publications.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- DeMatthews, Reyes, P., Solis Rodriguez, J., & Knight, D. (2021). Principal Perceptions of the Distance Learning Transition During the Pandemic. *Educational Policy (Los Altos, Calif.)*, 89590482110494. <https://doi.org/10.1177/08959048211049421>
- Fotheringham, P., Harriott, T., Healy, G., Arengé, G., McGill, R., Wilson, E. (2020). Pressures and influences on school leaders navigating policy development during the COVID-19 pandemic. *British Educational Research Journal*, 48(1), 201-227. <https://doi.org/10.1002/berj.3760>
- Fray, Jaremus, F., Gore, J., Miller, A., & Harris, J. (2022). Under pressure and overlooked: the impact of COVID-19 on teachers in NSW public schools. *Australian Educational Researcher*, 1-27. <https://doi.org/10.1007/s13384-022-00518-3>
- Freundl, V., Lergetporer, P., & Zierow, L. (2021). Germany's education policy during COVID-19 crisis. *Zeitschrift für Politikwissenschaft*, 31, 109-116. <https://doi.org/10.1007/s41358-021-00262-7>
- Galway, G., & Sheppard, B. (2015). Research and evidence in education decision-making: A comparison of results from two pan-Canadian studies. *Education Policy Analysis Archives*, 23(109), 1-41. <https://doi.org/10.14507/epaa.v23.1905>

- García, E., and Weiss, E. (2020). *COVID-19 and student performance, equity, and U.S. educational policy. Lessons from pre-pandemic research to inform relief, recovery, and rebuilding*. Economic Policy Institute.
- Gitschthaler M., Erling, E. J., Stefan, K., & Schwab, S. (2022). Teaching Multilingual Students During the COVID-19 Pandemic in Austria: Teachers' Perceptions of Barriers to Distance Learning. *Frontiers in Psychology*, 13, 805530.
<https://doi.org/10.3389/fpsyg.2022.805530>
- González, Á., Fernández, M. B., Pino-Yancovic, M., and Madrid, R. (2020). Teaching in the pandemic: reconceptualizing Chilean educators' professionalism now and in the future. *Journal of Professional Capital and Community*, 5(3/4), 265-272.
<https://doi.org/10.1108/JPCC-06-2020-0043>
- Gouëdard, Pont, B., & Viennet, R. (2020). Education responses to COVID-19: Implementing a way forward. *IDEAS Working Paper Series from RePEc*, 224, 0_1–44.
<https://doi.org/10.1787/8e95f977-en>
- Greenhow, C., Lewin, C., & K. Staudt Willet, B. (2021). The educational response to Covid-19 across two countries: a critical examination of initial digital pedagogy adoption, *Technology, Pedagogy and Education*, 30(1), 7-25.
<https://doi.org/10.1080/1475939X.2020.1866654>
- Hamilton, L. S., Kaufman, J. H., and Diliberti, M. (2020). Teaching and leading through a pandemic: Key findings from the American Educator Panels Spring 2020 COVID-19 Surveys. www.rand.org/pubs/research_reports/RRA168-2.html
- Hascher, T., Beltman, S., and Mansfield, C. (2021). Swiss Primary Teachers' Professional Well-Being During School Closure Due to the COVID-19 Pandemic. *Frontiers in Psychology*, 12, 68751. <https://doi.org/10.3389/fpsyg.2021.687512>

- Hitt, D. H., & Tucker, P. D. (2016). Systematic review of key leader practices found to influence student achievement: A unified framework. *Review of Educational Research*, 86(2), 531–569. <https://doi.org/10.3102/0034654315614911>
- Hofinger, V., Reisinger, W., & Walter, R. (2022). Homeschooling in Österreich in problematischen Kontexten. *Zeitschrift für Bildungsforschung*. <https://doi.org/10.1007/s35834-022-00359-1>
- Huber, & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability*, 32(2), 237–270. <https://doi.org/10.1007/s11092-020-09322-y>
- Huber, S. G. (2021). Schooling and Education in Times of the COVID-19 Pandemic: Food for Thought and Reflection Derived From Results of the School Barometer in Germany, Austria and Switzerland. *International Studies in Educational Administration*, 49(1), 6-17.
- Jaekel, A.-K., Scheiter, K., & Göllner, R. (2021). Distance Teaching During the COVID-19 Crisis: Social Connectedness Matters Most for Teaching Quality and Students' Learning. *AERA Open*, 7, 233285842110520. <https://doi.org/10.1177/23328584211052050>
- Kaden. (2020). Covid-19 school closure-related changes to the professional life of a k–12 teacher. *Education Sciences*, 10(6), 1–13. <https://doi.org/10.3390/educsci10060165>
- Khlaif, Z. N., Salha, S., Affouneh, S., Rashed, H., and ElKimishy, A. L. (2021). The Covid-19 epidemic: teachers' responses to school closure in developing countries. *Technology, Pedagogy and Education*, 30(1), 95-109. <https://doi.org/10.1080/1475939X.2020.1851752>

- Kim, L. E., and Asbury, K. (2020). ‘Like a rug had been pulled from under you’: The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90(4), 1062-1083.
<https://doi.org/10.1111/bjep.12381>
- Kim, L. E., Leary, R., and Asbury, K. (2021). Teachers’ narratives during COVID-19 partial school reopenings: an exploratory study. *Educational Research*, 63(2), 244-260.
<https://doi.org/10.1080/00131881.2021.1918014>
- La, V.-P., Pham, T.-H., Ho, M.-T., Nguyen, M.-H., Nguyen, K.-L. P., Vuong, T.-T. et al. (2020). Policy response, social media and science journalism for the sustainability of the public health system amid the COVID-19 outbreak: The vietnam lessons. *Sustainability*. 12(7), 2931. <https://doi.org/10.3390/su12072931>
- Lindner, K.-T., Savolainen, H., & Schwab, S. (2021). Development of Teachers’ Emotional Adjustment Performance Regarding Their Perception of Emotional Experience and Job Satisfaction During Regular School Operations, the First and the Second School Lockdown in Austria. *Frontiers in Psychology*, 12, 702606.
<https://doi.org/10.3389/fpsyg.2021.702606>
- Organization for Economic Co-operation and Development [OECD] (2020a). *Lessons for Education from COVID-19. A policy maker’s handbook for more resilient systems*. OECD Publishing. <https://doi.org/10.1787/0a530888-en>
- Organization for Economic Co-operation and Development [OECD] (2020b). *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*. OECD Publishing.
- Saldaña, J. 2015. *The Coding Manual for Qualitative Researchers*. 3rd ed. Sage publications.

- Schuurman, Henrichs, L. F., Schuurman, N. K., Polderdijk, S., & Hornstra, L. (2021). Learning Loss in Vulnerable Student Populations After the First Covid-19 School Closure in the Netherlands. *Scandinavian Journal of Educational Research, ahead-of-print* (ahead-of-print), 1–18. <https://doi.org/10.1080/00313831.2021.2006307>
- Smith, L., & Riley, D. (2012). School leadership in times of crisis. *School Leadership & Management*, 32(1), 57–71. <https://doi.org/10.1080/13632434.2011.614941>
- Srivastava, A. (2020). ‘Challenges faced by Indian teachers and students in continuing education during institutional closure due to COVID-19 pandemic’ – a study. *Gedrag en Organisati*, 33(2), 697-704.
- Stosich, E. L. (2021). "Are We an Advisory Board or a Decision Making Entity?": Teachers' Involvement in Decision Making in Instructional Leadership Teams. *Leadership and Policy in Schools, ahead-of-print*(ahead-of-print), 1–19. <https://doi.org/10.1080/15700763.2021.1995879>
- United Nations Educational, Scientific, and Cultural Organization [UNESCO] (2020). Education: From disruption to recovery. Available online: <https://en.unesco.org/covid19/educationresponse>
- United States Census Bureau. Household Pulse Survey: Measuring Social and Economic Impacts during the Coronavirus Pandemic. Available at: <https://www.census.gov/data/experimental-data-products/household-pulse-survey.html>. Published 2021
- Zhao. (2020). COVID-19 as a catalyst for educational change. *Prospects (Paris)*, 49(1-2), 29–33. <https://doi.org/10.1007/s11125-020-09477-y>



Article

Pandemic Education—Insights into Teachers' Perceptions of Hygiene Measures in Schools Due to COVID-19

Flora Woltran ^{1,*}, Katharina-Theresa Lindner ¹ and Susanne Schwab ^{1,2,3} 

¹ Centre for Teacher Education, University of Vienna, Porzellangasse 4, 1090 Vienna, Austria

² Department of Education, University of Vienna, Sensengasse 3A, 1090 Vienna, Austria

³ Optentia Research Focus Area, North-West University, 1174 Hendrick Van Eck Boulevard, Vanderbijlpark 1900, South Africa

* Correspondence: flora.woltran@univie.ac.at

Abstract: To prevent the spread of Coronavirus (COVID-19) and protect the health of school staff and students, Austrian education policymakers introduced several hygiene measures that posed new challenges for teachers. The current paper focuses on teachers' perceptions of hygiene measures in schools during the 2021–2022 school year. In Study 1, 1372 Austrian teachers participated in an online survey at the end of 2021. In Study 2, five teachers participated in an in-depth qualitative interview study. The quantitative results show that half the teachers felt a strong burden from the COVID-19 tests, but that the tests worked better when teachers had more teaching experience. Elementary and secondary school teachers, unlike special education teachers, had fewer problems implementing COVID-19 testing. The qualitative results suggest that teachers needed an acclimatization period for previously unfamiliar tasks, such as COVID-19 testing, to become accustomed to this newly implemented measure. Additionally, wearing facemasks was only evaluated positively in the context of self-serving strategies, while the protection of student health was not considered. In summary, the current study calls attention to the particular vulnerability of teachers and provides insights into the reality of schools in times of crisis that could be particularly helpful to education policymakers.



Citation: Woltran, F.; Lindner, K.-T.; Schwab, S. Pandemic Education—Insights into Teachers' Perceptions of Hygiene Measures in Schools Due to COVID-19. *Int. J. Environ. Res. Public Health* **2023**, *20*, 5207. <https://doi.org/10.3390/ijerph20065207>

Academic Editor: Paul B. Tchounwou

Received: 2 February 2023

Revised: 14 March 2023

Accepted: 14 March 2023

Published: 16 March 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: masked education; COVID-19; facemasks; hygiene measures

1. Introduction

1.1. Austria's Education Policy Measures during the COVID-19 Pandemic

Due to the coronavirus disease (2019) (COVID-19) pandemic that emerged in early 2020, school systems around the world plunged into an unprecedented crisis. In a total of 194 countries, either partial or full school closures were used as a measure to control the incidence of infection in educational institutions [1].

At the onset of the COVID-19 pandemic, Austria, like many other countries, responded quickly to the rapid spread of the new virus. From March until May 2020, a nationwide closure of schools went into effect. After several weeks of distance education, teachers and students were able to return to school in May 2020. However, vulnerable students were allowed to continue attending classes remotely. In addition, strict hygiene measures, such as wearing facemasks or washing and disinfecting hands regularly, were implemented throughout the return-to-school period.

With the start of the 2020–2021 school year, the Federal Ministry of Education, Science, and Research published a plan to comply with basic hygiene measures (e.g., disinfection of hands and regular ventilation of classrooms). However, stricter measures were reintroduced in schools in November 2020 due to a sharp rise in infection rates across the state. Accordingly, face-to-face school meetings and teacher conferences were prohibited from that time on. Further, students in ninth grade and above were sent to distance learning until the end of the month. Compulsory schools remained in face-to-face teaching. However,

classes could transition to distance education if circumstances permitted (high numbers of COVID-19 infections). Schools remained open for mentoring and educational support as well as for vulnerable students, such as students with special educational needs or those attending German language support classes to improve their German language skills. After a period of opening and closing schools, students and teachers were required to participate in SARS-CoV-2 antigen testing up to three times per week in February 2021. In addition, facemasks had to be worn outside the classroom in elementary schools and also during lessons in lower secondary schools. In upper secondary schools, wearing FFP-2 facemasks was mandatory.

For the 2021–2022 school year, the Federal Ministry of Education, Science, and Research envisioned continuous in-person instruction without interruptions [2]. During the first three weeks of the beginning semester (September 2021), teachers as well as students of all ages and school types had to undergo SARS-CoV-2 antigen testing three times a week [3]. Depending on the state-specific COVID-19 incidence rate, either level 1 (no or low risk), level 2 (medium risk), or level 3 (high or very high risk) came into effect. Regardless of the current risk level, unvaccinated students and teachers or those not fully recovered from infection had to undergo SARS-CoV-2 antigen and Polymerase Chain Reaction (PCR) testing three times a week [3,4]. At risk level 2, students as well as teachers in elementary and lower secondary schools needed to wear surgical or FFP2 facemasks outside the classroom. In the event of exceptionally high infection rates (level 3), students in grade nine and above as well as their teachers were now required to wear FFP2 facemasks both inside and outside the classroom [3,4]. If a particularly high number of new infections affected individual classes or schools, the responsible educational board could order a transition to distance learning for certain classes or schools [3]. Due to the sharp increase in new COVID-19 infections in mid-November, new measures came into force for the school sector [4]. Accordingly, the Federal Ministry of Education published a decree stating that the decision as to whether a student attended in-person classes would be left to the student or their parents or guardians [4]. Additionally, elementary and lower secondary school students were required to wear surgical facemasks outside classrooms [4]. Students in ninth grade and above were required to wear FFP2 facemasks inside and outside the classroom [4]. Furthermore, all teachers, regardless of grade level, were required to wear FFP2 facemasks at all times [4]. After the Christmas holidays, students who wanted to attend classes in person were able to return to school in January 2022 [5]. Unvaccinated students and teachers still had to undergo weekly SARS-CoV-2 antigen and PCR testing [5]. Wearing facemasks outside the classroom was mandatory for all students and school staff [5]. Starting in February, the obligation to wear facemasks in classrooms was abolished for elementary school students. At the end of February, all students were required to attend class in person, except those infected with COVID-19 and those whose parents or guardians were in the at-risk group [6]. Finally, the requirement to wear facemasks was suspended in April [7]. Two months later, education policymakers decided to discontinue COVID-19 testing in schools [8].

1.2. Teachers' Perceptions of Hygienic Measures in Schools due to COVID-19

Although the role of educational institutions in the SARS-CoV-2 infection process remains unclear [9], school closures were a last resort in many countries during the COVID-19 pandemic [10]. However, previous studies have shown that the suspension of in-person teaching has serious effects on the lives of learners (e.g., [10,11]). Accordingly, several findings point to a deterioration in children's health and well-being and an increase in inequities between students from disadvantaged and more privileged households (e.g., [11–14]). In addition, previous evidence indicates that school closures put students at risk of educational and socioemotional losses [15]. To circumvent such drastic measures and associated negative outcomes, schools in many countries have implemented various measures, such as staggered schedules, switching between digital and face-to-face instruction, reduced class sizes, and hygiene measures [14]. In particular, the general use of facemasks, along with

hand hygiene and social distancing, was found to be particularly effective in controlling infections [15].

Wearing facemasks is a comparatively easy measure to implement in schools [16] and is effective in containing the spread of the virus [17]. However, experts point out several potential physical and social disadvantages, especially for young children and people with respiratory diseases [15]. In addition, wearing facemasks can be challenging for students with special educational or healthcare needs (e.g., deaf or hard-of-hearing children) and their teachers [15]. In general, face masks can obscure a large portion of the face, interfere with verbal and nonverbal communication, and block emotional signals between teachers and students [18], which can negatively affect teacher–student relationships, group cohesion, and learning [17,19]. In addition, facemasks, when worn for prolonged periods, can cause and exacerbate headaches [20]. Because of this, and although wearing facemasks was mandatory in schools during COVID-19 in Austria, implementation in individual schools may have varied because of differences in the local epidemiologic situation and school and class characteristics. This, in turn, may have led teachers and learners to express doubts about appropriate behavior when using face masks [15]. With this in mind, school stakeholders' views on the use of facemasks and perceptions of potential risks should be considered in light of future health crises [15].

Although several studies indicate various negative effects on social interactions between teachers and students associated with the wearing of face masks in the classroom [19,21], Spitzer (2021) [17] emphasizes that maintaining the health of all stakeholders should remain a top priority in schools. For example, Spitzer (2021) [17] suggests compensating for the loss of emotionality through facemasks by strengthening other forms of expression such as posture and gestures. In addition, Nobrega et al. (2020) [22] provide several recommendations for teachers to counteract potential communication problems, such as reducing ambient noise, speaking slowly and articulating correctly, or using features and visual aids as well as pictures in activities.

While wearing facemasks in schools poses several problems for student–teacher relationships, COVID-19 testing, considered a useful strategy for rapidly identifying and isolating infected individuals [11], is often fraught with bureaucratic obstacles. For example, in a study by Unger et al. (2021) [23], school principals indicated that school staff were not prepared for this new responsibility and did not have the necessary skills to administer the COVID-19 tests. Interestingly, Unger et al. (2021) [23] reported that teachers generally favor frequent COVID-19 testing. This is consistent with a study by Lorenc et al. (2021) [24], who found that the majority of school personnel believe that COVID-19 testing in schools is an important measure to ensure safety, but that it should take as little time as possible and be conducted in a non-disruptive manner.

In general, regular COVID-19 testing can be an effective hygiene practice to prevent the uncontrolled and rapid spread of COVID-19 infections in schools. However, it also requires extensive preparation and planning, as well as additional time and space resources, and can therefore pose a logistical challenge for school administrators and teachers [25]. To reduce negative consequences for students and teachers (e.g., reduction in instructional time, bureaucratic burden), COVID-19 testing must be feasible and efficient [23]. In addition, in the event of a staff shortage at the schools, support staff must be deployed who have the necessary knowledge and skills to administer the COVID-19 tests.

1.3. Aim of the Current Study

Although previous studies (e.g., [19,20]) have highlighted several problems associated with the widespread implementation of hygiene measures (e.g., wearing of facemasks and regular COVID-19 testing), no studies are available that have examined differences in teachers' perceptions depending on the type of school or looked at relationships between teaching experience, job satisfaction, and teachers' satisfaction with the COVID-19 testing. Against this background, the current study explores teachers' experiences

with hygiene interventions during an ongoing educational crisis using the following four research questions:

1. How do teachers perceive the implementation of hygienic measures in their school?
2. Are there differences depending on the type of school the teacher teaches in (elementary school, secondary school, or special education school)?
3. Does teaching experience affect teachers' satisfaction with the COVID-19 tests?
4. Is COVID-19 testing related to teacher job satisfaction?

2. Materials and Methods

Project Description: Inclusive Home Learning Teachers' Perspectives (INCL-LEA-T)

The current study's data derive from a broader research project called Inclusive Home Learning Teachers' Perspectives (INCL-LEA-T) [26], which can be divided into three measurement points: the first nationwide school lockdown in Austria (March to May 2020) (t1), the second nationwide school lockdown in Austria (November to December 2020) (t2), and new regulations ensuring "safe school operation" (November to December 2021) (t3). Some of the data used in the current study were used in a previously published paper by Lindner et al. [27]. However, the previously published work focused exclusively on trends in teachers' job satisfaction and emotional adjustment performance over time, including other measurement time points. Items related to teachers' perceptions of the COVID-19 measures were not used. Therefore, it does not provide information on teachers' perceptions of the hygiene measures and how these perceptions relate to job satisfaction and subjectively perceived stress.

For the current paper, only data from t3 were included, as new infection control measures were implemented in Austrian schools at that time. The data collection included both a quantitative online questionnaire using LimeSurvey (Study 1) as well as guided interviews conducted via Zoom (Study 2). To capture the experiences of a large number of teachers, the links to the online survey as well as to the invitation to participate in the interviews were first sent to school principals in all Austrian states and were then forwarded to teachers.

3. Study 1

3.1. Participants

A total of 1372 teachers were recruited to participate in the online survey. However, only 1170 participants were included in the current paper, as they responded to the questions about COVID-19 testing. The remaining 202 participants did not give any answers to these questions. This is because skipping questions was optional when completing the questionnaire. Most participants were female (80.1% female, 19.5% male, 0.4% diverse), and the mean age was 45 years ($M = 44.72$; $SD = 11.38$), with a range of 21 to 64 years. This is broadly consistent with current population characteristics of the gender distribution among teachers in the Austrian education system. Accordingly, in the school year 2020/21 73.13% of the teachers were female [28]. The distribution by school type shows that 36.3% of the participating teachers teach in elementary schools, 27.5% in compulsory secondary schools (compulsory secondary schools are attended by students in grades 5–8; after graduation, students can transfer either to a secondary school or to a vocational preparatory school to complete the mandatory 9th grade or continue their school career until the 12th or 13th grade), 14.6% in academic secondary schools (academic secondary schools are attended by students in grades 5–12 and generally prepare students for postsecondary education), and 13.7% in special schools. The remaining 7.9% of teachers teach at other schools, such as vocational schools. This also roughly corresponds to the current population characteristics. According to Statistics Austria [28], 29% of teachers teach in elementary schools, followed by teachers in secondary compulsory schools (23.5%), teachers in upper academic secondary schools (18%), and teachers in special schools (4.23%) in the 2020/21 school year. In addition, participants had been working as teachers for an average of 18 years at the time of the study ($Md = 18$; $M = 18.65$; $SD = 12.31$), with a range of 0 to 45 years.

The sample is not representative because teachers from elementary and special schools are over-represented, while teachers who teach at higher grade levels (both lower and upper secondary) are under-represented.

3.2. Procedure

The online survey included both closed- and open-ended questions about teachers' perceived opportunities and challenges, as well as their general assessment of current working conditions in schools. To obtain information about teachers' perceptions of the COVID-19 tests, the following three statements were given: "The COVID-19 testing process works well in my classroom", "I feel a heavy burden from regular COVID-19 testing at my school", and "My students feel a heavy burden from regular COVID-19 testing at school". All of these statements had to be ranked on a four-point Likert scale ranging from 1 (strongly disagree) to 2 (partially disagree), 3 (partially agree), and 4 (strongly agree). Teachers' job satisfaction was assessed using a four-point Likert scale developed by Enzmann and Kleiber (1989) [29]. All items were rated on a scale from 1 (strongly disagree) to 4 (strongly agree). The reliability for the current sample was Cronbach's alpha = 0.82. Furthermore, exploratory factor analysis was performed (KMO = 0.86; Bartlett's test = sig., $p < 0.01$). According to the scree plot and the eigenvalue criteria (eigenvalue > 1), one factor with an explained variance of 54.20% was found ($\lambda = 0.59$ – 0.82 ; communalities = 0.34–0.67).

3.3. Data Analysis

The quantitative data were analyzed using SPSS version 27 software. In addition to descriptive statistics, a Pearson correlation analysis was performed. The dependent variables deviated significantly from the normal distribution. However, due to the large sample size, a MANOVA was conducted to examine differences between school types. According to Finch (2005), the statistical method of multivariate analysis of variance is robust even if the requirement of a normal distribution of the data is violated [30]. The dependent variables were the three statements on the COVID-19 test, and the school type (elementary school, compulsory secondary school, academic secondary school, and special school) was used as the independent variable. A post-hoc Scheffé test was conducted to identify group differences. In interpreting effect sizes, we followed Cohen's (1988) findings that η^2 values around 0.01 indicate weak effects, η^2 values around 0.06 indicate moderate effects, and η^2 values around 0.14 indicate strong effects [31].

3.4. Results

Table 1 presents the descriptive statistics of teachers' perceptions of the COVID-19 testing measures. Generally, the majority of teachers felt that the process worked well. Further, around half indicated that they felt high levels of burden due to the testing. For their students, teachers perceived lower levels of burden.

Table 1. Descriptive Statistics.

Item	Strongly Disagree	Partly Disagree	Partly Agree	Strongly Agree	M (SD)
"The process of COVID-19 testing works well in my class/classes."	2.1%	5.6%	33.4%	58.9%	3.49 (0.7)
"I feel a heavy burden from regular COVID-19 testing at my school."	17.8%	31.3%	30.7%	20.2%	2.53 (1.01)
"My students feel very burdened by regular COVID-19 testing at school."	19%	45.1%	28.3%	7.6%	2.25 (0.85)

The results of the multivariate analysis of variance show a significant main effect for school type ($F(3, 1061) = 11.75, p < 0.01, \eta^2 = 0.03$). However, the univariate results only show a significant effect for “The process of COVID-19 testing works well in my class/classes” ($F(3, 1061) = 4.05, p < 0.01, \eta^2 = 0.02$) as well as for “I feel a heavy burden from regular COVID-19 testing at my school” ($F(3, 1061) = 9.74, p < 0.01, \eta^2 = 0.03$). For teachers in special schools ($M = 3.26, SD = 0.87$), the COVID-19 testing process was less satisfactory compared with elementary ($M = 3.50, SD = 0.67; p < 0.01$) and compulsory secondary school teachers ($M = 3.59, SD = 0.62; p < 0.01$). The difference between special school and academic secondary school teachers ($M = 3.47, SD = 0.72$) was not significant. Elementary school teachers ($M = 2.71; SD = 0.96$) experienced higher levels of additional stress due to the COVID-19 tests compared with compulsory secondary school teachers ($M = 2.33; SD = 1.00, p < 0.01$) and special education teachers ($M = 2.42; SD = 0.99; p < 0.05$). Compulsory secondary school teachers felt less burden than academic secondary school teachers ($M = 2.63; SD = 1.04; p < 0.05$) from regular COVID-19 testing. For “My students feel very burdened by regular COVID-19 testing at school”, no significant influence of school type was found ($F(3, 1061) = 2.14, p = 0.03, \eta^2 = 0.01$).

The Pearson correlation analysis indicated that more teaching experience is positively linked with a well-working testing process ($r = 0.18, p < 0.01$). However, the correlation is very small. No correlation was found between teaching experience and perceived level of burden (teachers themselves: $r = 0.02, n.s.$; students: $r = -0.04, n.s.$). Further, teachers’ job satisfaction was higher if COVID-19 testing worked out well ($r = 0.18, p < 0.01$) and if teachers perceived less burden on themselves ($r = -0.26, p < 0.01$) and on their students ($r = -0.17, p < 0.01$). Again, however, the correlation coefficients indicate that the strength of the effects is rather low.

4. Study 2

4.1. Participants

Five teachers participated in the current interview study. Participants were not selected according to a theoretical or criteria-based sampling method. Rather, in the course of the large-scale distribution of the online questionnaire, the teachers were asked to contact the researchers if they were interested in an interview-based study. This was because the researchers expected a state of emergency among educators due to COVID-19-related pedagogical challenges and therefore did not want to push teachers into participating. To provide a better overview of the teachers included in the subsequent data analysis, Table 2 lists their key characteristics.

Table 2. Characteristics of the Interviewed Teachers.

	Gender	School Type	Years of Teaching Experience
Teacher 1	Female	Public secondary school	35
Teacher 2	Male	Public elementary school	6
Teacher 3	Female	Private inclusive elementary and secondary school	5
Teacher 4	Female	Public secondary school	5
Teacher 5	Female	Public secondary school	24

4.2. Procedure

The qualitative method of guided interviews was chosen to collect the in-depth data. Considered a semi-structured approach to qualitative data collection [32], this is one of the basic methods of empirical social research [33]. Guided interviews can vary greatly in preparation and execution (e.g., the predetermined questions may be brief or detailed and interviewers may have more or less freedom in the wording or order of questions) [32]. However, all guided interviews are united by the principle of “as open as possible, as structured as necessary” ([33] p. 560, [34]), in that, on one hand, explicitly preformulated

questions ensure a certain thematic focus, while, on the other hand, the interlocutor is given as much freedom as possible with regard to the course of the conversation.

The guide for the interviews conducted as part of this study was developed based on the theoretical foundation of the Organization for Economic Co-operation and Development (OECD)'s core dimension of teachers' professional well-being [35], but also takes into account aspects relevant to collecting data on teachers' experiences of the changes in the education sector brought about by COVID-19. Accordingly, respondents were asked about their subjectively perceived beliefs about their ability to cope with the challenging situation (i.e., cognitive well-being), their current emotions and moods (i.e., subjective well-being), their working conditions and associated stress levels (both physical well-being and psychological well-being), and the quality of communication and collaboration between teachers, between teachers and students, and between teachers and parents or guardians (i.e., social well-being) [35]. Finally, participating teachers were asked about the potential difficulties that the current school situation poses for vulnerable student groups (e.g., students with special education needs and socioeconomically disadvantaged students) and related trends of worsening educational inequity.

4.3. Data Analysis

For an in-depth analysis of the qualitative data, the documentary method according to Nohl (2009) [36] was used. This method originally goes back to the pioneering knowledge-sociological work of Mannheim (1980) [37] and has been substantially further developed by Bohnsack [38–41]. However, Nohl (2009) [36] was the first to apply the documentary method specifically to the analysis of interviews. Against the background of the basic idea of uncovering practical and everyday experiences of individuals or groups, the aim is to reconstruct tacit knowledge structures [36,41]. To achieve this objective, the first two steps of formulating and reflective interpretation are required. According to Nohl (2009) [36], this involves the selection of sections within the interviews based on the specific research interest. Subsequently, these text passages are transcribed, paraphrased, and briefly summarized as part of the formulating interpretation. This is followed by reflective interpretation, wherein the way in which certain topics are addressed by the interviewees (i.e., the orientation framework) is examined in more detail. To empirically capture the orientation framework, Nohl (2009) [36] next proposes a comparison of different interviews in which the same topic is treated differently. This is followed by the final step of type formation, which aims to identify orientation frameworks shared in multiple interviews. However, although this procedure implies an attempt at generalization, Bohnsack (1989) [38] points out that the formation of types is essentially based on the search for contrasts in commonalities, which leads to the creation of subtypes.

4.4. Results

4.4.1. Teachers' Evaluation of Different Measures to Curb the Incidence of COVID-19 Infections

During the data analysis, several themes were identified. However, in light of the chosen data analysis method, which requires the comparability of the data for subsequent typing, only the themes that appeared in all five interviews were examined in more detail. Those were: COVID-19 testing and wearing facemasks.

Teacher 1: COVID-19 testing is a challenge due to students' lack of practice

When asked about key moments associated with the keywords "COVID-19", "school", and "emotions", Teacher 1 answered: "I tend to think of funny things.". This initial response suggests a subsequent positive narrative. However, Teacher 1 pointed out that the COVID-19 tests observed at baseline were very time-consuming, which she attributed to the lack of student practice: "It took us a long time to train the kids to the point where they were able to do the tests.". Based on this description, it is clear that Teacher 1 attributed the reasons for the amount of time associated with the COVID-19 testing to external factors (e.g., students' lack of practice). In addition, Teacher 1 placed at least some of the responsibility for the

smooth administration of the COVID-19 tests on the students. This is expressed by the fact that while Teacher 1 referred to her efforts to get students used to regular testing (“It took us a lot of time to train the kids (. . .)”), she also referred to the need for students to be willing to make an effort (“(. . .) where they were able to take the tests.”). From further descriptions by Teacher 1, it appears that the tests took less time as the students became more proficient. This is also evident in the following phrase, in which Teacher 1 praised the currently prevailing testing procedure and compared it to military activities: “[N]ow it works like in the army (laughs)”. Finally, Teacher 1 put the previously expressed positive assessment of the current situation into perspective, again referencing the difficulties associated with the newly implemented COVID-19 testing due to problematic student actions. It is unclear at this point why Teacher 1 ended her statements with this somewhat negative review, although the COVID-19 tests—as previously described—worked smoothly during this time.

Teacher 2: COVID-19 testing as a bureaucratic burden

Teacher 2, who worked at an elementary school, described that at first it was difficult to perform the COVID-19 tests with young children. No further explanation was given as to why COVID-19 testing with students in elementary school was particularly challenging. It may be that some of the children lacked the fine motor skills necessary for testing (e.g., inserting the test sticks into the nose and opening the container with the test liquid). However, it could also be due to Teacher 2’s lack of competence in explaining to the children how to conduct the COVID-19 tests correctly. Next, Teacher 2 quickly put this first negative statement into perspective by saying that the testing procedure currently worked well and everyone had gotten used to it. Teacher 2 also stated that testing became a part of everyday life: “It’s normal, it’s part of everyday school life.”. Again, Teacher 2 pivoted from positive remarks and referred to the greatly increased amount of time required for testing concerning preparatory measures. Teacher 2 continued by referring to the testing as an additional bureaucratic burden. In addition, Teacher 2 identified the now mandatory PCR tests in particular as the trigger for the increased work: “It’s just extra bureaucratic work.”. These negative comments about the expenditure of time and bureaucratic burden seem surprising given the previous comment that the tests were going well. Perhaps Teacher 2 simply wanted to conclude his remarks by reiterating the workload associated with the COVID-19 testing.

Teacher 3: Facilitated COVID-19 testing due to students’ familiarity

Teacher 3 reported that the COVID-19 tests were initially feared by many, but that they eventually became a nonissue and worked smoothly. Teacher 3 did not specify at this point whom she meant by “many” and what they were specifically afraid of. Regarding the current COVID-19 testing, Teacher 3 explained: “I don’t find them so bad anymore; it goes very quickly. The kids already know the process and it works well.”. Teacher 3 did not directly cite the children’s proficiency as an argument for her subjectively perceived satisfaction with the way the COVID-19 tests were performed. However, it can be assumed that the mere mention of the students’ role in the testing process indicates that Teacher 3 wanted to express a connection between the students’ familiarity with the COVID-19 tests and the quality of their application. The participant then turned to the Ninja Passes (i.e., a document in which students’ COVID-19 tests were recorded and which was proof of permission to access all public areas), which Teacher 3 found extremely annoying at the beginning of their implementation: “The Ninja Passes annoyed me insanely at the beginning.”. This negative, past-tense narrative is complemented by the reasoning that Teacher 3 had repeatedly received emails from parents or guardians reporting missing stickers or lost Ninja Passes. This is followed by a more positive description of the current situation. Accordingly, Teacher 3 stated that he adapted to using the Ninja Pass check as an opportunity to connect and talk with students.

Teacher 4: Facilitated COVID-19 testing due to support from the school’s janitor

Teacher 4 commented on the organization of the implementation of the COVID-19 tests at her school site and reported that the preparation tasks were done by the school’s

janitor: “The tests are well organized because we have a great school janitor who prepares everything for us.”. The term “we” implies a collectively shared assumption, meaning that this opinion was shared by other teachers working in the school.

Teacher 5: Facilitated COVID-19 testing due to secretarial support

Teacher 5 first described her subjective response to the COVID-19 testing as follows: “Yes, the testing is fascinating. I would never have thought that this would all be my responsibility.”. This statement is contradictory in that the term “fascinating” can be considered synonymous with “captivating” or “intriguing” and therefore implies a subsequent positive narrative. However, the expressed overlap of COVID-19 testing with the teacher’s area of responsibility indicates a sense of being overwhelmed. Next, Teacher 5 described the current smooth implementation of the COVID-19 testing: “Now we take the boxes, we carry them into the classroom, and do the COVID-19 testing with the students. There are no problems, but it is easy for us because we have secretaries who prepare the boxes for us.”. This statement shows that Teacher 5 attributed the smooth implementation of the COVID-19 testing to external causes, namely to the secretaries’ support, and not to herself or the students. This is followed by a reference that puts the participant’s personal school situation—ostensibly perceived as privileged—into perspective. Accordingly, Teacher 5 stated that principals at other schools were tasked with administering the tests: “I personally know elementary school principals who do everything themselves, so all this administration, the lists, the sending, preparing the kits (. . .)”. It is questionable at this point why Teacher 5 brought up the example of the school principals and their situation. One possible interpretation would be that Teacher 5 wanted to express her knowledge of her own privileged situation (secretarial support). Furthermore, it is also conceivable that Teacher 5 intended to simply communicate her sympathy for those school principals. Next, Teacher 5 again referred to her personal situation and the time required for the tests: “[B]ecause we still spend 20 min of the lesson on COVID-19 testing, at least, but if I had to set everything up now, well, that’s, that’s insane.”. It is clear that Teacher 5 critiques the valuable lesson time lost due to the COVID-19 testing. However, the hypothetical assumption of having to do the preparatory and follow-up work in addition to the implementation of the COVID-19 tests itself was finally described by Teacher 5 as “insane”. This hyperbolic wording may serve to put her own situation into perspective once again. Finally, Teacher 5 praised the regularity of the PCR tests in the province of Upper Austria—the federal state in which the teacher worked—but she also emphasized the problem of the lack of support staff and the extreme difficulty that still accompanied teachers’ COVID-19 testing duties.

Teacher 1: Facemasks as a disruptor of teacher–student relationships

In her descriptions, Teacher 1 expressed that she felt better protected by wearing facemasks when vaccinations were not yet made available to teachers. Teacher 1 added, however, that the children noticed when she flinched at physical contact that was too close and quickly put on her facemask: “And the children notice that too, that you flinch and immediately put on the mask again.”. From this statement, it appears that Teacher 1 was afraid of close physical contact with students. Teacher 1 expressed that the students noticed her effort to distance herself, which, in turn, seemed to make her uncomfortable. One possible reason for this could be the close relationship between Teacher 1 and her students, which was disrupted by the hygiene measures implemented due to COVID-19.

Teacher 2: Facemasks as an imposition on young children and their teachers

In the interview, Teacher 2 briefly spoke several times about the difficulties associated with wearing facemasks for both students and teachers. Accordingly, Teacher 2 and his colleagues were very upset that children of elementary school age had to wear facemasks: “What bothers me and my colleagues the most at the moment is that the children have to wear a mask, that the teachers in elementary school have to wear a mask (. . .)”. At this point, Teacher 2 did not describe the specific problems associated with wearing facemasks in elementary schools. However, this becomes clearer in the next paragraph: “I can’t put a teacher in front of six-year-old children (. . .) who stands there with a mask and talks when they are just learning to speak and spell.”. Based on this quote, it is now obvious

that Teacher 2 primarily wanted to point out linguistic difficulties. Thus, students who are just learning to speak, spell, write, and read would be denied observational learning. Finally, Teacher 2 also talked about the problems associated with wearing facemasks for teachers: “I wear the mask, the kids wear the mask. And I think everyone knows that it’s not so great to wear the mask when you have to talk a lot.”. Although Teacher 2 did not elaborate, it can be assumed that he is referring to physical complaints here. Finally, Teacher 2 revisited the linguistic problem already mentioned, but this time shed light on the educators’ perspective: “Conversely, I don’t understand the children so well, not all of them speak very loudly and very clearly, and then it becomes very problematic.”.

Teacher 3: Language and health problems caused by facemasks

Teacher 3 explained that she found the facemasks annoying. She justified this by referencing the language problems that affected both herself and the students: “What really annoys me are the masks (. . .) because the children can hardly understand me when I have the mask on. (. . .) I have to speak extremely loud.”. At this point, Teacher 3 took the students’ perspective and addressed the auditory difficulties associated with wearing facemasks. However, she quickly switched back to her own point of view at the next moment: “I have to speak extremely loud (. . .)”. Subsequently, Teacher 3 mentioned some health problems caused by wearing the facemask: “(. . .) it gives me a sore throat, a headache, it’s hot. It is very uncomfortable.”. In summary, Teacher 3 was primarily concerned with those language and health issues that directly affected herself. This is also evident from the fact that the students’ perspective was used to explain the teacher’s predicament.

Teacher 4: Facemasks for students in fall 2021

Teacher 4 started by looking back to the summer of 2021, when she was “perfectly okay” with no facemasks in schools due to low infection rates, high vaccination rates, and the possibility of regular classroom ventilation. However, in the fall of 2021, Teacher 4 stated that she would have liked the students to wear facemasks: “Because now it’s just difficult with the ventilation, some get sick because it’s so cold in the school (. . .) and because the numbers have risen rapidly in the fall (. . .)”. Interestingly, Teacher 4 referred exclusively to students at this point, suggesting that she saw them as a potential threat to her own health, even though she did not mention this explicitly.

Teacher 5: Facemasks causing legal problems

Teacher 5 first referred to great difficulties associated with facemasks, which would have required actions from the Directorate of Education’s legal department: “(. . .) so there were a lot of problems that the Directorate of Education with the legal department helped us a lot with.”. Teacher 5 then more specifically explained that some complaints from parents or guardians were made through lawyers in letters to the principals: “I don’t know exactly, but there were letters written by some lawyers to the directors that this is forbidden and the Constitution does not allow it (. . .)”. With the initially vague formulation “I don’t know exactly”, Teacher 5 expressed her uncertainty, possibly because she wanted to emphasize her personal distance from these legal conflicts. Another reason for choosing this expression could be that Teacher 5 aimed to avoid more detailed questions from the interviewer. Next, Teacher 5 emphasized that the educators in her school were very accepting of facemasks. A short time later, however, Teacher 5 struck a different tone: “But lately I have noticed that it’s, uh, that it’s crazy now with the masks (. . .) you talk a lot in class and constantly inhale your exhaled air (. . .) I suddenly don’t know what I wanted to say. I walk to the window just for a moment, remove the mask (. . .) it’s okay again, but I notice that the mask is affecting me a lot at the moment.”. It is apparent that although Teacher 5 initially expressed her and her colleagues’ contentment with the facemasks, she then quickly turned to the personally perceived disadvantages.

4.4.2. Typology of Teachers Based on Their Perceptions of Working Conditions during the COVID-19 Pandemic

Based on the preceding in-depth analysis of the participants' statements, typologies were created considering teachers' evaluation of two specific measures to curb the incidence of infections (i.e., COVID-19 testing and wearing facemasks) and the resulting consequences for their work conditions.

Teacher Types regarding COVID-19 Testing

Type A: Rituals and routines as support for coping with new tasks due to responsibility expansion

Teachers 1, 2, and 3 addressed the associated time expenditure regarding the COVID-19 testing. Thus, the COVID-19-related hygiene measure implemented at schools required teachers to take the time to reliably conduct the tests with students in their classes. Since the COVID-19 tests had to take place in schools and always at the beginning of each school day, educators had to sacrifice some of their teaching time. This was seen as a major problem. Teacher 1 associated the issue of the time involved in COVID-19 testing with the students' skills and proficiency. Accordingly, the reduction in time spent on COVID-19 testing and the associated additional workload depended largely on the extent to which students acquired the necessary skills to perform the tests, which required practice, explanations, and support. Through the introduction and implementation of standardized, routine sequences of actions, students' testing performance was gradually perceived as satisfactory. In his comments on the time and workload expenditure of COVID-19 testing, Teacher 2 referred to the additional bureaucratic work. In line with Teacher 1, he emphasized the need for teachers and students to become accustomed to the new measures so that they could become part of everyday school life. Here, too, the ritualization of actions is stressed as an important component in mastering new tasks and the additional bureaucratic burden. In the interview with Teacher 3, a rather positive attitude toward COVID-19 testing emerges. According to Teacher 3, the more often students underwent the COVID-19 testing procedure, the more proficient they became, and the more they integrated it into their everyday school life.

Type B: Smooth implementation of COVID-19 testing due to support staff

Both Teacher 4 and Teacher 5 reported positive experiences with the hygiene measure of regular COVID-19 testing introduced by education policymakers. Satisfaction with the COVID-19 tests was attributed to the fact that both teachers were supported by non-teaching staff who worked at their school. As for Teacher 4, the school's janitor was responsible for administrative tasks, such as preparing the test kits. As for Teacher 5, the preparatory work was done by the school's secretaries. Teachers 4 and 5 shared the (self-perceived) privileged position of having additional support on the COVID-19 tests, which presumably reduced their workload and time expenditure.

Teacher Types regarding Facemasks

Type C: Facemasks protecting teachers

Teacher 1 and Teacher 3 both expressed their positive attitude toward wearing facemasks in schools. However, on closer inspection, the two teachers discussed this issue in different ways.

Subtype C.1: Teachers' facemasks as a protective measure for teachers

In her statement about wearing facemasks in schools, Teacher 1 expressed a feeling of safety. Facemasks were perceived as a protective measure in times when vaccinations were not available to teachers. Therefore, facemasks were a temporary measure that provided a certain level of security for teachers.

Subtype C.2: Students' facemasks as a protective measure for teachers

With respect to Teacher 3, a positive attitude is reflected in a review of fall 2021. Accordingly, Teacher 3 stated that she would rather have students wear facemasks due to

several framework conditions, among others, to protect her own health and to lower her risk of becoming infected herself.

Type D: Facemasks as a source of problems

Several teachers (2, 3, and 5) expressed their negative attitudes toward wearing facemasks in schools.

Subtype D.1: Facemasks as a source of problems for teachers

Teacher 3 and Teacher 5 both expressed their concerns about facemasks with reference to issues that directly affected themselves.

Subtype D.1.1: Facemasks as a source of language and health problems for teachers

In her statement, Teacher 3 strongly focused on language and health problems associated with wearing facemasks in class. Teachers' obligation to speak loudly in order for students to follow the lesson resulted in physical issues that were perceived as uncomfortable.

Subtype D.1.2: Facemasks as a source of cognitive problems for teachers

Teacher 5 explained that wearing a facemask in class caused cognitive problems. Inhaling her exhaled air through the facemask was perceived as a major problem and affected the teacher's ability to stay focused in class.

Subtype D.2: Facemasks as a source of problems for students

This specific subtype could only be identified in Teacher 2, as he was the only one who discussed in detail the student-related issues related to wearing facemasks in schools. Forcing students who were just learning to speak, spell, write, and read to wear a facemask was an unconscionable act and made observational learning impossible.

5. Discussion

Since the beginning of the global COVID-19 pandemic, schools have not solely been a place of education and socialization, but—like any other place that accommodates and fosters social interaction—a potential place for the spread of COVID-19 infections. Therefore, hygienic measures, such as wearing facemasks and regularly testing for the COVID-19 virus, were installed at the government level, and implementation was made mandatory for school staff. Within the current paper, in-depth insights into teachers' perceptions about these measures are provided by using quantitative as well as qualitative methodological approaches.

According to the quantitative results, it became obvious that the implementation of hygienic measures and regulations to prevent COVID-19 infections was not working well in only a small number of classes. More teaching experience was associated with a more positive testing process. However, due to the small effect size, this result is of limited practical significance and application. Furthermore, special education teachers felt that administering the tests was more difficult compared with regular education teachers at both at the elementary and secondary school levels. This could be explained by the fact that special schools were not given special consideration by education policymakers in the development of protective measures. However, special schools are very diverse, and teachers are particularly challenged to address students' situations. For example, some learners might be unable to complete the COVID-19 test independently or might have difficulty doing so due to physical or cognitive impairments. With this in mind, strategic plans for the implementation of COVID-19-related hygiene measures in special schools would have been appropriate and necessary.

Around half of the sample felt high levels of burden due to the testing procedure implemented in schools. However, teachers perceived lower levels of burden for students deriving from the regulations and hygienic measures in the context of education and school. One possible explanation might be that teachers perceived the testing procedure mainly as an occupational burden encompassing increased time expenditure as well as task shifting and enlargement, which was confirmed in the course of the qualitative results. Therefore, testing takes away important instructional time.

As mentioned in the literature review, the organization and implementation of COVID-19 testing procedures hold a high degree of potential for additional workloads and time

expenditures [25]. In accordance with these assumptions, the analysis in the course of the present study reveals similar findings. Regarding teachers' perception of the testing procedure in schools, it is noted as a pivot for their further perception of hygienic measures whether and to what extent teachers considered the organization and implementation of the testing as their task or whether and to what extent this task was attributed to them [24].

Referring to Unger et al. (2021) [23] stating that COVID-19 testing in schools should be feasible and efficient, the participating teachers' perspectives changed from rather negative connotations to more positive attitudes as soon as all participants (especially teachers and students) gained sufficient competence in implementation through repetition and further established habit. This means that when testing was conducted under the teacher's responsibility, the process was perceived as a challenge and an additional burden until it became a ritualized and routine procedure for both students and the teacher. These results emphasize the need for an institutional adaption phase allowing teachers and students to become accustomed to the new measures so they can become part of everyday school life. In this context, the ritualization of actions is highlighted by teachers as an important component in mastering new tasks. A settling-in period regarding new tasks seems to be a necessary as well as feasible demand on the school's internal level as well as at the institutional level, provided that school operations can be run on a regular basis. In this way, the co-construction and co-creation of the "new normal" could be established in a joint process encompassing the perspectives, feedback, and ideas of the diverse stakeholders involved [42–44]. However, in the context of crisis-ridden upheavals, such as the COVID-19 pandemic, unpredictable changes and the resulting need for action make it difficult to introduce new regulations successfully. Due to the possibly unpredictable communication at the decision-making level with stakeholders in practice (school management staff, teachers, etc. (Woltran et al., submitted)) and the resulting sudden changes in the framework conditions of the education field and schools, there has been a lack of time resources for the prepared and reflective implementation of new regulations.

Regarding teachers' different approaches to facemasks, the positive driver for wearing them or wanting others to wear them was a self-protective concern. With regard to the positive connotations of wearing a mask, the interviews did not reveal any motives resulting from altruism or solidarity with other persons present in the school building, but only self-serving strategies. It is interesting to note that regarding health-related reasons for wearing facemasks, teachers predominantly referred to their own health being protected by the regulation, especially against the background that previous studies have increasingly pointed out that the wearing of masks in schools as a hygiene measure has negative effects on students' development [11–15]. Therefore, the finding of the current study does not support the results of previous studies reporting the importance of the social context and interactional altruism, meaning that people would wear facemasks to protect not only themselves but also others [45,46].

A possible explanation for the limitation to teachers' self-protection reasons for wearing a mask (both one's wearing and expecting others to wear a mask) is provided by the literature on motives for health behaviors showing that "anxiety encourages individuals to seek safety-promoting behaviors to protect themselves" ([47] p. 3; [48]), but can promote altruism when the outcome of a specific self-protecting behavior has a beneficial impact on future interactions with individuals profiting from these actions [49].

In line with this are the theoretical background results of the empirical study by Liekefett and Becker (2021) [50] showing that teachers' self-protection motives during the pandemic are mostly based on coping with increased anxiety and stress [44,51–53], whereas group-protection motives are indicative of a group's collective goal or identification with others [50]. In line with this theoretical background, teachers may have perceived themselves as one of the few occupational groups required to follow the state's regulations regarding the organization of work without any independent, autonomous opportunities for co-determination. In the occupational field of schooling, for example, it was not

possible to individually design home-office arrangements or flexible working regulations, as teachers and other educational staff had to follow governmental guidelines [54]. Within the narrative of the so-called system maintainers, teachers may not have identified with the basic needs and fears that the general population faced during the pandemic. Rather, they felt that their fears and anxieties were heightened by the systemically regulated work requirements and, therefore, they saw more of a need for self-protection. The newly constructed narrative of the system maintainers (in German: “Systemerhalter:innen” [55]) describes occupational groups that had to continue their regular work activities with few restrictions or adaptations to cover basic societal needs during the COVID-19 pandemic. In the case of school staff, the education system was maintained. Other studies refer to teachers as “frontline workers” during the COVID-19 pandemic when discussing the professional requirement of unquestioned presence in the work context when it was mandated by policymakers, resulting in heightened emotional and psychological challenges [51,54].

With regard to the negative aspects of wearing a mask during lessons, two of the participating teachers reported from a self-centered perspective, and only one teacher reported disadvantages for students regarding their opportunities for language learning and acquisition. Contrary to expectations, no statements made by the teachers directly referred to the effects of facemasks on the relationship between teachers and students. Against the background of the results of previous empirical studies [17–19], which found interference in social interaction to be one of the main negative consequences of mask-wearing, the lack of thematization by the participating teachers is surprising.

6. Conclusions

Due to COVID-19 and the need to maintain schools as safe places, education policy in Austria has placed a strong focus on infection control processes. Against this backdrop, school staff had no choice but to comply with all requests from policy education stakeholders. As outlined in the current study, a large number of teachers experienced particular difficulties in implementing hygiene measures (i.e., regular COVID-19 testing and wearing facemasks) in their classrooms. This is not surprising given the additional administrative burden often associated with interventions to address COVID-19 infection rates in schools. However, it must be taken into account that wearing facemasks and performing COVID-19 tests were not entirely new for school staff. Accordingly, the wearing of facemasks in schools had already become mandatory for a certain period in the 2020–2021 school year. In addition, COVID-19 testing was conducted regularly in the months leading up to the 2021 summer holidays.

In summary, education policy continued to increase the testing frequency in the 2021–2022 school year but failed to take into account the additional workload it placed on teachers. In this context, it can be hypothesized that there is still a need for administrative staff in all types of schools, which is also in line with the findings of the National Education Report [56]. Accordingly, school principals have already indicated in an earlier survey in 2018 and 2019 that there is a need for personnel to undertake administrative tasks, especially in elementary and compulsory secondary schools. Accordingly, the results of the present study, in conjunction with the findings of previous surveys, lead to the conclusion that education policy in Austria should finally invest more financial resources in the staffing of schools. This is the only way to maintain the quality of the teaching profession and relieve the burden on teachers in the long term. Furthermore, concerning future pandemics and crises, it would be important to determine, within the framework of further large-scale research projects, which factors positively influence the implementation of hygiene measures and thus the perception by school staff. In this context, it would also be necessary to investigate the differences in teachers’ satisfaction with hygiene measures between different types of schools, as well as regional differences, to identify possible needs based on representative samples.

Author Contributions: Conceptualization, F.W., K.-T.L. and S.S.; methodology, F.W., K.-T.L. and S.S.; writing—original draft preparation, F.W., K.-T.L. and S.S.; writing—review and editing, F.W., K.-T.L. and S.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in this study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to sensitive information from which conclusions about the individual participants could be drawn.

Acknowledgments: Open Access Funding by the University of Vienna.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. UNESCO. COVID-19, Education: From Disruption to Recovery. Available online: <https://en.unesco.org/covid19/educationresponse> (accessed on 18 November 2022).
2. BMBWF. Sichere Schule—Schulbetrieb im Schuljahr 2021/22. (25 August 2021) [Safe School—School Operation in the School Year 2021/22, 25 August 2021]. 2021. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjvLE1t39AhUUR_EDHxE9CYgQFnoECBUQAQ&url=https%3A%2F%2Fwww.bmbwf.gv.at%2Fdam%2Fjcr%3Aa40adb1f-c188-4b2e-8e82-14bd054ff636%2Fferlass_sichereschule_20210825.pdf&usg=AOvVaw16bqnpb5Ijb3O1SUQQIFYk (accessed on 12 March 2023).
3. BMBWF. Erlass: Sichere Schule Schuljahr 2021/22 (2. Auflage, 2 November 2021)—Decree: Safe School Year 2021/22 (2nd ed., 2 November 2021). 2021. Available online: <https://www.bmbwf.gv.at/Themen/schule/beratung/corona/sichereschule.html> (accessed on 3 March 2023).
4. BMBWF. Sichere Schule—Schulbetrieb im Schuljahr 2021/22 (3 Auflage, 16 November 2021)—Safe School—School Operation in the School Year 2021/22, 16 November 2021. 2021. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjJnrz41t39AhWBR_EDHd1vBlSQQFnoECBcQAQ&url=https%3A%2F%2Fwww.bmbwf.gv.at%2Fdam%2Fjcr%3Aebd9c24d-de3c-4ad5-b666-c9068bfc246b%2Fferlass_sichereschule_20211102.pdf&usg=AOvVaw1c8RPH2olWj4dN38pCLpEE (accessed on 12 March 2023).
5. BMBWF. Maßnahmen für den Schulbetrieb von 13. Dezember 2021 bis 14. Jänner 2022—Measures for School Operation from 13 December 2021 to 14 January 2022. 2022. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjW0NaP1939AhUsQvEDHdA7Da8QFnoECA0QAQ&url=https%3A%2F%2Fwww.bmbwf.gv.at%2Fdam%2Fjcr%3A1c46455d-f831-4ac0-a0d4-9b1ae5b7617a%2Fschulbetrieb20211213_erlass.pdf&usg=AOvVaw3A9H7tPRTqTvIiw6BJqK0x (accessed on 12 March 2023).
6. BMBWF. Erlass zum Schulbetrieb ab dem 28. Februar 2022—Decree on School Operations as of 28 February 2022, 24 February 2022. 2022. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwIjft2t1939AhXdSfEDHckSDvsQFnoECBgQAQ&url=https%3A%2F%2Fwww.bmbwf.gv.at%2Fdam%2Fjcr%3A6863b90c-572e-491e-a4bb-3e2d6aa364c0%2Fschulbetrieb_20220228_erlass.pdf&usg=AOvVaw26KhCKIYns668IZYmEOWn8 (accessed on 12 March 2023).
7. BMBWF. Erlass zum Schulbetrieb ab dem 25. April 2022—Decree on School Operations as of 25 April 2022, 22 April 2022. 2022. Available online: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjuseHD1939AhXzSvEDHTtJDOQQFnoECBAQAQ&url=https%3A%2F%2Fwww.bmbwf.gv.at%2Fdam%2Fjcr%3A061150c9-8475-49a4-b7b4-dc3b1cd207d7%2Fschulbetrieb_20220419_erlass.pdf&usg=AOvVaw0wgsSjb1R9Vj0l29yEyyV&csid=1678874674570444 (accessed on 12 March 2023).
8. BMBWF. Erlass zum Schulbetrieb ab dem 02 Juni 2022—Decree on School Operations as of 2 June 2022, 30 May 2022. 2022. Available online: https://tfbs-lienz.tsn.at/sites/default/files/2022-05/%40Erlass_Schulbetrieb_ab%202.6.2022.pdf (accessed on 12 March 2023).
9. Sombetzki, M.; Lückner, P.; Ehmke, M.; Bock, S.; Littmann, M.; Reisinger, E.C.; Hoffmann, W.; Kästner, A. Impact of Changes in Infection Control Measures on the Dynamics of COVID-19 Infections in Schools and Pre-schools. *Front. Public Health* **2021**, *9*, 2069. [CrossRef]
10. Kampe, E.O.I.; Lehfeld, A.-S.; Buda, S.; Buchholz, U.; Haas, W. Surveillance of COVID-19 school outbreaks, Germany, March to August 2020. *Eurosurveillance* **2020**, *25*, 2001645. [CrossRef]
11. Krishnaratne, S.; Pfadenhauer, L.M.; Coenen, M.; Geffert, K.; Jung-Sievers, C.; Klinger, C.; Kratzer, S.; Littlecott, H.; Movsisyan, A.; E Rabe, J.; et al. Measures implemented in the school setting to contain the COVID-19 pandemic: A rapid scoping review. *Cochrane Database Syst. Rev.* **2020**, 2020, CD013812. [CrossRef]
12. Grewenig, E.; Lergetporer, P.; Werner, K.; Woessmann, L.; Zierow, L. COVID-19 and educational inequality: How school closures affect low- and high-achieving students. *Eur. Econ. Rev.* **2021**, *140*, 103920. [CrossRef]

13. Frohn, J. Troubled schools in troubled times: How COVID-19 affects educational inequalities and what measures can be taken. *Eur. Educ. Res. J.* **2021**, *20*, 667–683. [CrossRef]
14. Bekova, S.; Terentev, E.; Maloshonok, N. Educational Inequality and COVID-19 Pandemic: Relationship between the Family Socio-Economic Status and Student Experience of Remote Learning. *Vopr. Obraz. Educ. Stud. Mosc.* **2021**, *1*, 74–92. [CrossRef]
15. Esposito, S.; Cotugno, N.; Principi, N. Comprehensive and safe school strategy during COVID-19 pandemic. *Ital. J. Pediatr.* **2021**, *47*, 1–4. [CrossRef]
16. Viner, R.M.; Russell, S.J.; Croker, H.; Packer, J.; Ward, J.; Stansfield, C.; Mytton, O.; Bonell, C.; Booy, R. School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *Lancet Child Adolesc. Health* **2020**, *4*, 397–404. [CrossRef]
17. Spitzer, M. Open schools! Weighing the effects of viruses and lockdowns on children. *Trends Neurosci. Educ.* **2021**, *22*, 100151. [CrossRef]
18. Prather, K.A.; Wang, C.C.; Schooley, R.T. Reducing transmission of SARSCoV-2. Masks and testing are necessary to combat asymptomatic spread in aerosols and droplets. *Science* **2020**, *368*, 1422–1424. [CrossRef]
19. Vergara, D.; Antón-Sancho, A.; Maldonado, J.-J.; Nieto-Sobrin, M. Impact of Using Facemasks on Literacy Learning: The Perception of Early Childhood Education Teachers. *Eur. J. Investig. Health Psychol. Educ.* **2022**, *12*, 639–654. [CrossRef]
20. Ong, J.J.; Bharatendu, C.; Goh, Y.; Tang, J.Z.; Sooi, K.W.; Tan, Y.L.; Tan, B.Y.; Teoh, H.; Ong, S.T.; Allen, D.M.; et al. Headaches Associated with Personal Protective Equipment—A Cross-Sectional Study Among Frontline Healthcare Workers during COVID-19. *Headache* **2020**, *60*, 864–877. [CrossRef]
21. Coelho, S.G.; Segovia, A.; Anthony, S.J.; Lin, J.; Pol, S.; Crosbie, J.; Science, M.; Matava, C.T.; Parekh, R.S.; Caldeira-Kulbakas, M.; et al. Return to school and mask-wearing in class during the COVID-19 pandemic: Student perspectives from a school simulation study. *Paediatr. Child Health* **2022**, *27*, S15–S21. [CrossRef]
22. Nobrega, M.; Opice, R.; Lauletta, M.M.; Nobrega, C.A. How face masks can affect school performance. *Int. J. Pediatr. Otorhinolaryngol.* **2020**, *138*, 110328. [CrossRef]
23. Unger, J.B.; Soto, D.; Lee, R.; Deva, S.; Shanker, K.; Sood, N. COVID-19 Testing in Schools: Perspectives of School Administrators, Teachers, Parents, and Students in Southern California. *Health Promot. Pract.* **2021**, *24*, 350–359. [CrossRef]
24. Lorenc, A.; Kesten, J.M.; Kidger, J.; Langford, R.; Horwood, J. Reducing COVID-19 risk in schools: A qualitative examination of secondary school staff and family views and concerns in the South West of England. *BMJ Paediatr. Open* **2021**, *5*, e000987. [CrossRef]
25. Asgary, A.; Cojocaru, M.G.; Najafabadi, M.M.; Wu, J. Simulating preventative testing of SARS-CoV-2 in schools: Policy implications. *BMC Public Health* **2021**, *21*, 1–18. [CrossRef]
26. Schwab, S.; Lindner, K.-T.; Kast, J. Inclusive Home Learning—Quality of Experience of Students, Teachers and Parents and Current Implementation of Home Schooling. 2020. Available online: https://lehrerinnenbildung.univie.ac.at/fileadmin/user_upload/p_lehrerinnenbildung/Arbeitsbereiche/Bildungswissenschaft/Projekte/INCL-LEA/INCL-LEA-T_und_STEP.pdf (accessed on 12 January 2023).
27. Lindner, K.-T.; Savolainen, H.; Schwab, S. Development of Teachers' Emotional Adjustment Performance Regarding their Perception of Emotional Experience and Job Satisfaction during Regular School Operations, the First and the Second School Lockdown in Austria. *Front. Psychol.* **2021**, *12*, 702606. [CrossRef]
28. Statistics Austria. Bildung in Zahlen. Tabellenband; Education in Numbers. Table Volume. 2022. Available online: https://www.statistik.at/fileadmin/pages/325/Bildung_in_Zahlen_20_21_Tabellenband.pdf (accessed on 3 March 2023).
29. Enzmann, D.; Kleiber, D. *Helfer-Leiden: Stress und Burnout in Psychosozialen Berufen*. (korr. Fassung, 2004); Asanger: Heidelberg, Germany, 1989.
30. Finch, H. Comparison of the Performance of Nonparametric and Parametric MANOVA Test Statistics when Assumptions Are Violated. *Methodology* **2005**, *1*, 27–38. [CrossRef]
31. Cohen, J. *Statistical Power Analysis for the Behavioral Sciences*; Taylor and Francis: New York, NY, USA, 1988.
32. Hopf, C. Befragungsverfahren. Qualitative Interviews in der Sozialforschung. Ein Überblick. In *Qualitative Sozialforschung. Grundlagen, Konzepte, Methoden und Anwendungen*, 2nd ed.; Flick, U., von Kardorff, E., Keupp, H., von Rosenstiel, L., Wolff, S., Eds.; Beltz: Weinheim, Germany, 1995.
33. Helfferich, C. Leitfaden und Experteninterviews. In *Handbuch Methoden der Empirischen Sozialforschung*; Bauer, N., Blasius, J., Eds.; Springer: Berlin/Heidelberg, Germany, 2014; pp. 559–574.
34. Brosius, H.-B.; Haas, A.; Koschel, F. *Methoden der Empirischen Kommunikationsforschung: Eine Einführung*, 6th ed.; Springer: Berlin/Heidelberg, Germany, 2012.
35. Organisation for Economic Co-Operation and Development (OECD). *Teachers' Well-Being. A Framework for Data Collection and Analysis*; OECD Working Paper No. 213; OECD: Paris, France, 2020.
36. Nohl, A.-M. *Interview und Dokumentarische Methode. Anleitungen für die Forschungspraxis*, 3rd ed.; Springer: Cham, Switzerland, 2009.
37. Mannheim, K. *Strukturen des Denkens*. Frankfurt am Main; Springer: Berlin/Heidelberg, Germany, 1980.
38. Bohnsack, R. *Generation, Milieu und Geschlecht—Ergebnisse aus Gruppendiskussionen mit Jugendlichen*; Budrich: Kornwestheim, Germany; Springer: Berlin/Heidelberg, Germany, 1989.
39. Bohnsack, R. A interpretação de imagens e o método documentário. *Sociologias* **2007**, *18*, 286–311. [CrossRef]

40. Bohnsack, R. *Rekonstruktive Sozialforschung: Einführung in Qualitative Methoden*, 9th ed.; Budrich: Kornwestheim, Germany; Springer: Berlin/Heidelberg, Germany, 2014.
41. Bohnsack, R. *Praxeologische Wissenssoziologie*; Springer: Berlin/Heidelberg, Germany, 2021; Volume 22, pp. 87–105. [\[CrossRef\]](#)
42. Barnett, W.S.; Grafwallner, R.; Weisenfeld, G.G. Corona pandemic in the United States shapes new normal for young children and their families. *Eur. Early Child. Educ. Res. J.* **2021**, *29*, 109–124. [\[CrossRef\]](#)
43. Corpuz, J.C.G. Adapting to the culture of ‘new normal’: An emerging response to COVID-19. *J. Public Health* **2021**, *43*, e344–e345. [\[CrossRef\]](#)
44. Jandrić, P.; Martinez, A.F.; Reitz, C.; Jackson, L.; Grauslund, D.; Hayes, D.; Lukoko, H.O.; Hogan, M.; Mozeliuss, P.; Arantes, J.A.; et al. Teaching in the Age of Covid-19—The New Normal. *Postdigital Sci. Educ.* **2022**, *4*, 877–1015. [\[CrossRef\]](#)
45. Cheng, K.K.; Lam, T.H.; Leung, C.C. Wearing face masks in the community during the COVID-19 pandemic: Altruism and solidarity. *Lancet* **2022**, *399*, e39–e40. [\[CrossRef\]](#)
46. Martinelli, L.; Kopilaš, V.; Vidmar, M.; Heavin, C.; Machado, H.; Todorović, Z.; Buzas, N.; Pot, M.; Prainsack, B.; Gajović, S. Face Masks During the COVID-19 Pandemic: A Simple Protection Tool with Many Meanings. *Front. Public Health* **2021**, *8*, 606635. [\[CrossRef\]](#)
47. Luo, Y.-F.; Yang, S.-C.; Hung, S.-C.; Chou, K.-Y. Exploring the Impacts of Preventative Health Behaviors with Respect to COVID-19: An Altruistic Perspective. *Int. J. Environ. Res. Public Health* **2022**, *19*, 7573. [\[CrossRef\]](#)
48. Meulders, A.; van Daele, T.; Volders, S.; Vlaeye, J.W.S. The use of safety-seeking behavior in exposure-based treatments for fear and anxiety: Benefit or burden? A meta-analytic review. *Clin. Psychol. Rev.* **2016**, *45*, 144–156. [\[CrossRef\]](#)
49. Chan, E.Y. Self-protection promotes altruism. *Evol. Hum. Behav.* **2017**, *38*, 667–673. [\[CrossRef\]](#)
50. Liekefett, L.; Becker, J. Compliance with governmental restrictions during the coronavirus pandemic: A matter of personal self-protection or solidarity with people in risk groups? *Br. J. Soc. Psychol.* **2021**, *60*, 924–946. [\[CrossRef\]](#)
51. Pressley, T.; Ha, C.; Learn, E. Teacher stress and anxiety during COVID-19: An empirical study. *Sch. Psychol.* **2021**, *36*, 367–376. [\[CrossRef\]](#)
52. Pressley, T.; Ha, C. Teacher Exhaustion during COVID-19: Exploring the Role of Administrators, Self-Efficacy, and Anxiety. *Teach. Educ.* **2021**, *57*, 61–78. [\[CrossRef\]](#)
53. Uysal Toraman, A.; Kalkim, A.; Korkmaz, E.K. Coronavirus anxiety and cyberchondria among teachers during the COVID-19 pandemic: An online survey: Coronavirus anxiety and cyberchondria. *Curr. Psychol.* **2022**, 1–7. [\[CrossRef\]](#)
54. Sobti, R.C.; Sobti, V. *Frontline Workers and Women as Warriors in the COVID-19 Pandemic*; Routledge: Oxfordshire, UK, 2022. [\[CrossRef\]](#)
55. Haim, D.; Mader, K.; Schultheiß, J. Beklatschte Systemrelevanz; Applauded system relevance. *Kurswechsel* **2021**, *4*, 7–17.
56. Vogtenhuber, S.; Juen, I.; Zintl, R.; Aschauer, D.; Hafner, T.; Oberwimmer, K. Indikatoren B: Input—Personelle und Finanzielle Ressourcen. In *Bundesministerium für Bildung, Wissenschaft und Forschung (BMBWF); Nationaler Bildungsbericht*; Vienna, Austria, 2021; pp. 196–249. [\[CrossRef\]](#)

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.

Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development

Flora Woltran^{a*}, Katharina-Theresa Lindner and Susanne Schwab^{a,b,c}

^a *Centre for Teacher Education, University of Vienna, Porzellangasse 4, 1090 Vienna, Austria;* ^b*Department of Education, University of Vienna, Sensengasse 3A, 1090 Vienna, Austria;* ^c *Optentia Research Focus Area, North-West University, Vanderbijlpark, 1174 Hendrick Van Eck Boulevard, Vanderbijlpark 1900, South Africa*

Flora Woltran; flora.woltran@univie.ac.at *corresponding author

Covid-19 Slide in Education increases Inequities: Insights into Teachers' Perceptions of Students' Academic Development

International studies have found that students who were already at risk of educational disadvantage before the pandemic tended to fall even further behind compared to other learners. The current study aims to shed light on teachers' awareness of prevailing discriminatory environments in schools and their suggestions for countermeasures. Results from four online quantitative cross-sectional studies (N = 6,659) indicate that each teacher sample is aware that overall academic achievement has declined, particularly among at-risk groups. Respondents to the most recent survey (November 2023) locate the factors contributing to educational inequity in the out-of-school setting. In terms of suggestions for countermeasures, participants shared a vision of fundamental and far-reaching changes in the education system. The paper includes a detailed discussion of the findings and an outlook on possible implications.

Introduction

Internationally, there is growing empirical evidence that student academic development was affected by the COVID-19 pandemic and associated school closures, which depended on a variety of influencing factors (e.g., Amin et al., 2021; Depping et al., 2021). The so-called COVID slide in student learning points to the importance of addressing the statistically confirmed fact that students had more difficult access to learning opportunities during COVID-19 and consequently made lower learning gains. Moreover, it speaks to educators' awareness of the potentially widening gap in educational (dis)advantage in their respective school systems (Kuhfeld & Tarasawa, 2020).

Students Learning Loss as a global Concomitant Phenomenon of the Pandemic

The term learning loss is generally defined as “any specific or general loss of

knowledge and skills or reversal in academic progress, most commonly due to extended gaps or discontinuities in a student's education" (The Glossary of Education Reform, 2017). Before the COVID-19 pandemic and during normal school operations, the term primarily referred to regressions in student learning due to summer break, which in many countries includes several months without school (Kuhfeld, 2019;). Based on the evidence of achievement losses under normal educational conditions, researchers predicted learning losses among students worldwide at the onset of the global school closures due to the pandemic that would be more severe and biographically drastic than those caused by summer vacation (Azevedo, 2020; Sabates et al., 2021).

At this point, more than three years after the pandemic outbreak, numerous studies have shown declines in learning outcomes and downward trends in student academic achievement (e.g., Engzell, et al., 2021 regarding The Netherlands; Haser et al. regarding Turkey, 2022; Zhdanov et al., 2022 regarding Russia; Zheng et al., 2022 regarding China). Systematic reviews that summarize and compare international studies of student academic development (e.g., Betthäuser et al., 2022; Patrinos et al., 2022; Spiteri et al., 2023) have found that student learning and achievement potential is severely impacted due to school closures and missed learning opportunities, contributing to the perpetuation of educational inequities (Azevedo, 2020; Azevedo & Montoya, 2021; Hevia et al., 2022).

Overall, most studies included in systematic reviews of student academic development during the pandemic suggest significantly higher learning loss for socioeconomically disadvantaged (SED)¹ students compared with their peers (e.g.,

¹ Students are considered socioeconomically disadvantaged if their parents or guardians have low levels of education and are employed in lower-income occupations.

Andrew et al., 2020 for England; Bonal & Gonzales, 2020 for Spain; Crawford et al., 2021 for Pakistan).

School Closure and Learning Loss during COVID-19 in Austria

Regarding school closures due to the COVID-19 pandemic in Austria, regular school operations were suspended for several periods. The first phase of school closures extended from March 2020 to the end of May 2020. Until the beginning of summer vacation at the end of June 2020, the school classes were divided into groups, with the groups taking turns in attending school in person. The following school year began in September 2020 as a regular school operation in compliance with special hygiene and contact regulations. However, in November 2020, as well as in January 2021, school operations were switched back to distance learning (with exceptions for students attending special schools and German language support courses (GLSC)²). The schools finally closed in spring 2021 and lasted until the end of April 2021 (Altrichter & Helm, 2022; BMBWF 2020, 2021).

Austrian education policy has increased school closures due to the COVID-19 pandemic. In this context, and against the backdrop of the international studies already presented on academic achievement losses (e.g., Spiteri et al., 2023), the question arises whether similar findings apply to students' academic development in the Austrian education system. Analyses by Weber et al. (2021) found that at the within-class level, differences in reading proficiency widened between students with a family language other than the language of instruction and SED students and their classmates. Furthermore, results of a study by Kast et al. (2021) indicate that teachers were more

² GLSC students are pulled out of mainstream classes in elementary and secondary schools to receive up to 20 hours of segregated German language support per week.

likely to hold negative self-efficacy beliefs toward students with special educational needs (SEN³) during the distance learning phase than toward mainstream students (Kast et al., 2021). Teachers' self-efficacy beliefs, in turn, are likely to affect student outcomes (Lauermann & ten Hagen, 2021).

Teachers' Awareness of Educational Inequities

According to international evidence, the pandemic posed serious risks of learning loss, particularly for students who were already educationally disadvantaged. Following social reproduction theory, education and its access can be viewed as a cultural good that is granted or denied across generations in institutionalized systems such as schooling and education system due to various factors (Mohan et al., 2021). In the context of increased risk, students or affected family systems are better able to withstand new circumstances and demands when available resources match the needs created by the crisis (Holloway & Pimlott-Wilson, 2019). Accordingly, families who had the necessary resources (e.g., technical equipment) and skills (e.g., language proficiency) were in a more optimal position to support their children's learning during distance education (Mohan et al., 2021). Against this background, the question arises whether teachers are aware of these very differences and that certain factors at the individual level led to (de) privileging processes in managing school learning processes during the COVID-19 pandemic and school closures. Therefore, it is important to examine teachers' awareness of the role of school settings and instructional practices in perpetuating educational inequities. In addition, because teachers work on the front lines

3 In Austria, a special educational need is to be assigned if a student, due to a not only temporary physical, mental or psychological functional impairment or impairment of sensory functions, is not able to follow the lessons without special educational support.

of the education system and experience firsthand the effects of educational inequities, it is essential to disclose their suggestions for improvement.

The Current Study

The current study is based on cross-sectional data collected during a large-scale national study called Inclusive Home Learning Teacher (INCL-LEA T) and aims to shed light on teachers' awareness of the prevailing discriminatory environments in schools and their suggestions for necessary countermeasures. The INCL-LEA-T study was first conducted between March, and May 2020 (Study 1), as nationwide school closures took place throughout Austria during this period. To date, it includes several subsequent cross-sectional studies conducted in November 2020 (Study 2), 2021 (Study 3), and 2022 (Study 4).

Based on previous empirical findings, the current article tries to investigate the following research questions:

- (1) How do teachers in Austria perceive the academic development of student academic achievement in the school years 2020/21, 2021/22, and 2022/23?
- (2) Can differences in teachers' perceptions of academic development be identified concerning different groups of students (i.e., students with SEN, SED students, GLSC students, and mainstream students⁴)?
- (3) What aspects do teachers believe contribute to educational inequity among these student groups?

⁴ Students, who are not socio-economically disadvantaged, do not have special educational needs and do not attend German language support classes are referred to as students mainstream students. This is for better readability, but is in no way intended to imply that these students do not have special abilities or competencies.

- (4) What changes do teachers think are needed in the Austrian school system to combat educational inequity?

Method

Procedure

In all four cross-sectional studies, data were collected using an online questionnaire created with LimeSurvey. The link to the online questionnaire was distributed by e-mail to the school principals of all nine Austrian provinces. Response rates to the cross-sectional studies 1-4 varied widely, reflecting the ever-changing context and complications for teachers. For this reason and to ensure the complete anonymity of participants, no school or class information could be traced. Consequently, the results of the four cross-sectional studies must be considered as individual snapshots of teachers' perceptions and thus separate from one another.

Ethical Considerations

Prior to their participation in the study, participants signed a written informed consent form. With their signature, participants confirmed that their data would be kept strictly confidential and anonymized but would be used for research purposes. In addition, local school authorities reviewed and approved the study. Due to the design of the study, no ethical approval had to be obtained from the ethics committee of the University of Vienna.

Participants

Quantitative (Studies 1-4)

Study 1. A total of 2,497 teachers (f=2,077 women, m=412, d=8) participated in Study 1 (response rate: 70%). The mean age of participants was 44.79 years (SD=11.45) and teaching experience varied from zero to 46 years with a mean teaching experience of 18.92 years (SD=12.51). Most of the sample was employed in elementary schools⁵ (38%), 26.1% taught in a compulsory secondary school⁶ 16.2% in an academic secondary schools⁷, and 12% in special education schools. The missing 7.7% taught in other types of schools (e.g., vocational schools).

Study 2. Study 2 included data from 2,478 teachers (f=2,021, m=436, d=7; response rate: 77%). The mean age of teachers was 43.7 years (SD = 11.68) and years of teaching was 17.69 years (SD=12.29). Most of the sample taught in elementary schools (34.2%), followed by compulsory secondary schools (29.4%) and academic secondary schools (19%). 6.8% worked in special schools and the missing 10.6% taught in other types of schools.

Study 3. During Study 3, 1,204 teachers (f=963, m=227, d =7; mean age=44.58, SD=11.34; mean teaching experience=18.55 years, SD=12.15) completed the student development questionnaire (response rate: 88%). More than one-third of the sample (36.3%) taught in elementary schools. 27.2% of participants taught in compulsory

⁵ Elementary schools are attended by students in grades 1-4. After graduation, students can transfer to either a compulsory secondary school or an academic secondary school, depending on their grades.

⁶ Compulsory secondary schools are attended by students in grades 5–8. After graduation, students can transfer to either an academic secondary school or a vocational preparatory school to complete the mandatory 9th grade or continue their school career until the 12th or 13th grade.

⁷ Academic secondary schools are attended by students in grades 5–12 and generally prepare students for postsecondary education.

secondary schools, 15.1% in academic secondary schools, 13.8% in special education schools, and 7.3% in another type of school.

Study 4. A total of 491 individuals participated in Study 1, of which the responses of 480 teachers ($f=371$, $m=106$, $d=.0$, mean age=47.43, $SD=10.48$; mean teaching experience=22.08 years, $SD=11.54$) (response rate: 97%). Of these, 40.8% worked in elementary schools, 26.3% in compulsory secondary schools, 16.7% in academic secondary schools, 4.8% in special education schools, and the missing 11.3% in other schools.

Qualitative (Study 4)

For the qualitative sample, data were considered from a total of 620 ($f=485$) teachers who answered either one or both of the open-ended questions at the end of the online-based survey. Differences in sample size for the quantitative ($N=480$) and qualitative ($N=620$) sub-studies of Survey 4 are due to differences in participant response frequency, as skipping questions was optional throughout the completion of the questionnaire.

Measures

Quantitative (Studies 1-4)

The online questionnaire used to collect data for the current study included questions about participants' sociodemographic characteristics, qualifications, aspects of their daily work, well-being, job satisfaction, and perceptions of students' academic development. However, the questionnaires used at the four measurement points also show slight differences, as they were prepared, considering the respective framework conditions. Accordingly, the questionnaires used in Studies 1-4 all included questions

about participants' general well-being, job satisfaction, perceived stress, and the quality of collegial cooperation. In Studies 1 and 2, teachers were also asked whether and how they maintained contact with students during distance learning. Study 3 asked participants about their perceptions of policy communication of the new COVID-19 measures in schools. Study 4 placed a stronger focus on perceptions of parental involvement and its role in perpetrating inequities.

For the current study, participants responses related to perceptions of student academic development were considered. However, in Study 1, in contrast to Studies 2-4, a slightly differently worded question was used to elicit teachers' perceptions. Accordingly, during Study 1, participants were asked to answer the following question on a 4-point Likert scale, ranging from not at all true (1) to certainly true (4): *I think that this child continues to do well in home learning in terms of academic performance.* With regards to Studies 2-4, participants were asked to answer the following question on a 5-point Likert scale, ranging from significantly worse (1) to significantly better (5): *How do you estimate the impact due to COVID-19 (e.g., school closures, etc.) compared to the time before COVID-19 on the academic development of the following students?* In all survey periods, participants were presented with four different fictitious students (i.e., SED students, students with SEN, GLSC students, and mainstream students) on which to answer this question.

Qualitative (Study 4)

To gather qualitative information about teachers' perspectives on aspects that contribute to educational inequity among different vulnerable student groups and on changes needed to address educational inequity, the following two open-ended questions were asked at the end of the Study 4 online questionnaire:

- (1) In your opinion, what factors contribute to educational inequity in Austria?
- (2) In your opinion, what changes are needed in the Austrian school system to eliminate educational inequity?

Data Analysis

Quantitative (Studies 1-4)

Quantitative data were analyzed using SPSS Statistics Software version 28 (IBM Corp, 2021). In addition to descriptive statistics (means, standard deviations), t-tests and analyses of variance were calculated for repeated measures (with case as the repeated factor).

Qualitative (Study 4)

Participants' responses to the two open-ended questions in the online survey in Study 4 were imported from SPSS into MAXQDA (2022). Following the inductive-reflexive thematic approach introduced by Brown and Clarke (2022), all participant responses were read in their entirety by the two first authors before the coding process commenced. During this process, the authors first gained an initial insight into teachers' perspectives. The next step was to initiate the creation of codes, which involves inductively applying specific code labels to broader or narrower segments in each data element (Brown and Clarke, 2022). To ensure inter-coder reliability and foster reflexivity and dialogue within the research team, the first two authors performed the open coding independently. Finally, the first two authors jointly identified connections and alliances and examined patterns of meaning within the data set (Braun & Clarke, 2006). Themes is an umbrella term that encompasses a variety of data linked by a common idea to capture shared meanings or key differences in narratives (Braun &

Clarke, 2022).

Results

Quantitative (Studies 1-4)

Study 1

Descriptive results show that, in contrast to SED students, GLSC students, and students with SEN, participants of Study 1 rated the academic development of mainstream students higher (see Table 1). In addition, most teachers surveyed believe that mainstream students who learn at home do well in terms of academic development. However, for SED students, GLSC students, and students with SEN, teachers tend to think that this is not the case. Univariate analysis for repeated measures (with the 4 cases as measurement repetition factor) showed a significant effect for the sample of the current study ($F_{3,2541}=1260.49$, $p<.01$, $\text{Eta}^2=.60$). Post-hoc-tests indicated that the academic development of mainstream students was rated significantly more positively (SED: $t_{2516}=58.61$, $p<.01$; GLSC: $t_{2516}=54.55$, $p<.01$; SEN: $t_{2516}=48.26$, $p<.01$). Further, the academic development of SED students was rated less positive compared to GLSC students ($t_{2516}=-3.54$, $p<.01$) or students with SEN ($t_{2516}=-11.41$, $p<.01$). Finally, GLSC students were rated more negatively in their academic development compared to students with SEN ($t_{2516}=-7.30$, $p<.01$).

Table 1. Assessment of students' academic development by participants in Study 1

<i>Student**</i>	<i>Not at all true</i>	<i>Somewhat not true</i>	<i>Somewhat true</i>	<i>Certainly true</i>	<i>M (SD)*</i>
SED student	24.4%	61.6%	12.6%	1.4%	1.91 (0.65)
GLSC student	23.3%	60.5%	14%	2.2%	1.95 (0.68)
Student with SEN	19%	60%	18.4%	2.7%	2.05 (0.69)

Mainstream student	3.3%	24.2%	61.3%	11.2%	2.80 (0.67)
---------------------------	------	-------	-------	-------	----------------

Note. Answers refer to the item “I think that this child continues to do well in home learning in terms of academic performance.”

*Scale ranges from 1=not at all true to 4 = certainly true

**N = 2,517 (for all student groups)

Study 2

According to the participants of Study 2, the academic development of SED students, GLSC students, and students with SEN was negatively affected by COVID-19, while mainstream students developed similarly compared to peers before COVID-19 (see Table 2). Analysis of variance for repeated measures showed a significant effect for cases ($F_{3, 862}=424.03$, $p<.01$, $\eta^2=.60$). The development of mainstream students was significantly more positively evaluated compared to all other students (SED: $t_{2154}=52.72$, $p<.01$; GLSC: $t_{1153}=33.57$, $p<.01$; SEN: $t_{1308}=29.20$, $p<.01$). In addition, the academic development of students with SEN was more positively evaluated than that of GLSC students ($t_{891}=5.70$, $p<.01$), as well as SED students ($t_{1284}=9.38$, $p<.01$).

Table 2. Assessment of students' academic development by participants in Study 2

Student	Significantly worse	Worse	Neither	Better	Clearly better	M (SD)*
SED student (N=2,203)	23.1%	52.5%	22%	2.2%	0.2%	2.04 (0.75)
GLSC student (N=1,174)	27.5%	47.5%	20.2%	4.2%	0.6%	2.03 (0.84)
Student with SEN (N=1,345)	20.2%	41.8%	33.5%	4%	0.4%	2.23 (0.83)
Mainstream student (N=2,428)	1.7%	15.3%	71.5%	9.6%	2%	2.95 (0.63)

Note. Answers refer to the item “How do you estimate the impact due to COVID-19 (e.g., school closures, etc.) compared to the time before COVID-19 on the academic development of the following students?”

*Scale ranges from 1= significantly worse to 5 = clearly better; as teachers could indicate that these students are not in their class, the sample size is different for each case.

Study 3

In terms of participants' perceptions of students' academic development, the results of this study are consistent with those of Study 2. The significant effect of the case was confirmed by the results of a repeated-measures analysis of variance ($F_{3, 521}=264, p<.01, \eta^2=.60$). Post-hoc tests confirmed that the development of mainstream students was most positively evaluated (SED: $t_{1054}=35.64, p<.01$; GLSC: $t_{649}=25.65, p<.01$; SEN: $t_{699}=21.19, p<.01$), followed by students with SEN (SED: $t_{721}=7.55, p<.01$; GLSC: $t_{530}=5.92, p<.01$).

Table 3. Assessment of students' academic development by participants in Study 3

Student	Significantly worse	Worse	Neither	Better	Clearly better	M (SD)*
SED student (N=1,101)	32.6%	49.2%	17.1%	0.8%	0.3%	1.87 (0.73)
GLSC student (N=659)	32.6%	49.5%	15.9%	1.5%	0.5%	1.88 (0.76)
Student with SEN (N=747)	24.9%	45.2%	28%	1.5%	0.4%	2.07 (0.79)
Mainstream student (N=1,150)	2.8%	29.7%	61%	5.7%	0.8%	2.72 (0.65)

Note. Answers refer to the item “How do you estimate the impact due to COVID-19 (e.g., school closures, etc.) compared to the time before COVID-19 on the academic development of the following students?”

*Scale ranges from 1= significantly worse to 5 = clearly better; as teachers could indicate that these students are not in their class, the sample size is different for each case.

Study 4

For the fourth measurement point, participants' ratings of students' academic development were partially consistent with those of the participants in Studies 2 and 3. Accordingly, most teachers rated the academic development of those mainstream students the highest (see Table 4). According to the results of a repeated measures

ANOVA, the effect of the case was significant ($F_{3, 245}=82.75$, $p<.01$, $\eta^2=.50$). Post-hoc t-tests confirmed that the highest scores were obtained for mainstream students (SED: $t_{443}=18.86$, $p<.01$; GLSC: $t_{320}=9.73$, $p<.01$; SEN: $t_{296}=9.80$, $p<.01$). The lowest scores were found for SED students (GLSC: $t_{321}=5.23$, $p<.01$; SEN: $t_{303}=7.26$, $p<.01$).

Table 4. Assessment of students' academic development by participants in Study 4

<i>Student</i>	<i>Significantly worse</i>	<i>Worse</i>	<i>Neither</i>	<i>Better</i>	<i>Clearly better</i>	<i>M (SD)*</i>
SED student (N=305)	28.7%	53.6%	17.0%	0.2%	0.4%	1.9 (0.71)
GLSC student (N=453)	25.5%	44.9%	22.5%	5.8%	1.2%	2.12 (0.90)
Student with SEN (N=325)	22%	47.9%	27.2%	2.3%	0.7%	2.12 (0.79)
Mainstream student (N=467)	3.4%	38.3%	51.8%	4.7%	1.7%	2.63 (0.71)

Note. Answers refer to the item “How do you estimate the impact due to COVID-19 (e.g., school closures, etc.) compared to the time before COVID-19 on the academic development of the following students?”

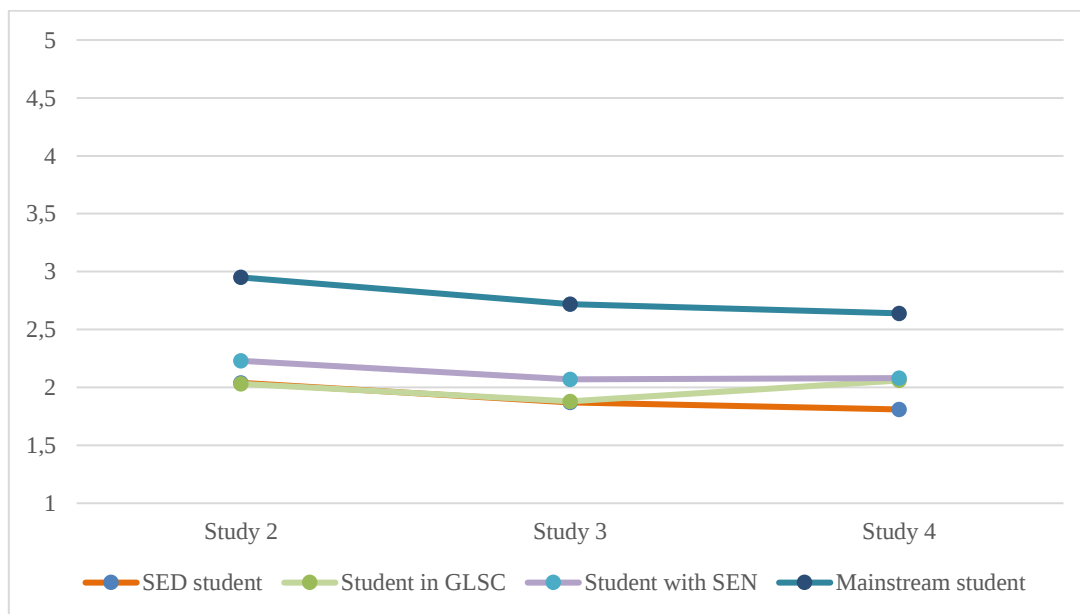
*Scale ranges from 1=significantly worse to 5=clearly better; as teachers could indicate that these students are not in their class, the sample size is different for each case.

Trend Analysis Studies 2-4

Figure 1 provides an overview of teachers' assessment of students' academic development over time, including the mean scores of Studies 2-4. Study 1 was not included in this trend analysis because the item used in Study 1 did not match the item used in Studies 2-4. The trend analysis reflects that teachers' ratings of academic achievement worsened in the school years affected by COVID-19 for students with SEN and for mainstream students. However, it also indicates that according to teachers, academic development of GLSC students and students with SEN declined from the 2020/21 school year (Study 2) to the 2021/22 school year but returned to near Study 2 baseline levels in the 2022/23 school year, which was not the case for SED students.

A t-test was conducted to examine differences in teacher ratings for each student group. The results of the between-study comparisons indicate that the negative impact of COVID-19 on student academic development increased significantly ($p < .003$) from the 2020/21 school year (Study 2) to the 2021/22 school year (Study 3) for all student groups. Comparisons between the 2021/22 school year (Study 3) and the 2022/23 school year (Study 4) show significant differences in teachers' assessments for SED students ($t_{1123} = 2.99, p < .003$), GLSC students ($t_{671} = -6.16, p < .001$), and mainstream students ($t_{1174} = 4.438, p < .001$), but not for students with SEN ($p > .65, n.s.$). When comparing the results of Studies 2 (school year 2020/21) and 4 (school year 2022/23), teachers' ratings were statistically different for SED students ($t_{2268} = 14.63, p < .001$), students with SEN ($t_{1386} = 6.83, p < .001$) (and mainstream students ($t_{2516} = 24.8, p < .001$) but not for GLSC students ($p > .17, n.s.$).

Figure 1. Teachers' rating of the impact of COVID-19 over time



Note. Mean values refer to the item “How do you estimate the impact due to COVID-19 (e.g., school closures, etc.) compared to the time before COVID-19 on the academic development of the following students?”

*Scale ranges from 1= significantly worse to 5 = clearly better

Qualitative (Study 4)

The following section presents the main themes that were developed during the qualitative data analysis following Braun and Clarke's (2006; 2022) reflexive thematic approach. The results are presented sequentially, first describing the themes relevant to the factors that participants believe contribute to educational inequity and then describing the changes that participants believe are needed to address educational inequity.

Factors contributing to Educational Inequity

Concerning RQ 3, two central themes were identified in the course of the qualitative data analysis. Both themes represent common ideas shared in the participants' responses, but also opposed to each other.

The reasons do not lie with us, but in the student's life circumstances. This theme refers to the idea most shared by participants when asked about factors contributing to educational inequity (N = 109 codings). It expresses a general sentiment among teachers, reflected primarily in a tendency to reject the responsibility of schools and those employed in the education system for educational inequity. The data segments assigned to this theme are participant statements that emphasize aspects outside of school, namely students' living environments, that teachers believe contribute to the perpetuation of educational inequities. Most teachers point to students' socioeconomic background as a key factor contributing to educational inequity.

In many cases, participants made the connection between students' socioeconomic backgrounds and parents' or legal guardians' interest in students' education. Accordingly, several participants indicated that inequities in education are due to parents' or legal' guardians lack of interest in students' educational careers and

their lack of ability to support students at home: “Education is inherited. Those who have learned worked hard and achieved something in school pass on this value. Most of the time, this is not an achievement of the school, but of the parental home.” (T1156)

It is an issue of resource imbalance within the education system. This theme (N = 103 codings) includes all the participants’ statements related to an imbalance between the number of highly qualified teachers and the number of students. Thus, it refers to factors that teachers believe contribute to inequities and are located in the education system. Against this backdrop, it does not address factors in students’ living environments but assigns substantial responsibility for perpetuating educational inequities to school policies and practices. Accordingly, participants indicate that current shortages of school staff (e.g., teachers, school social workers, psychologists) and large class sizes contribute to educational inequities. Specifically, teachers report that they have difficulty supporting at-risk students due to this imbalance.

Changes necessary to address Educational Inequity

Call for highly qualified teaching and non-teaching staff. This theme picks up on the factor of staff shortage, which has already been described in connection with research question 3. It includes all the participants’ responses indicating that increases in teaching and nonteaching school staff are needed to effectively address educational inequities (N = 116 codings). Participants indicate that classes, especially in elementary school, should be double staffed so that teachers can adapt instruction to a diverse student body and provide equal attention and care to all learners:

To compensate for disadvantages and at the same time prevent teacher burnout, elementary schools would need a second teacher for at least two hours a day. This would enable truly differentiated and individualized support and prevent large learning gaps from occurring in the first place. (T1158)

According to this participant, to ensure high-quality, differentiated, and individualized instruction in elementary schools and combat educational inequity, classes must be staffed with two teachers. In addition to calling for increased teaching staff, participants clearly emphasized that non-teaching support staff are also needed to address educational inequities (e.g., psychologists, social workers) available to address students' psychosocial and physical needs.

Rethinking school education. This theme (N = 100 codings) includes overarching factors related to school policy decisions that participants mentioned in terms of possible actions to address educational inequity. It reflects a shared vision of fundamental and far-reaching changes in the education system, including all-day and comprehensive schools and smaller class sizes. In the view of many participants, the concept of the all-day school provides optimal support for students who do not usually receive assistance with school tasks at home: “There is a need for comprehensive offers of all-day schools and care that are geared to the needs and (financial) possibilities of the legal guardians.” (T1869) In addition, participants refer to the initiative of comprehensive schools for students aged six to fifteen.

Finally, as previously mentioned in the theme *It is an issue of resource imbalance within the education system* concerning research question three, teachers again emphasize the problem of class size. According to participants, smaller student groups are necessary for teachers to provide individualized learning support and a sense of belonging to help educational inequity: “It would be necessary to finally abolish large classes in which no student feels perceived as an individual and therefore has to constantly draw attention to themselves.” (T1245)

Discussion

In light of previous findings of an overall decline in student academic achievement during COVID-19, the current study sheds light on teachers' awareness of the prevailing discriminatory environment in schools and their suggestions for countermeasures. In all four studies, consistent with previous results (e.g., Grooms & Childs, 2021), educators acknowledge that there are differences among learners based on their range of situations. In line with empirical data on actual student learning loss collected using competency measurement tools (e.g., Kuhfeld et al., 2022b), teachers also found that the academic performance of all four student groups declined compared to the pre-pandemic situation. Specifically, participants in all four cross-sectional studies rated the academic development of mainstream students most positively. The results suggest that each of the four participant groups believes that SED students experienced a more dramatic loss of academic growth than the other three student groups. This is consistent with previous findings indicating an association between social background and school performance even before the global pandemic (e.g., Reiss et al., 2016). These findings also demonstrate once again that education systems around the world must take all appropriate steps to mitigate the COVID-19 learning losses. This includes but is not limited to enabling teachers to change their instructional practices and behaviors to provide targeted instruction that addresses the academic and socio-emotional needs of all students (Angrist et al., 2021; Letzel-Alt et al., 2022).

Interestingly, the results of the current study indicate differences in teachers' perceptions of the academic achievement development of SED students and GLSC students. Accordingly, participants in Study 1 rated the academic development of SED students less positively compared to GLSC students, whereas this was not the case in Studies 2 and 3. One possible explanation could be that Study 1 refers to the beginning

of the pandemic when regular school operations were turned upside down. Accordingly, as SED students may have had particular difficulty accessing digital technologies, teachers' ratings may have been more negative at this point. However, in Study 4, participants' responses indicate that, on average, SED students' academic development was again perceived more negatively than that of GLSC students. This result seems to be of particular interest, as one might suspect that teachers did not experience a drastic deterioration in the academic development of SED students due to the return to regular face-to-face instruction. However, it is supported by the results of a study by Kast et al. (2021), which suggest that teachers' attitudes toward SED students in Austria were more negative than toward students in GLSC during COVID-19. Teachers' attitudes, in turn, contribute to students' learning success (Youn, 2016). Moreover, as disparities in the impact of COVID-19 on academic development among students from different socioeconomic backgrounds are observed internationally, reflecting underlying structural inequities (e.g., Duroisin et al., 2021; Gee et al., 2023), education systems must ensure equitable access to digital technologies and devices for all learners.

Overall, participants in all four cross-sectional studies were more positive about the academic development of students with SEN than the other groups of at-risk students, as also shown by the trend analysis. This finding may be explained by previous studies indicating that students with SEN received more parental support than SED students during COVID-19 (e.g., Nusser, 2021). Moreover, given that several studies indicate that students who participated in on-site support services despite school closures achieved better academic performance (e.g., Hallora et al., 2021; Tomasik et al., 2020), it is reasonable to assume that students with SEN benefited from these services due to greater parental involvement. However, in terms of teacher support for students with SEN, the results of a study by Toste et al. (2021) showed that learners felt

that they did not receive specialized training during online instruction. This suggests that it was difficult for teachers to provide access to the curriculum for students with diverse learning needs (Toste et al., 2021).

The overall trend analysis of Studies 2 through 4, which reflects teachers' ratings of COVID-19's impact on students' academic growth over time, clearly shows that educational inequities have been exacerbated by COVID-19, particularly for SED students. Given that SED students, GLSC students, and students with SEN were already at risk of disadvantage in terms of educational opportunities and outcomes in the Austrian school system prior to the COVID-19 pandemic, it is unmistakable that the disruptions to regular instruction exacerbated these disadvantages. Thus, teachers' assessment of students' academic growth over time reflects lingering difficulties in adequately addressing the needs of disadvantaged students, bringing about positive change in academic achievement, and countering the rise of educational inequities through interventions in the education system.

With respect to proposed RQ 3, qualitative results indicate that teachers believe that both in-school and out-of-school factors contribute to educational inequities among different groups of at-risk students. Thus, participants address social structures and identities (e.g., socioeconomic background) that, according to social reproduction theory (Bourdieu, 1977), are at the core of persistent educational inequities (Thompson, 2019). However, teachers also took a different view, stating that factors within the school system contribute to the perpetuation of educational inequities. In line with this, Anderson et al. (2022) point to widespread and systemic educational inequities rooted in oppressive systems and macroeconomic policies that exclude certain groups of students. From this perspective, education policy should refrain from blaming the primary cause of educational inequity on teachers' work and instead focus on the school structures and

institutions that constrain or promote teachers' agency (e.g., inequitable resource allocation) (Cochran-Smith et al., 2016). Although the discriminatory effects of a complex social system on students' lives cannot be ignored, several studies point to the effects of teachers' thinking (e.g., biases, beliefs) and acting (e.g., use of inclusive teaching practices) that contribute to educational disparities (e.g., Duroisin et al., 2021; Turetsky et al., 2021).

Finally, suggestions for fundamental changes in the education system could be found concerning RQ 4. Accordingly, participants in Study 4 proposed that highly qualified school personnel and smaller class sizes are needed to provide excellent education to all learners. This finding points to the issue of teacher-student ratios and shortages of support staff that have been prevalent in Austria in recent years, as shown in the findings of the previous National Education Report (Lassnigg et al., 2018). In addition, participants suggest comprehensive and all-day schools as a potentially useful tool for addressing educational inequities. This is consistent with a comprehensive study by Fischer et al. (2022), whose findings suggest that SED students have benefited from this school reform in terms of educational achievement. However, as expressed by Hadjar and Rothmüller (2016), comprehensive schools remain a necessary but still outstanding reform of education policy, which is not infrequently prevented by conservative-oriented stakeholders on the grounds that equal opportunities cannot be established because of supposedly fundamental differences in talent and performance. Regarding all-day schools, empirical findings point to the potential to reduce achievement gaps between socioeconomically disadvantaged and privileged students by providing extended learning support and a wide range of extracurricular activities (e.g., Fischer et al., 2014). Nevertheless, further research is needed to uncover the resources

and program characteristics of all-day schools, as differences in organization and conceptual foundations have been identified (Steinmann & Streitholt, 2018).

In summary, the current study has several implications, both for educational research and practice. It confirms teachers' awareness of the prevailing discriminatory environments in schools that perpetuate educational inequities in the Austrian school system. However, it also shows that many of the participants are unable to recognize their major responsibility in promoting equal educational opportunity. This finding is of particular importance given the international research evidence on the impact of teacher psychology (e.g., attitudes, expectations) and the lack of awareness of its potentially discriminatory impact, coupled with a partial abdication of responsibility for student academic success (Turetsky et al., 2021). Against this backdrop, teacher education and training programs should be designed to increase sensitivity to attitudes, perceptions, and beliefs that potentially lead to student disadvantage and subsequently initiate adjustment (Gorski & Swalwell, 2015; Kumar et al., 2015). In addition, the four cross-sectional studies highlight differences in teachers' perceptions of academic achievement among at-risk students. Against this background, further research would be needed to examine whether, on average, students with SEN experienced smaller achievement gaps than other at-risk student groups. Finally, in terms of proposals for countermeasures, participants of Study 4 share a vision of reconfiguration of schools. This finding is particularly important and points to the need to include teachers in future policy debates (Anderson et al., 2021).

Limitations

The findings of the current study must be interpreted with several limitations. Most importantly, the samples in Studies 1-4 were not identical, which precluded longitudinal

information in student academic development across the four school years. In this context, the trend analysis performed must be interpreted with caution. Moreover, the samples of the four cross-sectional studies are not representative. It is important to consider that other teachers may have had different experiences teaching different groups of at-risk students. Because resources in schools vary between and within different regions, participants' perceptions are only comparable to a limited extent. This is also in the line with the fact that in Studies 2-4, participants were given the possibility to choose the response 'there are no such students in my class', which resulted in different sample sizes. Additionally, the intersections between different disadvantaging social identities could not be considered in the context of the present study. Therefore, teachers' perceptions about the academic development of students with cumulative disadvantages (e.g., SED students in GLSC) may be even more negative.

Disclosure statement: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability statement: The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available because they contain information that could compromise the privacy of research participants.

References

- Altrichter, H., & Helm, C. (2022). Austrian schools in the COVID-19 pandemic era. *Tertium Comparationis (Print)*, 28(3), 300–331.
<https://doi.org/10.25656/01:25329>
- Amin, S, Hossain, M, Ainul, S. (2021). *Learning loss among adolescent girls during the COVID-19 pandemic in rural Bangladesh*. New York: Population Council.
- Anderson, A. B., Aronson, B., & Ellison, S. (2022). Assessing Systemic Inequity: Teacher Perspectives, Solutions, and “Radical Possibilities” *The Urban Review*, 54(1), 113–137. <https://doi.org/10.1007/s11256-021-00606-1>
- Andrew, A., Cattan, S., Costa Dias, M., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A., & Sevilla, A. (2020). Inequalities in children’s home learning during the COVID-19 lockdown in England. *Fiscal Studies*, 41(3), 653–683.
<https://doi.org/10.1111/1475-5890.12240>
- Angrist, N., de Barros, A., Bhula, R., Chakera, S., Cummiskey, C., DeStefano, J., ... Stern, J. (2021). Building back better to avert a learning catastrophe: Estimating learning loss from COVID-19 school shutdowns in Africa and facilitating short-term and long-term learning recovery. *International Journal of Educational Development*, 84, 102397. <https://doi.org/10.1016/j.ijedudev.2021.102397>
- Azevedo, J. P. (2020). *Learning Poverty: Measures and Simulations*.
<https://openknowledge.worldbank.org/handle/10986/34654>
- Azevedo, J. P., & Montoya, S. (2021). Building back better after COVID-19: The importance of tracking learning inequality. World Bank Blogs. <https://blogs.worldbank.org/education/building-back-better-after-covid-19-importance-tracking-learning-inequality>.
- BMBWF Bundesministerium für Bildung, Wissenschaft und Forschung (2020). *Umsetzung des Etappenplans für Schulen. Richtlinien für die Unterrichtsorganisation und die pädagogische Gestaltung* [Implementation of the Stage Plan for Schools. Guidelines for the Organisation of Lessons and Pedagogical Design].
https://www.bmbwf.gv.at/Themen/schule/beratung/corona_info
- BMBWF Bundesministerium für Bildung, Wissenschaft und Forschung (2021). *Erllass: Schulbetrieb ab dem 17. Mai 2021 vom 10. Mai 2021* [Decree: School Operation from 17 May 2021 Dated 10 May 2021],

- <https://www.bmbwf.gv.at/dam/jcr:080907d8-ea67-4bd3-afd1-2ebbd7dfa795/schulbetrieb20210517>.
- Bonal, X., & González, S. (2020). The impact of lockdown on the learning gap: family and school divisions in times of crisis. *International Review of Education*, 66(5-6), 635–655. <https://doi.org/10.1007/s11159-020-09860-z>
- Bourdieu, P. (1977). Cultural Reproduction and Social Reproduction. In J. Karabel, & A. H. Halsey (Eds.), *Power and Ideology in Education* (pp. 487-511). New York: Oxford University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2022). *Thematic analysis : a practical guide* (1st edition.). SAGE Publications Ltd.
- Cochran-Smith, M., Stern, R., Sánchez, J. G., Miller, A., Keefe, E. S., Fernández, B., Chang, W.-C., Carney, M. C., Burton, S., & Megina, B. (2016). *Holding teacher preparation accountable: A review of claims and evidence*. National Education Policy Center.
- Crawfurd, L., Hares, S., & Minardi, A. L. (2021). *New data on learning loss in Pakistan*. Center For Global Development.
- Depping, D., Lücken, M., Musekamp, F., & Thonke, F. (2021). *Kompetenzstände Hamburger Schüler* innen vor und während der Corona-Pandemie* [Alternative pupils' competence measurement in Hamburg during the Corona pandemic]. In D. Fickermann & B. Edelstein (Eds.), *Schule während der Corona-Pandemie. Neue Ergebnisse und Überblick über ein dynamisches Forschungsfeld* (pp. 51–79). Waxmann. <https://doi.org/10.31244/9783830993315.03>
- Duroisin, N., Beauset, R., & Tanghe, C. (2021). Education and digital inequalities during COVID-19 confinement: From the perspective of teachers in the French speaking Community of Belgium. *European Journal of Education*, 56(4), 515–535. <https://doi.org/10.1111/ejed.12475>
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. *Proceedings of the National Academy of Sciences - PNAS*, 118(17), 1. <https://doi.org/10.1073/PNAS.2022376118>

- Fischer, N., Theis, D., & Zücher, I. (2014). Narrowing the Gap? The Role of All-Day Schools in Reducing Educational Inequality in Germany. *International Journal for Research on Extended Education*, 2(1), 79–96.
<https://doi.org/10.3224/ijree.v2i1.19535>
- Fischer, M., Heckley, G., Karlsson, M., & Nilsson, T. (2022). Revisiting Sweden's comprehensive school reform: Effects on education and earnings. *Journal of Applied Econometrics (Chichester, England)*, 37(4), 811–819.
<https://doi.org/10.1002/jae.2881>
- Gee, K. A., Asmundson, V., & Vang, T. (2023). Educational impacts of the COVID-19 pandemic in the United States: Inequities by race, ethnicity, and socioeconomic status. *Current Opinion in Psychology*, 52, 101643.
<https://doi.org/10.1016/j.copsyc.2023.101643>
- Gorski, P. C., & Swalwell, K. (2015). Equity literacy for all. *Educational Leadership*, 72(6), 34–40.
- Grooms, & Childs, J. (2021). "We Need to Do Better by Kids": Changing Routines in U.S. Schools in Response to COVID-19 School Closures. *Journal of Education for Students Placed at Risk*, 26(2), 135–156.
<https://doi.org/10.1080/10824669.2021.1906251>
- Hadjar, A., & Rothmüller, B. (2016). Chancengleichheit und Leistungsmotiv in der Bildungspolitik: Die Debatten um die Gesamtschule am Beispiel Luxemburgs. *Österreichische Zeitschrift für Politikwissenschaft*, 45(1), 51–64.
<https://doi.org/10.15203/ozp.1092.vol45iss1>
- Haser, Ç., Doğan, O., & Kurt Erhan, G. (2022). Tracing students' mathematics learning loss during school closures in teachers' self-reported practices. *International Journal of Educational Development*, 88, 102536.
<https://doi.org/10.1016/j.ijedudev.2021.102536>
- Helm, C., Huber, S. G., & Postlbauer, A. (2021). Lerneinbußen und Bildungsbenachteiligung durch Schulschließungen während der Covid-19-Pandemie im Frühjahr 2020. Eine Übersicht zur aktuellen Befundlage. In D. Fickermann, B. Edelstein, J. Gerick, & K. Racherbäumer (eds.), *Schule und Schulpolitik während der Corona-Pandemie. Nichts gelernt?* (pp. 59-81). Waxmann.

- Hevia, F. J., Vergara-Lope, S., Velásquez-Durán, A., & Calderón, D. (2022). Estimation of the fundamental learning loss and learning poverty related to COVID-19 pandemic in Mexico. *International Journal of Educational Development*, 88, 102515–102515. <https://doi.org/10.1016/j.ijedudev.2021.102515>
- Holloway, S. L., & Pimlott-Wilson, H. (2019). Schools, families, and social reproduction. *Geographies of Schooling*, 281-296.
- Huber, S. G., & Helm, C. (2020). Lernen in Zeiten Der Corona-Pandemie - Die Rolle Familiärer Merkmale Für Das Lernen von Schüler*innen: Befunde Vom Schul-Barometer in Deutschland, Österreich Und Der Schweiz. In D. Fickermann & B. Edelstein (eds.), *Langsam Vermisse Ich Die Schule* (pp. 37–60). Waxmann. doi:10.31244/9783830992318.12.
- IBM Corp. (2021). *IBM SPSS Statistics for Windows, Version 28.0*. IBM Corp.
- Kast, J., Lindner, K.-T., Gutschik, A. & Schwab, S. (2021). Austrian teachers' attitudes and self-efficacy beliefs regarding at-risk students during home learning due to COVID-19. *European Journal of Special Needs Education*, 36(1), 114-126. DOI: <https://doi.org/10.1080/08856257.2021.1872849>
- Kuhfeld, M. (2019). Surprising new evidence on summer learning loss. *Phi Delta Kappan*, 101(1), 25–29. <https://doi.org/10.1177/0031721719871560>
- Kuhfield, M., & Tarasawa, B. (2020). *The COVID-19 Slide: What Summer Learning Loss Can Tell Us about the Potential Impact of School Closures on Student Academic Achievement*. Brief. NWEA.
- Kuhfeld, M., Soland, J., & Lewis, K. (2022a). Test Score Patterns Across Three COVID-19-Impacted School Years. *Educational Researcher*, 51(7), 500–506. <https://doi.org/10.3102/0013189X221109178>
- Kuhfeld, M., Soland, J., Lewis, K., Ruzek, E., & Johnson, A. (2022b). The COVID-19 school year: Learning and recovery across 2020–2021. *AERA Open*, 8(1), 1–15. <https://doi.org/10.1177/23328584221099306>.
- Kumar, R., Karabenick, S. A., & Burgoon, J. N. (2015). Teachers' Implicit Attitudes, Explicit Beliefs, and the Mediating Role of Respect and Cultural Responsibility on Mastery and Performance-Focused Instructional Practices. *Journal of Educational Psychology*, 107(2), 533–545. <https://doi.org/10.1037/a0037471>
- Lassnigg, L., Mayrhofer, L., Baumegger, D., Vogtenhuber, S., Weber, C., Aspetsberger, R., Kemethofer, D., Schmich, J., & Oberwimmer, K. (2018). B: Input –

- Personelle und finanzielle Ressourcen. In K. Oberwimmer, S. Vogtenhuber, L. Lassnigg, & C. Schreiner (eds.), *Nationaler Bildungsbericht Österreich 2018. Band I. Das Schulsystem im Spiegel von Daten und Indikatoren* (pp. 49-122). Leykam.
- Lauermann, F., & ten Hagen, I. (2021). Do teachers' perceived teaching competence and self-efficacy affect students' academic outcomes? A closer look at student-reported classroom processes and outcomes. *Educational Psychologist*, 56(4), 265–282. <https://doi.org/10.1080/00461520.2021.1991355>
- Letzel-Alt, V., Pozas, M., Schwab, S., Schneider, C., Lindner, K.-T., Dias, P., & Cadime, I. (2022). Exploring inclusive education in times of COVID-19: An international comparison of German, Austrian and Portuguese teachers. *Frontiers in Education* (Lausanne), 7. <https://doi.org/10.3389/feduc.2022.969737>
- Mohan, G., Carroll, E., McCoy, S., Mac Domhnaill, C., & Mihut, G. (2021). Magnifying inequality? Home learning environments and social reproduction during school closures in Ireland. *Irish Educational Studies*, 40(2), 265–274. <https://doi.org/10.1080/03323315.2021.1915841>
- Nusser, L. (2021). Learning at home during COVID-19 school closures - How do German students with and without special educational needs manage? *European Journal of Special Needs Education*, 36(1), 51–64. <https://doi.org/10.1080/08856257.2021.1872845>
- Patrinos, H. A., Vegas, E., & Carter-Rau, R. (2022). *An analysis of COVID-19 student learning loss*. World Bank Group. Educational Global Practice.
- Reiss, K., Sälzer, C., Schiepe-Tiska, A., Klieme, E., & Köller, O. (Hrsg.). (2016). *PISA 2015: Eine Studie zwischen Kontinuität und Innovation*. Waxmann.
- Sabates, R., Carter, E., & Stern, J. M. (2021). Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana. *International Journal of Educational Development*, 82, 102377–102377. <https://doi.org/10.1016/j.ijedudev.2021.102377>
- Spiteri, J., Deguara, J., Muscat, T., Bonello, C., Farrugia, R., Milton, J., Gatt, S., & Said, L. (2023). The impact of COVID-19 on children's learning: a rapid

- review. *The Educational and Developmental Psychologist*, 40(1), 5–17.
<https://doi.org/10.1080/20590776.2021.2024759>
- Steinmann, I., & Strietholt, R. (2018). Student achievement and educational inequality in half- and all-day schools. Evidence from Germany. *International Journal for Research on Extended Education*, 6(2), 175–197.
<https://doi.org/10.3224/ijree.v6i2.08>
- The Glossary of Education Reform. (2017). *The Glossary of Education Reform, for Journalists. Parents and Community Members*. <http://edglossary.org/asynchronouslearning>.
- Thompson, R. (2019). *Education, Inequality and Social Class* (1st ed.). Routledge.
<https://doi.org/10.4324/9781315141749>
- Toste, J. R., Raley, S. K., Gross Toews, S., Shogren, K. A., & Coelho, G. (2021). "Eye Opening and Chaotic": Resilience and Self-Determination of Secondary Students with Disabilities Amidst the COVID-19 Pandemic. *Journal of Education for Students Placed at Risk*, 26(2), 157–183.
<https://doi.org/10.1080/10824669.2021.1906248>
- Turetsky, K. M., Sinclair, S., Starck, J. G., & Shelton, J. N. (2021). Beyond students: how teacher psychology shapes educational inequality. *Trends in Cognitive Sciences*, 25(8), 697–709. <https://doi.org/10.1016/j.tics.2021.04.006>
- Weber, C., Helm, C., & Kemethofer, D. (2021). *Bildungsungleichheiten durch Schulschließungen? Soziale und ethnische Disparitäten im Lesen innerhalb und zwischen Schulklassen* [Educational inequities due to school closures? Social and Ethnic Disparities in Reading within and Between School Classes]. In *Schule und Schulpolitik während der Corona-Pandemie. Nichts gelernt?* (pp. 83–99).
- Young, M. (2016). Learning more than expected: The influence of teachers' attitudes on children's learning outcomes. *Early Child Development and Care*, 186(4), 578–595. <https://doi.org/10.1080/03004430.2015.1046856>
- Zhdanov, S. P., Baranova, K. M., Udina, N., Terpugov, A. E., Lobanova, E. V., & Zakharova, O. V. (2022). Analysis of Learning Losses of Students During the COVID-19 Pandemic. *Contemporary Educational Technology*, 14(3), ep369.
<https://doi.org/10.30935/cedtech/11812>

Zheng, C., Yu, Y., Hou, Y., & Lu, J. (2022). Teachers' perceived impact of COVID-19 on Early Child Development in urban China: evidence from a National Survey Study. *Early Child Development and Care, ahead-of-print*(ahead-of-print), 1–16. <https://doi.org/10.1080/03004430.2022.2110087>

Insights into teachers' perceptions of parental involvement as a predictor of educational inequity

Flora Woltran

To cite this article: Flora Woltran (02 Oct 2023): Insights into teachers' perceptions of parental involvement as a predictor of educational inequity, Education 3-13, DOI: [10.1080/03004279.2023.2265392](https://doi.org/10.1080/03004279.2023.2265392)

To link to this article: <https://doi.org/10.1080/03004279.2023.2265392>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 02 Oct 2023.



Submit your article to this journal [↗](#)



Article views: 171



View related articles [↗](#)



View Crossmark data [↗](#)

Insights into teachers' perceptions of parental involvement as a predictor of educational inequity

Flora Woltran 

Centre for Teacher Education, University of Vienna, Vienna, Austria

ABSTRACT

For many decades, parental involvement (PI) has been discussed as an important variable in students' development. However, those concerned with educational policy, practice, and research have traditionally helped perpetuate the well-known and undisputed narrative of the 'parents who care' who are actively involved in all aspects of student learning. Drawing on quantitative and qualitative data from a total of 485 teachers working at Austrian schools, the current study aims to contribute to a recently growing research paradigm that challenges traditional understandings of PI that are biased toward families who adhere to expected behaviours of home and school involvement and academic socialisation. The results suggest that primary and secondary teachers' ratings of PI differ between diverse students and at different school levels. Moreover, participants' explanations for disparities in PI between students align with a deficit-oriented, narrow understanding of PI, aimed at middle-class families that cling to traditional activities of PI.

ARTICLE HISTORY

Received 19 September 2023
Accepted 25 September 2023

KEYWORDS

Educational inequity;
parental involvement; at-risk
students; teacher
perspective

Introduction

Numerous studies have highlighted the importance of a strong and positive connection between home and school, which manifests itself in the normative demand for parents¹ to remain productively involved in their children's education (e.g. Benner, Boyle, and Sadler 2016; Durisic and Bunijevac 2017). This is consistent with Bronfenbrenner's (1976) ecological framework, according to which two important socialisation domains (i.e. school and family) and the positive interactions that take place within them contribute to strengthening a child's academic and socioemotional development. In this sense, schools, but especially teachers, are encouraged to build partnerships with parents to increase family involvement in education (Mapp and Kuttner 2013). Furthermore, especially during times of crisis, parental involvement (PI) has proven critical to counteracting potential learning loss, thereby eliminating inequities in educational success (Lawrence and Victor Fakuade 2021).

Although there is a wealth of literature highlighting PI as an indispensable component of children's educational success, scholars have recently begun to raise awareness of equity issues that arise from focusing on parents in school-related matters (e.g. Antony-Newman 2019; Baquedano-López, Alexander, and Hernandez 2013). For instance, Souto-Manning and Swick (2006, 189) highlight the maintenance and perpetuation of a traditional understanding of PI, including the narrative of 'parents who care'. According to the authors, this view of PI leads to an ideology of parents

CONTACT Flora Woltran  flora.woltran@univie.ac.at

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

generally caring about their children's education, silencing inequities in resources across families and households, and associated differences in cultural practices (Souto-Manning and Swick 2006). In this context, researchers have made initial efforts to reframe PI while identifying ways to change the traditional, taken-for-granted ideal of the parental role in the context of supporting children's education (e.g. de Cavalho 2001; Jezierski and Wall 2019).

The current study ties in with this paradigm and focuses on rethinking family–school relationships and thus considering a more equitable approach to PI. For this purpose, Austrian teachers' perceptions of the PI of a heterogeneous student body and their role in addressing educational inequities will be thematized. Furthermore, teachers' explanations for perceived differences in PI will be used as a promising approach to uncover and discuss the resulting perpetuation and cementation of structural inequities in education. Thus, this study contributes to a field of research that adopts a new, critical perspective oriented toward an inclusive and thus equitable approach to the role of PI in education.

Conceptualisations of PI

Several attempts at conceptualizations and definitions have emerged due to decades of intensive empirical research on the role of PI in education. One of the most widely used approaches to defining PI was presented by Epstein (2001). Based on the findings of numerous studies on important factors for children's education, Epstein (2001) identifies six categories of involvement: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. In this context, Epstein (2001) proposes collaboration programs that focus on the three domains of school, family, and community to improve educational policies and practices and increase student success. Building on this, Hill and Tyson (2009) describe three types of PI: (a) home-based involvement (e.g. parent help with homework), (b) school-based involvement (e.g. parent communication with school), and (c) academic socialisation (e.g. parent communication about school expectations). Given the complexity of the concepts of PI presented in empirical research, and following previous authors, the present study considers PI as a multifaceted, complex, and intense construct that occurs in both home and school settings, as well as their complex and diverse interactions (Epstein 2001; Hill and Tyson 2009). Thus, the understanding of PI that underlies this study goes well beyond creating a positive learning environment and assisting with homework to also include communication and active participation in classroom and school activities (Fantuzzo, Tighe, and Childs 2000).

Parental involvement and students' academic and non-academic outcomes

There is ample evidence of the benefits of PI for students' educational outcomes, and numerous past and current overview studies have underscored the importance of family and parental involvement as one of the strongest predictors of students' school success. Wilder (2014), for example, finds a positive relationship between PI and academic achievement, regardless of the conceptual definition of PI, with the strongest relationship being between the variable of educational aspirations and expectations and academic achievement. Moreover, the results of a meta-analysis by Castro et al. (2015) suggest that the association between PI and students' academic achievement is strongest when parents have high expectations for their children, communicate with them about school-related activities, and encourage the development of reading habits. This is consistent with the findings of a more recent review study by Boonk et al. (2018), who identify high educational aspirations, parent–child communication about school, reading at home, and parental support for learning as the PI variables that had the highest correlations with academic achievement. However, in their meta-analysis, Pinquart and Ebeling (2020) find only small to moderate cross-sectional and longitudinal associations between parental educational expectations and achievement. The results of a meta-meta-analysis by Kim (2022) suggest a moderate to small positive association between PI and academic achievement, with the variable of parental expectations and aspirations being the most

significant. Moreover, in line with Wilder (2014), the results were more mixed regarding the effects of homework help (Kim 2022). Overall, the findings of prominent review studies and meta-analyses shed light on the role of PI as a lever to promote adolescents' academic achievement. However, findings suggest considerable variations in the effects of different types of PI, with the largest effects attributable to parental expectations about their children's academic future.

Although the relationship between PI and academic achievement has been the primary interest of researchers for many years, some empirical studies have also focused on the central role of PI in social and emotional development. Accordingly, the results of a meta-analysis by Barger et al. (2019) suggest that parental encouragement has a positive impact on children's motivation. In addition, the authors point to positive relationships between PI and social adjustment and emotional adjustment, as well as negative relationships with delinquency (Barger et al. 2019). The results of another recently published meta-analysis by Cosso, von Suchodoletz, and Yoshikawa (2022), show that interventions that lead to higher levels of PI have a positive impact on students' non-academic outcomes. Finally, the results of a large-scale study suggest that parental support plays a crucial role in students' emotional and academic outcomes, and was especially important during the COVID-19 crisis (Huber and Helm 2020).

Differences in parental involvement across student groups

Socioeconomically disadvantaged (SED) students (operationalised by parents' highest educational qualifications and occupational group), together with students with migration biographies, students with non-German everyday language, and students with special educational needs (SEN), are already disadvantaged in the Austrian school system and therefore at risk of facing obstacles in education (Mayrhofer et al. 2019).

At the global level, empirical evidence points to strong differences in the association between socioeconomic status (SES) and both PI and students' educational success (Benner, Boyle, and Sadler 2016). Several previous and current studies have identified parents' SES, as reflected in their educational attainment and income, as a moderator of the effects of PI on children's academic achievement (e.g. Barger et al. 2019; Hill and Taylor 2004). For instance, the findings by Cheadle and Amato (2011) indicate that SED parents are less likely to be involved in their children's education. Against this backdrop, Pinquart and Ebeling (2020) propose that SED parents are unable to realistically assess educational requirements due to a lack of familiarity with a particular educational context. It should be emphasised at this point that these and similar attempts to explain differences in PI through family SES reproduce the well-established problematic narrative of those parents who do not conform to the traditional image of 'parents who care' (Souto-Manning and Swick 2006, 189). Moreover, several findings have confirmed that parents with lower levels of education are just as engaged as parents with higher levels of education when it comes to supporting their children's educational advancement (e.g. Hartas 2015; Malone 2017).

In addition to SES, several studies have looked at differences in PI due to the migration biographies of students and their families. For example, the results of a meta-synthesis by Antony-Newman (2019) show that parents with migration biographies face several difficulties in relation to PI. According to the author, parents with migration biographies are often unable to effectively use the rich resources available at home due to a lack of information about the school system, language barriers, and inadequate training of teachers (Antony-Newman 2019). In this, context the results of a meta-analysis by Kim, Mok, and Seidel (2020) suggest that due to language barriers, parents with migration biographies sometimes experience inadequate understanding of school feedback and low self-efficacy in helping their children with homework. The findings of a study by Bromley and Yazdanpanah (2021) point to a culturally specific mindset that is prevalent in schools, as participants present a traditional, rigid image of PI and fail to consider the realities of the home environment of students and their parents with migration biographies.

In line with the discourse on PI in relation to students from SED families and families with migration biographies, parents of children with disabilities and SEN are generally considered

potential educational resources who actively participate in their children's education (Lai and Vadeboncoeur 2013). According to Womack and Johnson (2022), parents of students with SEN report significantly higher average engagement in homework but lower educational expectations compared to parents of children without SEN. Consistent with this, the findings of Wahyuni (2022) show that parents of students with SEN tend to be actively involved in school activities but are particularly involved in home activities, such as providing resources to promote learning. In contrast, the results of a study by Jiguel et al. (2019) emphasise that few parents of students with SEN demonstrate consistent communication and collaboration with the school due to their high work commitment and limited time.

Differences in parental involvement across school levels

There is ample empirical evidence that PI becomes less important over time and decreases as students transition from primary to secondary school (Graves and Wright 2011). Accordingly, the results of a study by Otani (2020) suggest that the relationship between PI and achievement is more significant for primary school students than for middle school students. However, this contrasts with the results of a meta-study by Foster, Young, and Young (2017), which indicated that the effect sizes of the associations between PI and student achievement were smallest for primary school students compared to students in higher grades. Consistent with this, the results of a study conducted by Kim (2022) show that the relationship between PI and student achievement is significantly stronger at the secondary level than at the primary level. Although the results on differences in PI by grade level paint a more mixed picture, it can be hypothesised that PI in lower grades may have stronger effects on academic achievement because students in primary school are more influenced by parental values and more interested in accepting help from parents than students in higher grades (Stevenson and Baker 1987). In addition, it can be assumed that students in higher grades have higher levels of efficiency and are more cognitively developed, so their need for PI may be lower (Hill and Tyson 2009).

The current study

This study draws on data from teachers collected as part of a large-scale nationwide project (Inclusive Home LEarning Teachers; INCL-LEA-T for short) that was first implemented in early 2020 and includes several cross-sectional surveys conducted in November 2020, 2021, and 2022. Using data from the most recent survey date (November 2022), this study aims to answer the following research questions in detail:

1. How do teachers rate the PI of a diverse student body?
 - (a) Are there differences in teachers' ratings of PI across student groups?
 - (b) Are there differences in teachers' ratings of PI by school level?
2. How do teachers rate the role of PI of a diverse student body in combating inequities in education?
 - (a) Are there differences in teachers' ratings of the role of PI in addressing inequities in education across student groups?
 - (b) Are there differences in teachers' ratings of the role of PI in addressing inequities in education by school level?
3. What explanations do teachers give for perceived differences in PI, and how do these explanations contribute to the perpetuation of inequities in education?

In relation to these research questions, the following hypotheses were proposed:

1a/a: Teachers rate the PI lowest for SED students and highest for students not at risk of disadvantage.²

1a/b: Teachers rate the PI for students with SEN higher than for SED students and students with migration biographies.

1b: Primary school teachers rate the PI of a diverse student body more positively than secondary school teachers.

2a: Teachers rate the role of PI in addressing educational inequities higher for SED students than for all other groups of students.

Methods

Participants

A total of 485 teachers ($f = 77.3\%$) from all nine provinces of Austria from different school levels participated in the online survey. Participants ranged in age from 23 to 65 years ($M = 47.52$, $SD = 10.44$) and had an average of 22 years of teaching experience ($SD = 11.54$), ranging from 1 to 44 years. A total of 43.3% of the participants were primary school teachers. The remaining 56.5% were secondary school teachers, of whom 27.6% taught in compulsory schools, 17.3% ($N = 74$) in high schools, 8.9% ($N = 38$) in vocational schools, and 3.7% ($N = 16$) in special schools. The remaining secondary school types are unknown.

Measures

Information on teachers' perceptions of PI was collected using a modified and shortened version of the Family Involvement Questionnaire (Fantuzzo, Tighe, and Childs 2000). Participants were asked to answer the questions about their perceptions of PI in relation to four types of students: (1) students not at risk of disadvantage, (2) SED students, (3) students with migration biographies, and (4) students with SEN. The questionnaire included items concerning teachers' perceptions of school-based involvement (e.g. 'Parents of this student are involved in schooling activities'), home-based involvement (e.g. 'Parents of this student can provide good support in completing school tasks') and home-school conferencing (e.g. 'Parents of this student talk to teachers about students' learning development'). A four-point Likert-type response scale was employed, with responses ranging from (1) not at all to (4) completely true. The PI composites comprised six items, which proved to be highly reliable (Cronbach's $\alpha = .78-.87$). To assess teachers' ratings of the role of PI in addressing educational inequities, a self-developed item was used (i.e. 'To reduce educational inequities, it is important that parents of this student be involved in school activities'), which participants answered on a four-point Likert scale. Finally, to collect data on teachers' explanations for perceived differences in PI and how these contribute to the perpetuation of educational inequities, participants were given the opportunity to express their perceptions in an open-response format.

Data analysis

Quantitative analysis

Descriptive statistics, t -tests, and univariate analyses of variance (ANOVA) were performed using SPSS Statistics software version 27.0 (IBM Corp. 2020) to answer research questions 1 and 2. Parametric analyses were preferred, even if the data were not normally distributed. This procedure is relatively robust to violating the normal distribution of the data if the sample size is large enough (Tabachnick and Fidell 2007). Cohen's d and eta square (η^2) were used to interpret the effect sizes. According to Cohen (1988), values around $d = .2$ or $\eta^2 = .01$ can be interpreted as a weak effect. Values around $d = .5$ or $\eta^2 = .06$ can be interpreted as a medium effect. Cohen's d of about .8 and η^2 of about .14 are considered strong effect sizes.

Qualitative analysis

Participants' answers to research question 3 were analysed using reflexive thematic analysis (TA) by Braun and Clarke (2022). The TA approach was chosen because it offers the opportunity to explore and interpret data by simultaneously finding patterns of meaning in participants' statements (Braun and Clarke 2022). After becoming familiar with the dataset through reading and re-reading participants' answers, data were initially coded by the author only. During the coding process, the author identified and defined themes and subthemes (i.e. significant patterns in the data) at the semantic and latent levels, which go beyond the explicit content of the statements and make the underlying ideas, assumptions, and conceptualizations accessible (Braun and Clarke 2022). These steps were accompanied by a second researcher who critically reviewed the themes.

Results

Teachers' ratings of the PI of a diverse student body

Table 1 provides the mean scores of the items related to participants' ratings of PI for the four types of students. The sample size varied between student types because some teachers did not teach these students in their classes and therefore did not make statements about them. Descriptive results indicate that teachers' ratings of PI differ across student groups, with participants rating the PI of SED students the worst overall and the PI of students not at risk of disadvantage the most positive. Specifically, the mean scores show that teachers believe that parents of SED students and students with migration biographies are the least likely to participate in school activities. In addition, the descriptive results suggest that teachers believe that parents of SED students and

Table 1. Mean scores of teachers' ratings of the PI for four different types of students.

<i>N</i>	Student type	Items	<i>M</i>	<i>SD</i>
485	Student not at risk of disadvantage	Parents of this student are often involved in school activities.	2.76	0.66
		Parents of this student can assist in the completion of school tasks.	2.80	0.65
		Parental support is inadequate to assist this student in completing school tasks.	2.25	0.70
		Parents of this student participate in school events (e.g. parent–teacher conferences).	3.20	0.62
		Parents are interested in the learning development of this student.	3.18	0.60
483	SED student	Parents talk to teachers about the learning development of this student.	3.04	0.67
		Parents of this student are often involved in school activities.	2.11	0.58
		Parents of this student can assist in the completion of school tasks.	1.90	0.58
		Parental support is inadequate to assist this student in completing school tasks.	3.00	0.68
		Parents of this student participate in school events (e.g. parent–teacher conferences).	2.48	0.70
464	Student with migration biographies	Parents are interested in the learning development of this student.	2.49	0.67
		Parents talk to teachers about the learning development of this student.	2.34	0.69
		Parents of this student are often involved in school activities.	2.11	0.68
		Parents of this student can assist in the completion of school tasks.	1.79	0.62
		Parental support is inadequate to assist this student in completing school tasks.	2.95	0.74
		Parents of this student participate in school events (e.g. parent–teacher conferences).	2.49	0.78
		Parents are interested in the learning development of this student.	2.61	0.75
		Parents talk to teachers about the learning development of this student.	2.41	0.77
		Parents of this student are often involved in school activities.	2.76	0.75
		Parents of this student can assist in the completion of school tasks.	2.55	0.75
413	Student with SEN	Parental support is inadequate to assist this student in completing school tasks.	2.43	0.78
		Parents of this student participate in school events (e.g. parent–teacher conferences).	3.02	0.75
		Parents are interested in the learning development of this student.	3.02	0.71
		Parents talk to teachers about the learning development of this student.	3.02	0.75

students with migration biographies are the least capable of supporting students in completing school tasks. The findings also indicate that participants believe that parents of SED students are the least likely to talk with teachers about student learning development.

To examine differences in teachers' ratings of PI and because participants were required to answer the same items for four different groups of students, a univariate repeated measures ANOVA was conducted with a Greenhouse–Geisser correction to correct for violations of sphericity. The results indicate that the mean scores of the PI scale differed statistically across the four student groups, $F(2.69, 1069.24) = 331.174, p < .001, \eta_p^2 = .46$. Pairwise post hoc comparison tests were run to determine which student groups differed significantly. The findings reveal a statistically significant difference in teachers' ratings of PI for five pairs of students. In detail, teacher ratings were significantly more negative for SED students ($t(476) = 28.51, p < .001, d = .56$) and for students with SEN ($t(406) = 4.442, p < .001, d = .61$) than for students not at risk of disadvantage. Also, teachers rated the PI for students with migration biographies more negatively than for students not at risk of disadvantage ($t(462) = 25.77, p < .001, d = .60$). Moreover, participants' ratings of PI for students with SEN were more positive compared to SED students ($t(407) = -19.704, p < .001, d = .60$). In addition, significant differences were found between teachers' ratings of PI for students with SEN and students with migration biographies, with more positive ratings for students with SEN ($t(399) = 16.874, p < .001, d = .68$). No significant difference was found between teachers' ratings of PI between SED students and students with migration biographies ($t(458) = -0.632, p = .264$).

To determine differences in teachers' ratings of PI by school level, a *t*-test for independent samples was performed. The results indicate that primary school teachers rate PI significantly higher than secondary school teachers overall for all four cases (students not at risk of disadvantage: $t(410) = 6.94, p < .001, d = .69$; for SED students: $t(410) = 4.52, p < .001, d = .45$; for students with migration biographies: $t(410) = 4.13, p < .001, d = .41$; students with SEN: $t(353) = 2.67, p = .008, d = .28$).

Teachers' ratings of the role of PI in combating inequities

Table 2 provides the means of the teachers' ratings of the role of PI in addressing educational inequities with respect to the four student groups. Differences in teachers' ratings were investigated using a univariate repeated measures ANOVA with a Greenhouse–Geisser correction to correct for violations of sphericity. The results indicate that the mean of teachers' ratings did not differ statistically across the four student groups, $F(2.885, 1759.713) = 0.371, p = .76, \eta_p^2 = .001$.

To identify differences in teachers' ratings of the role of PI in addressing inequities in education by school level, a *t*-test for independent samples was performed. The results indicate significant differences in ratings between primary ($M = 3.41, SD = 0.70$) and secondary ($M = 3.22, SD = 0.75$) teachers with respect to students not at risk of disadvantage ($t(410) = 2.589, p = .01, d = .74$). No statistically significant differences were found for any other student group (SED students: $t(410) = 1.565, p = .118$; students with migration biographies: $t(335) = 1.842, p = .066$; students with SEN: $t(410) = 1.500, p = .134$).

Teachers' explanations for perceived differences in PI

In the following sections, the central themes that emerged in the course of the thematic analysis according to Braun and Clarke (2022) are described and illustrated with example excerpts from the responses of the participating teachers.

Table 2. Mean scores of teachers' ratings of the role of PI in combating educational inequities for four different types of students.

<i>N</i>	Student type	<i>M</i>	<i>SD</i>
403	Student not at risk of disadvantage	3.35	0.73
	SED student	3.34	0.76
	Student with migration biographies	3.34	0.77
	Student with SEN	3.37	0.75

Language barriers leading to shame, insecurity, and fear

This theme refers to all statements made by participants regarding explanations for perceived differences in PI due to language barriers and associated feelings of shame, insecurity, and fear on the part of parents. Teachers suspected that parents of students with migration biographies are less involved in school matters due to communication difficulties with teachers. Furthermore, teachers attributed to parents of students with migration biographies a desire to stay out of school matters because they want to avoid possible insecurities in linguistic expression when communicating with teachers, as the following statement illustrates: 'Parents with a migration background are often insecure due to the language difficulties and the associated prejudices and therefore tend to hold back in their parental involvement'. In addition to activities concerning home-school conferencing, participants complained that parents of students with migration biographies are unable to help with home activities due to language barriers.

Educational careers and disinterest

This theme includes all participants' explanations related to assumptions about parents' educational careers and associations related to disinterest in schooling. Accordingly, teachers expressed the assumption that parents of students from SED households often have a lower level of education. There is a further assumption expressed by the participants that this lower education level leads to disinterest in school matters. According to one participant, 'Parents are usually cognitively overwhelmed and are also not interested in the child's academic development'. Moreover, participants suspected that parents do not value school and teachers' work due to personal negative school experiences, which, at the same time, would be associated with low interest in their children's schooling.

Work overload, excessive demands, and limited resources

This overarching theme encompasses all statements about participants' assumptions on differences in PI due to parents' living conditions. Unlike the first two themes, this category does not exclusively include reproachful statements made by teachers but also brings in the aspect of considering individual limiting conditions that parents or families face in their private lives. Accordingly, participants specifically addressed the issue of financial, time, and psychological resources available to parents to support students in school-related matters. In this context, teachers suggested that parents with existential problems cannot muster the capacity to take care of school matters, as the following statement illustrates: 'Low-income families have other concerns at the moment; school cannot be their focus'. Moreover, participants noted that some parents have physically and mentally demanding jobs, so they do not have time to take care of their children's education. Finally, teachers recognised that some parents struggle with mental health issues that make it difficult for them to be engaged in their children's learning development. In this context, reference should be made to a statement that illustrates the difficulties for parents addressed within the current theme:

So basically, I experience that all parents are interested in their child and want the best for them, but our school system is based too much on parental involvement, which becomes a disadvantage for children whose parents cannot provide it to the extent required.

Discussion

The purposes of this study were threefold: (1) to identify differences in teachers' perceptions of PI across student groups and by school level, (2) to assess teachers' experiences of the role of PI in addressing educational inequities, and (3) to identify teachers' explanations for differences in PI.

The results of a pairwise post-hoc comparison test indicated that teachers perceive the PI of SED students most negatively, followed by students with migration biographies and students with SEN, and those of students not at risk of disadvantage best, confirming both hypotheses 1a/1 and 1a/b.

The finding that teachers rate the PI of students with SEN more positively than that of students with migration biographies and SED students is not surprising. Accordingly, parents of students with SEN are traditionally expected to play a major role in the education of their children in Austria, for example, by being involved in the decision as to whether their children should attend mainstream or special schools (Buchner and Proyer 2020). Furthermore, collaboration between schools and parents is seen in Austria as an essential part of inclusive education to provide optimal pedagogical approaches and to support students' academic processes (Lakkala et al. 2021).

The findings of the current study also revealed that participants believe that SED parents to be the least interested in their children's learning development and least likely to talk to teachers about it. This finding is consistent with previous empirical studies that point to the potential negative effects of a SED family situation on students' academic achievement (e.g. Andersen et al. 2021; Pinquart and Ebeling 2020). This result could be explained by the empirical evidence suggesting that parents from SED households are sometimes limited in their ability to be deeply involved in their children's education because of existential stresses or negative experiences with school that undermine their belief that they are qualified to help with schoolwork (Ndebele 2015; Yu 2020). As noted earlier, however, these studies reinforce a historically dominant view of PI as traditional school-related practices that constitute a privileged sphere characterised by certain legitimate actions, within which family members must know in advance what specific actions to take and what consequences to expect (Lopez 2001). As a result of this one-dimensional perception of PI, according to teachers, marginalised parents who may have been affected by economic, cultural, or social discrimination, have previously had negative experiences with educational institutions, fall into the category of the so-called 'uninvolved' (Lopez 2001, 417). Furthermore, given the finding that there were no significant differences in teachers' ratings of the PI of SED students and students with migration biographies, an intersectional approach to the creation of the supposed 'uninvolved parents' needs to be established. Accordingly, as about 90% of all students with migration biographies in Austrian schools exhibit at least one or two so-called risk factors for school success, there is a particularly high risk for these learners of experiencing overlapping vulnerabilities (BMBWF 2021). Consequently, the similar assessment of the participants of the PIs of SED students and students with migration biographies might be explained by the fact that these two student groups partially overlap. In addition to intersecting disadvantaging social identities, Yu (2020) emphasises that the educational positioning of marginalised parents is influenced not only by financial, cultural, or institutional constraints but also by discrepancies in parents' and teachers' expectations regarding the role of primary caregivers in students' education.

Another noteworthy outcome of the current study is that primary school teachers rated PI more positively than teachers in secondary schools for all four student groups, confirming Hypothesis 1b. This result is consistent with previous empirical evidence and underscores the decreasing importance of PI in the transition from primary to secondary school, which can be partly explained by higher levels of autonomy and the associated lower importance of PI at higher school levels (e.g. Otani 2020). However, it must still be recognised that secondary education paves the way for learners' educational and career trajectories and can still be positively influenced by PI, particularly for students facing disadvantages in schools (Jeynes 2007).

The data analysis showed that, on average, teachers tended to agree or strongly agree with the statement that PI is important for reducing educational inequities for all four groups of students. Furthermore, participating teachers' ratings of the role of PI in addressing educational inequities did not differ statistically between student groups, contradicting Hypothesis 2a. This finding is particularly interesting considering that some empirical evidence suggests that certain groups of vulnerable students may benefit particularly from efforts to strengthen home-school collaboration compared to less vulnerable students (e.g. Barger et al. 2019). In addition, it contradicts the demand often expressed by teachers to involve children's parents in school-related activities to positively influence students' academic development (Rickert and Skinner 2022). Finally, it is not in line with Bronfenbrenner's (1976) ecological framework, which states that school and family, as the two

most important spheres of socialisation, must be characterised by positive interactions to contribute to the strengthening of a learner's academic and socio-emotional development. In terms of differences in teachers' ratings of the importance of PI by school level and between the four groups of students, significant differences were found between primary and secondary teachers only in relation to students without disadvantaging characteristics, with primary teachers giving a higher rating. This result could be partly explained by empirical findings that point to the greater importance attached to PI at the primary level (e.g. Graves and Wright 2011). Nevertheless, this finding is somewhat surprising, as there is ample evidence that parents of students not at risk of disadvantage are likelier to be engaged in their children's education than parents of students who are at risk of disadvantage (e.g. Jabar et al. 2023; Ndebele 2015). As a result, these students are much less likely to experience academic or socio-emotional difficulties, making them less affected by educational inequities (Andersen et al. 2021).

Finally, the current study revealed informative but also alarming results in terms of teachers' explanations of differences in PI between student groups. Accordingly, three central themes emerged during an in-depth analysis of the qualitative data: (1) language barriers leading to shame, insecurity, and fear; (2) educational careers and disinterest; and (3) work overload, excessive demands, and limited resources. Specifically, the teachers involved in the current study argued that parents of students with migration biographies are reluctant to participate in activities related to home-school conferencing due to uncertainties caused by language barriers. This result is particularly important as it draws attention to discriminatory practices that still predominantly occur in Austria at the level of organisations and institutions (e.g. schools) but also at the level of society. Thus, as the Austrian education system is geared toward a monolingual ideology that requires all students and their parents to have a good command of German, individuals who do not meet these requirements face numerous obstacles, including communication difficulties (Resch, Gitschthaler, and Schwab 2023). In addition to language barriers and associated consequences for activities related to home-school conferencing, numerous participants assumed that parents with low levels of education especially show little or no interest in their children's education and do not value the teachers' hard work due to personal negative school experiences. In response to this assertion, it is evident that some teachers harbour unfavourable opinions toward SED families (D'Haem and Griswold 2017). This stems from a narrow perception of PI that fixates solely on the school's agenda while overlooking hindrances that impede the participation of these families, such as limited finances and inadequate communication from the school (Baquedano-López, Alexander, and Hernandez 2013). The third theme emerging from the data breaks away from the deficit images of disadvantaged parents and rather includes the aspect of considering the restrictive framework conditions that families are confronted with in their private lives. Thus, some respondents have developed a perspective on PI that acknowledges the economic and psychological limitations that can prevent parents from investing the time and effort to meet the school's expectations. Despite advancements, teachers continue to rely on PI to support students' academic success and participation in school activities, subsequently assigning specific roles and responsibilities to parents (López, Scribner, and Mahitivanichcha 2001). However, if these roles and responsibilities are not met by the parents, the parents are perceived by the schools as being 'uninvolved in their children's schooling' (López, Scribner, and Mahitivanichcha 2001, 257), which further contributes to preexisting stereotyping, discrimination, and the perpetuation of inequities in education. This is exacerbated by the attitudes of teachers who are often unaware of their role in perpetuating educational inequity and who shift some of their responsibility for students' learning success onto parents, as the results of the study highlighted.

Based on the discussion of the findings, it is important to note that, from an inclusion perspective, moving away from the traditional view of PI, which is to align parents' behaviours and attitudes with school expectations, is not sufficient to pave the way for greater equity in education (Hill 2022). Rather, the main goal of inclusive schools should be to ensure that educational success does not depend on students' individual characteristics and, therefore, on the extent of their parents' involvement.

Limitations

Despite its insightful character, the present empirical study has several limitations that need to be considered. First, it is worth noting that the current study solely reflects the perspectives of teachers, thereby inadvertently disregarding the viewpoints of parents and students, who are the primary stakeholders impacted by PI. As such, it is imperative to incorporate all relevant perspectives to gain a comprehensive understanding of the effects of PI. Another shortcoming of this study is that it failed to consider the intersecting dimensions of social class, migration biography, and SEN during data collection, as the teachers had to answer questions related to PI for each student group separately, which hindered a comprehensive exploration of this crucial aspect. Future research should address this issue to ensure a more complete evaluation. Finally, the PI scale used in the current study appears to be limited in its scope and perspective. It focuses heavily on a traditional view of PI, which may not accurately reflect the realities and experiences of all families, particularly those from marginalised backgrounds. This narrow focus could potentially lead to an incomplete understanding of how parents can support their children's education and socialisation. It is crucial to consider the various forms of PI that may be more relevant and effective for different families.

Conclusion

The current study underlines the importance that teachers attribute to PI in promoting equity and fairness in education. However, it also reveals that participants' explanations of variations in PI are often based on the belief that parents should adhere to the dominant, mainstream culture, as well as to middle-class principles and practices. As a result, teachers often view parents' limited involvement at school as a lack of ability, interest, or concern for education, thereby consciously or unconsciously disregarding other aspects of PI that pertain to households that face disadvantages in broader society. Against this background, it is vital to acknowledge that these issues cannot be fully resolved without addressing the societal context that perpetuates inequities based on factors such as nationality, language, and social class. By understanding and addressing these complex dynamics, we can work toward creating a more inclusive and equitable educational system that benefits all students. Apart from this, it is essential to recognise that a truly inclusive school system should prioritise providing quality education and support for all students, regardless of their family background or level of PI. While PI can certainly be beneficial in some cases, it should not be seen as the only way to ensure a positive academic and socio-emotional experience for learners. Ultimately, educators and school administrators should cultivate a warm and supportive atmosphere that empowers every learner to succeed.

Notes

1. The term "parents" will be used throughout the manuscript. However, this term does not refer exclusively to biological parents but also to legal guardians of the child.
2. For the sake of simplicity, these students, described in the questionnaire as having average socioeconomic background, no migration biography, and no SEN, are described in the manuscript as not at risk of disadvantage.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Flora Woltran  <http://orcid.org/0000-0003-0591-3522>

References

- Andersen, Simon Calmar, Maria Koch Gregersen, Helena Skyt Nielsen, and Mette Kjærgaard Thomsen. 2021. "Parent Involvement, Socioeconomic Status and Reading Performance." *Scandinavian Journal of Educational Research* 65 (7): 1279–1294. <http://dx.doi.org/10.1080/00313831.2020.1840429>.
- Antony-Newman, Max. 2019. "Parental Involvement Policies in Ontario: A Critical Analysis." *The School Community Journal* 29 (1): 143–169.
- Baquedano-López, Patricia, Rebecca Anne Alexander, and Sera J. Hernandez. 2013. "Equity Issues in Parental and Community Involvement in Schools." *Review of Research in Education* 37 (1): 149–182. <https://doi.org/10.3102/0091732X12459718>.
- Barger, Michael M., Elizabeth Moorman Kim, Nathan R. Kuncel, and Eva M. Pomerantz. 2019. "The Relation between Parents' Involvement in Children's Schooling and Children's Adjustment: A Meta-Analysis." *Psychological Bulletin* 145 (9): 855–890. <https://doi.org/10.1037/bul0000201>.
- Benner, Aprile D., Alaina E. Boyle, and Sydney Sadler. 2016. "Parental Involvement and Adolescents' Educational Success: The Roles of Prior Achievement and Socioeconomic Status." *Journal of Youth and Adolescence* 45 (6): 1053–1064. <https://doi.org/10.1007/s10964-016-0431-4>.
- BMWF. 2021. *Nationaler Bildungsbericht. Bundesministerium für Bildung, Wissenschaft und Forschung* (Ed.). Vienna: Bundesministerium für Bildung, Wissenschaft und Forschung.
- Boonk, Lisa, Hieronymus J. M. Gijsselaers, Henk Ritzen, and Saskia Brand-Gruwel. 2018. "A Review of the Relationship between Parental Involvement Indicators and Academic Achievement." *Educational Research Review* 24:10–30. <https://doi.org/10.1016/j.edurev.2018.02.001>.
- Braun, Virginia, and Victoria Clarke. 2022. *Thematic Analysis: A Practical Guide*. 1st ed. New York: SAGE.
- Bromley, Jennifer, and Lilly K. Yazdanpanah. 2021. "Teachers' Views of Parental Involvement in the Schooling of Low Literacy Refugee and Migrant Children: An Australian Study." *TESL-EJ* 25 (2): 1.
- Bronfenbrenner, Urie. 1976. "The Experimental Ecology of Education." *Educational Researcher* 5 (9): 5–15. <https://doi.org/10.2307/1174755>.
- Buchner, Tobias, and Michelle Proyer. 2020. "From Special to Inclusive Education Policies in Austria – Developments and Implications for Schools and Teacher Education." *European Journal of Teacher Education* 43 (1): 83–94. <https://doi.org/10.1080/02619768.2019.1691992>.
- Castro, María, Eva Expósito-Casas, Esther López-Martín, Luis Lizasoain, Enrique Navarro-Asencio, and José Luis Gaviria. 2015. "Parental Involvement on Student Academic Achievement: A Meta-Analysis." *Educational Research Review* 14: 33–46. <http://dx.doi.org/10.1016/j.edurev.2015.01.002>.
- Cheadle, Jacob E., and Paul R. Amato. 2011. "A Quantitative Assessment of Lareau's Qualitative Conclusions About Class, Race, and Parenting." *Journal of Family Issues* 32 (5): 679–706. <https://doi.org/10.1177/0192513X10386305>.
- Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences* (2 ed.). Hillsdale, NJ: Erlbaum.
- Cosso, Jimena, Antje von Suchodoletz, and Hirokazu Yoshikawa. 2022. "Effects of Parental Involvement Programs on Young Children's Academic and Social-Emotional Outcomes: A Meta-Analysis." *Journal of Family Psychology* 36 (8): 1329–1339. <https://doi.org/10.1037/fam0000992>.
- de Cavalho, Maria E. 2001. *Rethinking Family-School Relations. A Critique of Parental Involvement in Schooling*. 1st ed. Oxfordshire, UK: Routledge.
- D'Haem, Jeanne, and Peter Griswold. 2017. "Teacher Educators' and Student Teachers' Beliefs About Preparation for Working with Families Including those from Diverse Socioeconomic and Cultural Backgrounds." *Education and Urban Society* 49 (1): 81–109. <https://doi.org/10.1177/0013124516630602>.
- Durisc, Masa, and Mila Bunijevac. 2017. "Parental Involvement as a Important Factor for Successful Education" *Center for Educational Policy Studies Journal* 7 (3): 137–153. <https://doi.org/10.26529/cepsj.291>.
- Epstein, Joyce Levy. 2001. *School, Family, and Community Partnerships: Preparing Educators and Improving Schools*. Boulder, CO [u.a.]: Westview Press.
- Fantuzzo, John, Erin Tighe, and Stephanie Childs. 2000. "Family Involvement Questionnaire: A Multivariate Assessment of Family Participation in Early Childhood Education." *Journal of Educational Psychology* 92 (2): 367–376. <https://doi.org/10.1037/0022-0663.92.2.367>.
- Foster, Marquita D., Jamaal R. Young, and Jemimah L. Young. 2017. "Teacher Perceptions of Parental Involvement and the Achievement of Diverse Learners: A Meta-Analysis." *Journal of English Education, Linguistics and Literature* 4 (5): 1–17.
- Graves, Scott L., and Lynda Brown Wright. 2011. "Parent Involvement at School Entry: A National Examination of Group Differences and Achievement." *School Psychology International* 32 (1): 35–48. <https://doi.org/10.1177/0143034310396611>.
- Hartas, Dimitra. 2015. "Patterns of Parental Involvement in Selected OECD Countries: Cross-National Analyses of PISA." *European Journal of Educational Research* 4 (4): 185–195. <https://doi.org/10.12973/eu-jer.4.4.185>.
- Hill, Nancy E. 2022. "Parental Involvement in Education: Toward a More Inclusive Understanding of Parents' Role Construction." *Educational Psychologist* 57 (4): 309–314. <https://doi.org/10.1080/00461520.2022.2129652>.
- Hill, Nancy E., and Lorraine C. Taylor. 2004. "Parental School Involvement and Children's Academic Achievement." *Current Directions in Psychological Science* 13 (4): 161–164. <http://dx.doi.org/10.1111/j.0963-7214.2004.00298.x>.

- Hill, Nancy E., and Diana F. Tyson. 2009. "Parental Involvement in Middle School: A Meta-Analytic Assessment of the Strategies that Promote Achievement." *Developmental Psychology* 45 (3): 740–763. <https://doi.org/10.1037/a0015362>.
- Huber, Stephan Gerhard, and Christoph Helm. 2020. "COVID-19 and Schooling: Evaluation, Assessment and Accountability in Times of Crises—Reacting Quickly to Explore Key Issues for Policy, Practice and Research with the School Barometer." *Educational Assessment, Evaluation and Accountability* 32 (2): 237–270. <https://doi.org/10.1007/s11092-020-09322-y>.
- IBM Corp. Released. 2020. *IBM SPSS Statistics for Windows, Version 27.0*. Armonk: IBM Corp.
- Jabar, Melvin, Renan Kasilag, Zaldy Collado, and Rockangel Jamoral. 2023. "Family Capital and Parental Involvement among Parents in Public Elementary and Secondary Schools in the Philippines: Perspectives of Parents and Children." *Asia Pacific Journal of Education* 43 (2): 555–571. <https://doi.org/10.1080/02188791.2021.1944841>.
- Jeynes, William H. 2007. "The Relationship between Parental Involvement and Urban Secondary School Student Academic Achievement." *Urban Education* 42 (1): 82–110. <https://doi.org/10.1177/0042085906293818>.
- Jezierski, Sylvia, and Glenda Wall. 2019. "Changing Understandings and Expectations of Parental Involvement in Education." *Gender and Education* 31 (7): 811–826. <https://doi.org/10.1080/09540253.2017.1332340>.
- Jigyel, Karma, Judith A. Miller, Sofia Mavropoulou, and Jeanette Berman. 2019. "Parental Involvement in Supporting their Children with Special Educational Needs at School and Home in Bhutan." *Australasian Journal of Special and Inclusive Education* 43 (1): 54–68. <https://doi.org/10.1017/jsi.2019.3>.
- Kim, Sungwon. 2022. "Fifty Years of Parental Involvement and Achievement Research: A Second-Order Meta-Analysis." *Educational Research Review* 37:100463. <https://doi.org/10.1016/j.edurev.2022.100463>.
- Kim, Yeeun, Sog Yee Mok, and Tina Seidel. 2020. "Parental Influences on Immigrant Students' Achievement-Related Motivation and Achievement: A Meta-Analysis." *Educational Research Review* 30:100327. <https://doi.org/10.1016/j.edurev.2020.100327>.
- Lai, Yuan, and Jennifer A. Vadeboncoeur. 2013. "The Discourse of Parent Involvement in Special Education." *Educational Policy* 27 (6): 867–897. <https://doi.org/10.1177/0895904812440501>.
- Lakkala, Suvi, Alvyra Galkienė, Julita Navaitienė, Tamara Cierpiałowska, Susanne Tomecek, and Satu Uusiautti. 2021. "Teachers Supporting Students in Collaborative Ways—An Analysis of Collaborative Work Creating Supportive Learning Environments for Every Student in a School: Cases from Austria, Finland, Lithuania, and Poland." *Sustainability* 13 (5): 2804. <https://doi.org/10.3390/su13052804>.
- Lawrence, Kehinde Clement, and Olubusayo Victor Fakuade. 2021. "Parental Involvement, Learning Participation and Online Learning Commitment of Adolescent Learners During the COVID-19 Lockdown." *Research in Learning Technology* 29:1–16. <https://doi.org/10.25304/rlt.v29.2544>.
- Lopez, Gerardo R. 2001. "The Value of Hard Work: Lessons on Parent Involvement from an (Im)Migrant Household." *Harvard Educational Review* 71 (3): 416–437. <https://doi.org/10.17763/haer.71.3.43x7k542x023767u>.
- López, Gerardo R., Jay D. Scribner, and Kanya Mahitivanichcha. 2001. "Redefining Parental Involvement: Lessons from High-Performing Migrant-Impacted Schools." *American Educational Research Journal* 38 (2): 253–288. <https://doi.org/10.3102/00028312038002253>.
- Malone, Debra. 2017. "Socioeconomic Status: A Potential Challenge for Parental Involvement in Schools." *The Delta Kappa Gamma Bulletin* 83 (3): 58.
- Mapp, Karen L., and Paul J. Kuttner. 2013. *Partners in Education. A Dual Capacity-Building Framework for Family-School Partnerships*. Arlington, VA: SEDL.
- Mayrhofer, Lisa, Konrad Oberwimmer, Bettina Toferer, Maria Neubacher, Roman Freunberger, Stefan Vogtenhuber, and David Baumegger. 2019. "C: Prozesse des Schulsystems." In *Nationaler Bildungsbericht Österreich 2018. Das Schulsystem im Spiegel von Daten und Indikatoren*, edited by Konrad Oberwimmer, Stefan Vogtenhuber, Lorenz Lassnigg, and Claudia Schreiner, 123–196. Wien: Leykam.
- Ndebele, Misheck. 2015. "Socio-Economic Factors Affecting Parents' Involvement in Homework: Practices and Perceptions from Eight Johannesburg Public Primary Schools." *Perspectives in Education* 33 (3): 72–91.
- Otani, Midori. 2020. "Parental Involvement and Academic Achievement among Elementary and Middle School Students." *Asia Pacific Education Review* 21 (1): 1–25. <https://doi.org/10.1007/s12564-019-09614-z>.
- Pinquant, Martin, and Markus Ebeling. 2020. "Parental Educational Expectations and Academic Achievement in Children and Adolescents—A Meta-Analysis." *Educational Psychology Review* 32 (2): 463–480. <https://doi.org/10.1007/s10648-019-09506-z>.
- Resch, Katharina, Marie Gitschthaler, and Susanne Schwab. 2023. "Teacher's Perceptions of Separate Language Learning Models for Students with Immigrant Background in Austrian Schools." *Intercultural Education* 34 (3): 288–304. <https://doi.org/10.1080/14675986.2023.2180487>.
- Rickert, Nicolette P., and Ellen A. Skinner. 2022. "Parent and Teacher Warm Involvement and Student's Academic Engagement: The Mediating Role of Self-System Processes." *British Journal of Educational Psychology* 92 (2): 667–687. <https://doi.org/10.1111/bjep.12470>.
- Souto-Manning, Mariana, and Kevin J. Swick. 2006. "Teachers' Beliefs About Parent and Family Involvement: Rethinking Our Family Involvement Paradigm." *Early Childhood Education Journal* 34 (2): 187–193. <https://doi.org/10.1007/s10643-006-0063-5>.

- Stevenson, D. L., and D. P. Baker. 1987. "The Family-School Relation and the Child's School Performance." *Child Development* 58 (5): 1348–1357. <https://doi.org/10.1111/j.1467-8624.1987.tb01463.x>.
- Tabachnick, Barbara G., and Linda S. Fidell. 2007. *Using Multivariate Statistics*. 5th ed. 10. [print.]. Boston, [u.a.]: Pearson.
- Wahyuni, Citra. 2022. "Parental Involvement and the Achievement of Students with Special Education Needs in Indonesia." *Exceptionality Education International* 32 (1): 14–34. <https://doi.org/10.5206/eei.v32i1.14871>.
- Wilder, S. 2014. "Effects of Parental Involvement on Academic Achievement: A Meta-Synthesis." *Educational Review* 66 (39): 377–397. <https://doi.org/10.1080/00131911.2013.780009>.
- Womack, Tyler A., and Austin H. Johnson. 2022. "Examining the Likelihood of Parents' Homework Involvement with Elementary-Age Students with Individualized Education Programs." *Remedial and Special Education* 43 (4): 211–221. <https://doi.org/10.1177/07419325211047956>.
- Yu, Hui. 2020. "The Making of 'Incompetent Parents': Intersectional Identity, Habitus and Chinese Rural Migrant's Parental Educational Involvement." *The Australian Educational Researcher* 47 (4): 555–570. <https://doi.org/10.1007/s13384-019-00361-z>.

DI Practices as a Strategy to Address Educational Inequities. A Cross-National Comparative Study of Teacher Perspectives

Flora Woltran^{a*}, Marcela Pozas^{b,c} and Verena Letzel-Alt^d

^aCentre for Teacher Education, University of Vienna, Vienna, Austria; ^bProfessional School of Education, Humboldt University zu Berlin, Berlin, Germany; ^cSchool of Psychology, University of Monterrey, San Pedro Garza García, N.L., Mexico; ^dSection for Teacher Education and Research, University of Trier, Trier, Germany

*corresponding author (email: flora.woltran@univie.ac.at)

DI Practices as a Strategy to Address Educational Inequities: A Cross-National Comparative Study of Teacher Perspectives

Cross-national comparisons of the implementation and impact of inclusive education (IE) have traditionally been considered difficult due to each country's context. However, because differentiated instruction (DI) contains concrete instructional arrangements that teachers can use in their daily teaching, it provides a useful starting point for comparisons that go beyond national borders. This study explored how teachers in two countries, Austria and Mexico, implemented DI when returning to face-to-face instruction after the global COVID-19 pandemic. Following a qualitative approach, twenty semi-structured interviews were conducted with secondary school teachers. The results indicate that teachers from both countries differentiate their teaching mainly through the use of tiered assignments, heterogeneous student groups, and open education. However, differences between the countries are also revealed. Implications of the results and further lines of research are discussed.

Keywords: differentiated instruction; COVID-19 pandemic; cross-country comparison

Introduction

The coronavirus (COVID-19) pandemic and its school-related closures have created tremendous educational challenges. Educational stakeholders have raised concerns that the situation has widened learning inequity, particularly for disadvantaged students (Hammerstein et al. 2021). Studies have revealed that during the first COVID-19 school closure, most teachers were not able to adequately support vulnerable students, such as those with special educational needs (SEN) (Thorell et al. 2021). Moreover, comparative studies have indicated country and school setting differences regarding teachers' support for SEN students (Letzel et al. 2022). It can be argued that educational equity can be fostered through inclusive teaching practices, such as differentiated instructional (DI) strategies, which are free of discrimination and, thereby, break learning barriers for students who are likely to be disadvantaged in educational settings (UNESCO 2020). Thus, inclusive teaching practices were, and will continue to be, key instructional behaviours. Given the COVID-19 educational

crisis, there has been considerable international research output on the matter (e.g. Helm et al. 2022). Building on evidence stemming from such studies, educational experts have ‘called for adaptation of instruction when children return following the COVID-19 related closures’ (Kaffenberger 2021, 1). Considering that most schools worldwide have returned to face-to-face schooling, it therefore seems relevant and necessary to examine how teachers are currently supporting disadvantaged students (Terhart 2021), with particular focus on their inclusive teaching practices.

Research on inclusive education (IE) has shown that education systems vary widely in their implementation of inclusive practices in classrooms (e.g. Moberg et al. 2019). Therefore, it has been strongly suggested to perform cross-country research (OECD 2020). Such studies allow the generation and exchange of new knowledge, which, in return, informs education policy and practice. This study explores teachers’ perceptions of supporting at-risk students after returning to face-to-face instruction and their DI implementation in two countries: Austria and Mexico. Additionally, following suggestions from previous research (Letzel et al. 2022), this study also examines teachers’ explanations for their reported use of DI practices.

1.1 COVID-19 Educational Policy and Practice in Austria and Mexico

1.1.1 Austria

The first nationwide suspension of regular school operations took place in the spring of 2020. The Federal Ministry announced that students should be given the opportunity to do schoolwork from home (BMBWF 2020a). During this period, regular classes were suspended. However, schools were open to those students whose parents could not supervise them at home. The second period of statewide school closures occurred from November 2020 through December 2020 (BMBWF 2020b). Due to rising infection rates, the Federal Ministry

soon announced that regular school operations would be suspended from the end of the Christmas vacation through February 2021 (BMBWF 2021a). During this phase, secondary and vocational education students remained in distance education but were able to return to class several days a week in small groups (BMBWF 2021a). In April 2021, students in several provinces again switched to distance education due to the high number of COVID-19 cases in schools (BMBWF 2021b). During these multiple disruptions to schooling, measures such as the provision of mouth guards and regular COVID-19 testing were provided for students and school staff. These provisions were rescinded in June 2022 (BMBWF 2022). Since then, the Federal Ministry has not implemented any mandatory measures for schools related to COVID-19.

1.1.2 Mexico

On 30th March 2020, the government suspended all non-essential activities and brought home isolation measures into effect. As a response, the Secretariat of Public Education (*Secretaría de Educación Pública*, SEP) launched the initiative ‘Learn from Home’ (UNESCO 2020). During weekdays, educational shows were broadcast through national public television, radio stations included special education programmes in different indigenous languages for Indigenous communities, and governmental agencies delivered school material packages to students in isolated communities. Additionally, the SEP developed an online platform titled ‘Learn 2.0’, which provided free digital materials for teachers, students, families, and SEN students. Although these initiatives provided an opportunity to continue schooling through emergency online teaching, they were also highly criticized (Amador Bautista 2020) as most socioeconomically disadvantaged families do not have access to digital media and technology (Cárdenas et al. 2022).

In contrast to several European countries (Contreras et al. 2022), Mexico did not reopen schools after the first COVID-19 wave; thus, the school year starting in mid-August 2020 was continued through distance learning. For the 2021–2022 school year, SEP (2021) indicated that students and their parents could decide voluntarily whether they would return to a face-to-face schooling format. Nevertheless, this decision was highly criticized by researchers and practitioners who argued that Mexico was not prepared for full on-site schooling and suggested reopening under a hybrid format (González Hernández and Torres Abarca 2021). Given that the education system operates in a decentralized manner, each of the states' governments decided upon their own timetable for fully reopening schools, with some deciding to return under a hybrid format (Cárdenas et al. 2022).

1.2 The Reinforcement of Educational Inequities (EI) due to COVID-19

International studies have shown that the COVID-19 disruption to schooling limited students' educational progress (e.g. Azevedo 2020). Accordingly, most individual and overview studies show an overall downward trend in the academic development of students (e.g. Spiteri et al. 2023). Consequently, several researchers have emphasized that the general conditions that prevailed during the pandemic may have contributed to the perpetuation of EI (Azevedo 2020).

The term EI refers to the dependence of educational success on several predetermined personal characteristics that are beyond an individual's control (Rother and Buchna 2020), such as socioeconomic status (Niederbacher and Neuenschwander 2020), gender (Zeng et al. 2014), migration biography (Fibbi and Truong 2015), multilingualism (Kieffer and Thompson 2018), or disability (Trani et al. 2012). Inequities in educational success are therefore often attributed to individual educational disadvantages that manifest themselves in formal educational processes (Rother and Buchna 2020). Recently, research has placed a

stronger focus on systemic mechanisms that contribute to EI (Anderson et al. 2022). Within an IE ideology, system-level changes are needed to overcome inequities at the individual level, and the terms inequity and inequality are often used interchangeably (Anderson et al. 2022). Given the study's focus on IE, the term inequity will be used throughout, since it is usually understood in terms of the distribution of resources, while equity/inequality are commonly associated with instructional processes to combat or maintain various forms of oppression (Young 1990). By using the term inequity, we aim to contribute to an 'understanding of transformation at the level of systems, not individuals' (Anderson et al. 2022, 117).

1.2.1 EI in Austria and Mexico

In Austria, inequities in education have a long history. Several empirical findings suggest that social origin is a major determinant of educational success. For instance, Austria's current National Education Report indicates that students from socioeconomically disadvantaged households, students with migration biographies, and students with non-German everyday language are overrepresented in the group of low-performing students (i.e. students who do not meet the established educational standards) (Neubacher and Wimmer 2021). In addition, several groups of students are underrepresented in schools preparing for higher academic education. These include students whose parents or legal guardians have low levels of formal education, students with SEN, and students with non-German everyday language (Mayrhofer et al. 2019). This preexisting disadvantage of certain groups of learners became even more pronounced during COVID-19. Findings from the study by Steiner et al. (2020) suggest that socioeconomically disadvantaged students and students with beginning skills in the language of instruction faced high demands and a decline in skills. This may be because teachers in Austria perceived major barriers to providing personalized learning support to these student

groups (Gitschthaler et al. 2021). In summary, for Austria, COVID-19 and the resulting system-level failures have contributed significantly to worsening EI.

Although many educational policies and reforms have been introduced (de la Cruz Flores et al. 2023), Mexico has ‘historically been known for being highly unequal’ (Clément and Piasser 2022, 704). In Mexico, students experience severe EI because of their gender, socioeconomic status, living in rural communities, being bilingual (i.e. indigenous language), or having SEN (OECD 2021). The current PISA index of economic, social, and cultural status (ESCS) shows that Mexican students within the lower ESCS quartile have a poorer reading performance than students within the higher ESCS quartile. Additionally, data indicates that reading scores for boys are significantly better than for girls (OECD 2023). The COVID-19 crisis in Mexico only aggravated existing inequities. Nearly 80% of students did not have access to technology (Ulloa et al. 2020), limiting teacher support for particularly disadvantaged learners (Cárdenas et al. 2022). Moreover, the SEP did not provide additional intervention and/or special educational support to address SEN students (Martínez and Acuña 2020). Mexican schools remained closed for more than 48 weeks, and 43% of students are below the expected level in mathematics, while 60% are below the expected level of reading (Hevia et al. 2022). Several studies have revealed that students with SEN coped significantly worse during distance learning (Pozas and Letzel 2023).

1.3 IE and the Role of DI Practices in Addressing EI

The adoption of the UNESCO Salamanca Statement (UNESCO 1994) introduced IE as a global policy that proposes opening classrooms to diversity (Nilholm 2021). Since then, the concept of IE has undergone a shift in educational policy, research, and practice, reflected in the evolution from a focus on students with disabilities to the concept of ‘leaving no child behind’ (Lindblad and Popkewitz 2004) and towards the inclusion of all learners (Moberg et

al. 2019). In this study, IE is considered a school environment that meets the social and academic needs of all students, recognizing and valuing a diverse student body (Göransson and Nilholm 2014).

DI is an inclusive instructional approach that effectively addresses student diversity by assessing students' readiness, interest, and learning profiles so that content, processes, and products can be adapted (Letzel et al. 2020). Accordingly, DI is based on the notion that each student exhibits a unique life history and goes well beyond the idea of an average level of student competencies associated with a 'one-size-fits-all' approach to teaching (Valiandes 2015). DI can be a useful strategy to overcome EI and promote equal access to knowledge, regardless of students' individual characteristics (Valiandes 2015). DI is an effective instructional approach, as studies have shown the benefits of DI on students' outcomes (Smale-Jacobse et al. 2019).

The COVID-19 pandemic, and the resulting technological incursion into education, opened up new insights for educators about how students learn differently (Schleicher 2022). This suggests that through the use of innovative learning environments, teachers were able to address and respond to individual needs with appropriate, differentiated didactic interventions. However, findings indicate that many teachers were unable to provide sufficiently differentiated learning opportunities for their students during the period of distance education (Thorell et al. 2020). For Mexico, the findings of Pozas et al. (2021) suggest that parents perceived an inadequate use of DI practices to support students during the COVID-19 crisis. Concerning Austria, Letzel-Alt et al.'s (2022) study highlighted that teachers' DI repertoire was too limited to provide meaningful support to socioeconomically disadvantaged students and SEN students. Teachers' challenges to ensuring high-quality DI during the COVID-19 crisis may have contributed to the startling finding that most education

systems have been unable to offset the negative impact of the educational changes on groups of students who were previously disadvantaged (OECD 2020).

1.4 The Current Study

The current study was conducted as a cross-national project to examine differences and similarities in Mexican and Austrian secondary teachers' perceptions of at-risk students, their implementation of DI practices after returning to face-to-face instruction, and their explanations for using DI practices. In detail, the study was guided by the following research questions:

- (1) What DI practices do teachers report implementing after their return to face-to-face instruction?
- (2) What are teachers' explanations for their use of DI practices?
- (3) What country-specific differences and similarities in teachers' reports and explanations can be identified?

2. Methods

2.1 Participants

Twenty primary and secondary education teachers (ten participants per country) were interviewed between September and November 2022. In the Austrian sample (see Table 1), nine of the ten teachers were female, and the teachers had an average age of 33.9 years and an average of 8.5 years of teaching experience.

Table 1. Characteristics of participating teachers from Austria.

Teacher #	Gender	Type of school	School grades	Class type
1	Female	Public	6, 7	Special school class
2	Male	Public	9–11	Mainstream class

3	Female	Public	5–7	Special school class
4	Female	Private	5–12	Special school class
5	Female	Public	5–8	Mainstream class
6	Female	Public	5–7	Inclusive class
7	Female	Public	5, 6, 12	Inclusive class
8	Female	Public	9–11	Mainstream class
9	Female	Public	6, 7	Inclusive class
10	Female	Public	5–8	Inclusive class

For the Mexican sample (see Table 2), almost all participating teachers were female, and the teachers had an average age of 35.6 years and an average of 10.8 years of teaching experience.

Table 2. Characteristics of participating teachers from Mexico.

Teacher #	Gender	Type of school	School grades	Class type
1	Female	Private	10–12	Inclusive class
2	Female	Public	2	Inclusive class
3	Female	Private	10–12	Inclusive class
4	Female	Private	10–12	Inclusive class
5	Female	Private	1–9	Mainstream class
6	Male	Private	10	Inclusive class
7	Female	Private	3	Inclusive class
8	Female	Private	1	Inclusive class
9	Female	Private	10–12	Mainstream class
10	Female	Private	1	Inclusive class

2.2 Procedure

Following a qualitative approach, semi-structured interviews were used (Flick 2023). This method was chosen because it allows researchers to ask prepared questions while giving respondents the flexibility to contribute their own perspectives and spontaneously move on to other topics (Flick 2023). All interviews were recorded and transcribed verbatim. Excerpts were translated into English by the research team for use in this publication but were not

edited in the process. All participants were informed about the study and provided their consent.

The interview protocol includes questions about teachers' working conditions and their review of past school years that were affected by COVID-19. In addition, information was obtained on teachers' current implementation of DI practices and their perceptions of students' academic development over the past several school years. As the current study specifically explores teachers' ways of application of DI practices and explanations for their use, particular emphasis was placed on this aspect. Specifically, the questions about the factors within this domain of interest were based on Pozas and Schneider's (2019) DI taxonomy and related to (1) *Tiered Assignments* (TA), (2) *Intentional Composition of Student Groups* (ICSG), (3) *Tutoring Systems* (TS), (4) *Staggered Nonverbal Learning Aids* (SNLA), (5) *Mastery Learning* (ML), and (6) *Open Education* (OP).

2.3 Data Analysis

The data were analysed with both an inductive and deductive coding approach (Saldaña 2021) using MAXQDA software (VERBI Software 2021). Coding refers to the operations by which data are broken down, conceptualized, and reassembled in new ways (Corbin et al. 2015). Accordingly, the authors started with a set of codes developed a priori and based on a previously established theoretical framework (i.e. a taxonomy of DI). Since this aspect was given special emphasis in the guided interviews, the use of the deductive coding approach seemed particularly appropriate, as themes relevant to this topic would likely emerge in the data collected (Saldaña 2021). In addition, the inductive coding of participant statements was done as openly as possible to ensure a close orientation to the data and not to commit exclusively to pre-existing codes. According to Flick (2023), the inductive and deductive approaches alternate, with researchers switching back and forth between developing concepts

from the data (i.e. induction) and testing categories against passages or cases (i.e. deduction). In this way, the inductive codes (i.e. categories) solidify over the course of the data analysis and thus represent the deductive codes for the following data analyses (Saldaña 2021).

To ensure inter-coder reliability and foster reflexivity and dialogue within the research team, the first two authors performed the open coding independently. At the end of this circular coding process, the authors ended up with a total of 206 codes. Inter-coder reliability was measured using Holst's (1969) method and resulted in an index of 2.08.

3. Results

Of the 206 meaning units extracted, 39 inductively and deductively formed categories were identified. Of these, 11 were deductive codes based on the DI taxonomy, thus encompassing the diversity of DI activities reflected in 6 different teaching and learning arrangements. These deductive categories were expanded with an additional 28 inductively formed categories that emerged from the data (see Table 3).

3.1 DI Practices Implemented by Teachers after Returning to Face-to-Face Instruction

As seen by the number of codings in Table 3, participants reported using a variety of DI practices when they returned to face-to-face instruction. Overall, in descending order, participants reported using *TA*, *ICSG*, *OP*, *TS*, *SNLA*, and *ML*. More specifically, a total of 16 participants from Austria and Mexico reported using *TA*, with *TA* in terms of quantity being reported slightly more frequently by teachers than *TA* in terms of quality. Participants reported adjusting teaching and learning arrangements in terms of available time, amount of material, and complexity of assignments. In addition, 16 of the 20 participants indicated that they implement *ICSG*, with most teachers assigning learners to heterogeneous groups (*HetG*). This approach is pursued in a number of ways, for instance:

For example, when there are presentations that are done in partner or group work, the partners that the children want to work with are found relatively quickly. And I often just let them work with the person sitting next to them or their best friend, because I know that they get along well, even though they differ from each other in terms of their academic performance. But every now and then the groups are put together completely arbitrarily. (Teacher 2, Austria)

Fifteen teachers indicated that they regularly give students a say in instructional processes or provide self-directed learning periods (i.e. *OP*). Fourteen participants reported that they intentionally choose high-performing students to take on the role of teacher assistants and tutor lower-ability students (i.e. *TS*). One teacher even pointed out that she uses *TS* so that students can explain learning content to each other in a different and somewhat more understandable way than the teacher does:

So, it happened to me that a student would say to me, “I learned it differently.” And that was the opportunity for the student to explain to me how he learned it and see if it could be useful for another student. That’s the birth of tutoring: maybe my didactic approach isn’t 100% useful, but a classmate’s is. (Teacher 2, Mexico)

Thirteen participants reported using *SNLA* (i.e. cards with information students need to overcome learning difficulties). Finally, *ML*, which primarily includes instructional activities aimed at achieving a baseline level of proficiency for all students, was reported as being applied by a total of 11 participants. In this context, one participant indicated creating a learning environment in which some students support others in achieving learning goals:

We always work cooperatively and each of them [the students] has some kind of task. One is what we call the material manager, who tries to get all the material, and the other is the controller, who makes sure that everybody does the activity. The other is the instructor who says, “You got it, you did it right,” or “you did it wrong.” (Teacher 8, Mexico)

Table 3. Categorization matrix and total number of codings per country

Deductive Category (Level 1)	Deductive Category (Level 2)	Deductive Category (Level 3)	Inductive Category (Level 1)	Inductive Category (Level 2)	Inductive Category (Level 3)	Inductive Category (Level 4)	Total Number of Codings: Austria	Total Number of Codings: Mexico
DI Taxonomy	TA	Tiered Assignments in Terms of Quality					9	9
		Tiered Assignments in Terms of Quantity					13	7
	ICSG	Homogeneous Grouping					5	4
		HetG					11	5
	TS						8	9
	SNLA						10	9
	ML						5	16
	OP						11	7
			Explanations for DI Use	Explanations for Applying Tiered Assignment	Differences between Students		8	
				Explanations for Applying Intentional Composition of Student Groups	Explanations for Applying Homogeneous Grouping	Collaboration of Students with the Same Curriculum	1	
						Recognizing Differences	1	2
						Recognizing Students' Wishes	1	
					Explanations for Applying Heterogeneous Grouping	Development of Within-Group Tutoring Systems		1
						Diversity as Enrichment of the Process		2
						Teacher Choice Depending on the Topic	1	1
						Unfamiliarity between Teachers and Students	1	
						Avoiding Unfair Conditions	1	

		Fostering Student Interaction	1	
		Recognition of Student Friendships	1	1
		Project-Based Work	1	2
	Explanations for Applying Tutoring Systems	Utilization of Student Competencies	5	5
	Explanations for Applying Staggered Nonverbal Learning Aids	Support for Student Learning	3	6
		Promotion of Self-Regulated Learning	2	
	Explanations for Applying Mastery Learning	Evaluation of the Learning Development		6
		Evaluation of the Project-Presentation		1
		Differences between Students		4
	Explanations for Applying Open Education	Recognition of Students' Wishes and Interests	4	6

3.2 Teachers' Explanations for their Use of DI Practices

The teachers' explanations for their use of specific DI practices were subsumed under the inductively formed categories of Levels 1–4. Overall, the variations and also the range of explanations for the use of selected didactic-methodological approaches are most diverse concerning *ICSG*. Accordingly, in terms of *HetG*, participants mentioned (1) developing *TS* (i.e. higher-performing students help other learners), (2) creating diversity in the sense that all learners benefit from each other's skills, (3) creating fairness between groups, (4) encouraging students to get to know each other, (5) emphasizing friendships, and (6) project-based work. Three participants also expressed that they would use this approach depending on the topic and if they did not know the class that well. Regarding the teachers' use of homogeneous grouping, the participants stated that (1) students' common curriculum, (2) pace of work, and (3) students' desires are considered (i.e. students express a wish to work with learners who are as good as they are). The participants' statements about why they use *ML* included (1) assessing student learning development, (2) identifying differences in students, and (3) assessing project-based work. In addition, the teachers justified *OP* solely on the basis that students' interests and desires must be considered. When explaining their use of *SNLA*, the participants most frequently cited supporting student learning. Two teachers also indicated using *SNLA* to promote self-directed learning. Finally, regarding the implementation of *TS*, the participants indicated that they use students who understand the content quickly, have prior knowledge or excellent interpersonal skills, or who can provide good explanations to help other learners.

3.3 Country-Specific Differences and Similarities

Overall, Austrian teachers (n = 72) slightly reported using more DI practices than

Mexican teachers (n = 66). However, a closer look at the individual categories reveals country differences in the use of DI, especially regarding *TA* in terms of quantity and *HetG*. Most Austrian teachers (n = 9) reported differentiating learning content quantitatively regularly, whereas half of the Mexican participants reported otherwise. Three Mexican and nine Austrian teachers indicated that they intentionally assign learners with different characteristics to work groups. Teachers' use of *OP*, *TS*, and *SNLA* showed no substantial differences between countries. Moreover, *ML* was the only DI category that Mexican teachers (n = 8) reported using more frequently. Accordingly, more Mexican teachers reported preparing activities so that both low- and high-performing students can see a progression in knowledge, conducting learning assessments and working to create a common knowledge base.

Minor differences were found in relation to *SNLA*. Only the Austrian participants mentioned the promotion of self-regulated learning as a reason for using *SNLA*. Different rationales on teachers' use of *HetG* were found. Mexican teachers reported using *HetG* to develop *TS* and promote diversity in the classroom. Austrian teachers indicated that they use this DI strategy for reasons of low familiarity between teachers and students, to avoid unfair conditions between work groups, and to promote interaction between students who do not know each other well. Similar rationales for using *HetG* were found in terms of dependence on the particular lesson content, recognizing student friendships (i.e. choosing to work with someone they like), and project-based work. Further disparities were found in relation to *TA*, with Austrian teachers referring exclusively to differences between students' curricula and school levels. This rationale was also exclusively cited by Austrian teachers in their explanations for the use of homogeneous grouping. Important differences in teachers' explanations were found in relation to *ML*: Mexican teachers exclusively cited the

assessment of learning development and addressing differences in student learning development as the main reasons for using this approach. Finally, further similarities could be found in the teachers' explanations regarding different working speeds as an explanation for the use of *TA* and consideration of students' wishes and interests as an explanation for the use of *OP*.

4. Discussion

COVID-19 school closures have widened pre-existing EI, making the need for IE even more relevant. Therefore, this study sought to examine how teachers address the needs of all students, but particularly those at risk of facing disadvantages in education in Austria and Mexico. The results show that most participants from both countries differentiate their teaching mainly through the use of *TA*, *ICSG* (especially *HetG*), and *OE*. These results are consistent with studies from the pre-pandemic (e.g. Letzel 2021; Pozas et al. 2019), COVID-19 school closure (Letzel and Pozas 2022), and post-pandemic (e.g. Pozas et al. 2023) periods.

In Austria, researchers have already pointed to the established school practice that teachers tend to adapt the content of instruction to the students' level of competence, which is in line with *TA* in terms of quality (e.g. Bešić et al. 2017). However, the teachers also point out that the Ministry of Education's expectations regarding differentiation of learning arrangements according to students' abilities and learning styles cannot be met due to the number of students in classes and the associated workload (Bešić et al. 2017). These perceived difficulties related to DI were likely exacerbated by the COVID-19 pandemic, as some studies suggest that teachers in Austria were often unable to provide learning opportunities that meet the needs of a diverse student population in the era of distance education (e.g. Letzel et al. 2020;

Woltran et al. 2021).

The frequent use of *ICSG*, especially the use of *HetG*, also reflected the findings of Bešić et al. (2017), in which inclusion professionals and teachers emphasized that class compositions characterized by a wide diversity of students are seen as an essential part of teaching. Interestingly, this finding of our study is not consistent with the results of Buchner (2021), which showed that teachers in Austria continue to use ability-space regimes (i.e. students who do not meet performance expectations are assigned to specific educational spaces within the school and outside the mainstream classroom). It also contrasts with the findings of Letzel-Alt et al. (2022), who reported that teachers from Austria were least likely to group students with similar interests and abilities throughout the emergency distance learning period in early 2020. However, these differences are most likely due to the unexpected interruptions of regular face-to-face instruction resulting from COVID-19 and the subsequent difficulties for teachers in maintaining familiar learning arrangements (e.g. it was difficult or sometimes impossible for teachers to group students when instruction was in a digital format).

The finding that Austrian participants cited *OE* as the third most common DI practice is at odds with the findings of Pozas et al. (2021), who highlighted that students in Austrian schools indicated that their teachers only partially implemented open teaching and learning arrangements. However, it is consistent with Letzel-Alt et al.'s (2022) findings that teachers prefer open instructional formats in which students can independently plan, implement, and monitor their learning processes during distance education. This may be because COVID-19 forced teachers to increase student autonomy in learning. This, in turn, may have had a positive impact on students (Helm and Huber 2022), which is why teachers are now more likely to resort to more open forms of instruction after returning to face-to-face instruction.

Consistent with COVID-19 pandemic periods (Letzel et al. 2022), the Austrian teachers in our study also tended to use *TS* and *SNLA* less frequently. However, in a pre-pandemic study by Bešić et al. (2017), teachers reported using collaborative learning methods to allow students with and without SEN to learn from each other.

An interesting finding is that the Mexican teachers in our study use *ML* more frequently than the Austrian teachers, who do so considerably less often or not at all. The frequent use of *ML* by Mexican teachers as a means of DI has been well documented in pre-pandemic (Campa-Álvarez et al. 2020) and post-pandemic (Pozas et al. 2023) studies. Mexican teachers commonly adapt and personalize the curriculum by establishing goals for all students.

In the Austrian context, the infrequent use of *ML* is consistent with the findings of Letzel-Alt et al. (2022), who found that teachers apply this DI practice irregularly. No empirical studies on the frequency of *ML* use could be found for the pre-pandemic period.

It is also important to note that although previous research has shown that Mexican teachers use DI frequently compared to other countries (OECD 2016), the results of this study suggest that Mexican teachers report lower use of DI practices compared to their Austrian counterparts. A study by Pozas et al. (2023) following COVID-19 school closures found similar results. Hence, it is possible that this significant change of Mexican teachers' DI practices results from the COVID-19 pandemic's impact on the country's educational landscape (Cárdenas et al. 2022).

The current study also explored teachers' explanations as to why they employ certain DI strategies, allowing for a deeper understanding behind their DI practices. The results show that teachers' explanations relate to the combination of several practices. For example, teachers indicate that they form *HetG* to initiate *TS* or that they use *HetG*

and *ML* to assess project-based work. Thus, these results suggest that teachers are thinking about the fact that multiple DI practices should not be implemented alone but should be combined in a meaningful way.

Consistent with a recent study by Letzel-Alt et al. (2022), the teachers' statements also highlight that DI practices are used not only to support students' academic outcomes (e.g. learning and achievement) but also non-academic outcomes, such as fostering students' friendships and interests, promoting autonomy and responsibility for their learning, and valuing student diversity. Taken together, it appears that teachers have a specific intention behind their DI use, suggesting reflective DI practice. However, further research is needed to fully understand teachers' intentions behind their DI implementation. For example, interviewing teachers while planning their DI could provide further insight.

5. Limitations

First, the results of the study cannot claim to be representative. However, the validity of the study was ensured by triangulating the researchers, using three different researchers from different countries. Second, almost all of the Mexican teachers in this study teach in private schools, while the Austrian teachers teach in public schools. Considering that in Mexico most students attend public school, further research should examine whether these results can be generalized to individuals in public schools. This is also true for the Austrian sample, although research should focus on examining differences across school types and classroom settings. Finally, this study focused only on teachers' perspectives. It is therefore strongly recommended that further studies take a multi-perspective approach.

6. Conclusion

Although similar trends were found between the two countries, it is undisputed that DI implementation varies considerably across countries, indicating the relevance of contextual factors. However, a more important conclusion from this study is that the impact of COVID-19 on the educational landscape is expected to be felt over a long period and that addressing EI should be the primary task for all of us.

Funding details

This work did not receive any external funding.

Disclosure statement

The authors report there are no competing interests to declare.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author, [FW] upon reasonable request.

7. References

- Anderson, Ashlee B., Brittany Aronson, and Scott Ellison. 2021. "Assessing Systemic Inequity: Teacher Perspectives, Solutions, and 'Radical Possibilities.'" *The Urban Review* 54, (1): 113–37. <https://doi.org/10.1007/s11256-021-00606-1>.
- Azevedo, Joao Pedro Wagner De. "Learning Poverty : Measures and Simulations." *IDEAS Working Paper Series from RePEc*, 2020.
- Bešić, Edvina, Lisa Paleczek, Mathias Krammer, and Barbara Gasteiger-Klicpera. 2016. "Inclusive Practices at the Teacher and Class Level: The Experts' View." *European Journal of Special Needs Education* 32, (3): 329–45. <https://doi.org/10.1080/08856257.2016.1240339>.
- Buchner, Tobias. 2021. "On 'Integration Rooms', Tough Territories, and 'Places to Be': The Ability-Space-Regimes of Three Educational Settings at Austrian

- Secondary Schools.” *International Journal of Inclusive Education*, 1–18.
<https://doi.org/10.1080/13603116.2021.1950975>.
- Bundesministerium für Bildung, Wissenschaft und Forschung (BMBWF). 2020a.
 “Umgang des Bildungssystems mit dem Coronavirus - Erlass.
https://www.bmbwf.gv.at/dam/jcr:224ef638-49dc-44b1-b58e-e6420a8e11bd/corona_erlass.pdf
- BMBWF. 2020b. “Schulbetrieb ab dem 17. November 2020.”
https://www.bmbwf.gv.at/dam/jcr:96d90ce4-5860-4f91-8efe-46790740565d/Schulbetrieb%20von%2017.11.%20bis%204.12.2020_final.pdf
- BMBWF 2021a. “Schulbetrieb vom 18. bis zum 24. Jänner 2021.”
https://www.bildung-ktn.gv.at/dam/jcr:7cc41fb0-d302-4ad3-9f2c-cc89d0a7b009/2021-0.014.088-4-A_-_Ausgang_IV_-_BD-LPD-LPr%C3%A4s_14.01.2021_.pdf
- BMBWF 2021b. “Schulbetrieb ab dem 06. April 2021.” https://www.lvwien.at/downloads/Schulbetrieb_ab_20210406.pdf
- BMBWF 2022. “Erlass zum Schulbetrieb ab dem 02. Juni 2022.”
https://evw.schule.wien.at/fileadmin/s/evw/system/user_upload/M_9200011_59_2022.pdf
- Cárdenas, Sergio, Dulce Lomelí, and Ignacio Ruelas. 2021. “COVID-19 and Post-Pandemic Educational Policies in Mexico. What Is at Stake?” In *Primary and Secondary Education During Covid-19: Disruptions to Educational Opportunity During a Pandemic*, 153–75. https://doi.org/10.1007/978-3-030-81500-4_6.
- Corbin, Juliet M., Anselm L. Strauss, and Sage Publications. 2015. *Basics of Qualitative Research : Techniques and Procedures for Developing Grounded Theory*. Fourth edition. Los Angeles London: SAGE.
- De la Cruz Flores, Gabriela, Moreno Salto, Israel, and Boroel Cervantes, Brenda I. 2023. “Public policies for educational equity in contemporary Mexico, in the face of the 2030 Agenda: Coordinates for inclusion?” *Foro de Educación*, 21 (1): 49-68. <https://dx.doi.org/10.14516/fde.1093>
- Fibbi, Rosita, and Jasmine Truong. “Parental Involvement and Educational Success in Kosovar Families in Switzerland.” *Comparative Migration Studies* 3 (1).
<https://doi.org/10.1186/s40878-015-0010-y>.

- Flick, Uwe. 2023. *An Introduction to Qualitative Research*. 7th edition. Los Angeles: SAGE.
- Gitschthaler, Marie, Elizabeth J. Erling, Katrin Stefan, and Susanne Schwab. 2022. "Teaching Multilingual Students During the COVID-19 Pandemic in Austria: Teachers' Perceptions of Barriers to Distance Learning." *Frontiers in Psychology* 13: 805530–805530. <https://doi.org/10.3389/fpsyg.2022.805530>.
- Göransson, Kerstin, and Claes Nilholm. 2014. "Conceptual Diversities and Empirical Shortcomings - a Critical Analysis of Research on Inclusive Education." *European Journal of Special Needs Education* 29 (3): 265–80. <https://doi.org/10.1080/08856257.2014.933545>.
- Hammerstein, Svenja, Christoph König, Thomas Dreisörner, and Andreas Frey. 2021. "Effects of COVID-19-Related School Closures on Student Achievement-A Systematic Review." *Frontiers in Psychology* 12: 746289–746289. <https://doi.org/10.3389/fpsyg.2021.746289>.
- Helm, Christoph, and Stephan Gerhard Huber. 2022. "Predictors of Central Student Learning Outcomes in Times of COVID-19: Students', Parents', and Teachers' Perspectives During School Closure in 2020—A Multiple Informant Relative Weight Analysis." *Frontiers in Education* (Lausanne) 7. <https://doi.org/10.3389/educ.2022.743770>.
- Hevia, Felipe J., Samana Vergara-Lope, Anabel Velásquez-Durán, and David Calderón. 2022. "Estimation of the Fundamental Learning Loss and Learning Poverty Related to COVID-19 Pandemic in Mexico." *International Journal of Educational Development* 88: 102515–102515. <https://doi.org/10.1016/j.ijedudev.2021.102515>.
- Holsti, Ole R. 1969. *Content Analysis for the Social Sciences and Humanities*. Reading, Mass. [u.a.]: Addison-Wesley.
- Kaffenberger, Michelle. 2021. "Modelling the Long-Run Learning Impact of the Covid-19 Learning Shock: Actions to (more Than) Mitigate Loss." *International Journal of Educational Development* 81: 102326–102326. <https://doi.org/10.1016/j.ijedudev.2020.102326>.
- Kieffer, Michael J., and Karen D. Thompson. 2018. "Hidden Progress of Multilingual Students on NAEP." *Educational Researcher* 47 (6): 391–98. <https://doi.org/10.3102/0013189X18777740>.

- Letzel, Verena, Marcela Pozas, and Christoph Schneider. 2020. "It's All About the Attitudes!' - Introducing a Scale to Assess Teachers' Attitudes Towards the Practice of Differentiated Instruction." *International Journal of Inclusive Education*, ahead-of-print: 1–15.
<https://doi.org/10.1080/13603116.2020.1862402>.
- Letzel-Alt, Verena, Marcela Pozas, Susanne Schwab, Christoph Schneider, Katharina-Theresa Lindner, Paulo Dias, and Irene Cadime. 2022. "Exploring Inclusive Education in Times of COVID-19: An International Comparison of German, Austrian and Portuguese Teachers." *Frontiers in Education* (Lausanne) 7.
<https://doi.org/10.3389/feduc.2022.969737>.
- Lindblad, Sverker, and Popkewitz, Tom. 2004. "Education Restructuring: Governance in the Narratives of Progress and Denials." In *Educational Restructuring. International Perspectives on Traveling Policies*, edited by Sverker Lindblad Editor and Tom Popkewitz Editor, 69–94. Charlotte, North Carolina: Information Age Publishing.
- Magallanes Ulloa, Emmanuel, and de Ávila González, Josué. 2020. "Respuesta inicial por un grupo de docentes mexicanos al cierre escuelas por Covid-19." *Revista Del Centro De Investigación De La Universidad La Salle* 14 (53): 11-44.
<https://doi.org/10.26457/recein.v14i53.2663>
- Magnússon, Gunnlaugur, Kerstin Göransson, and Gunilla Lindqvist. 2019. "Contextualising Inclusive Education in Education Policy: The Case of Sweden." *Nordic Journal of Studies in Educational Policy* 5 (2): 67.
<https://doi.org/10.1080/20020317.2019.1586512>.
- Mayrhofer, Lisa, Konrad Oberwimmer, Bettina Toferer, Maria Neubacher, Roman Freunberger, Stefan Vogtenhuber, and David Baumegger. 2019. "C: Prozesse des Schulsystems." In *Nationaler Bildungsbericht Österreich 2018. Das Schulsystem im Spiegel von Daten und Indikatoren*, edited by Konrad Oberwimmer Editor, Stefan Vogtenhuber Editor, Lorenz Lassnigg Editor and Claudia Schreiner Editor, 123-196. Graz, Austria: Leykam.
- Martínez, Yliana Mérida, and Luis Alan Acuña Gamboa. 2020. "COVID-19, pobreza y educación en chiapas: Análisis a los programas educativos emergentes." *Revista internacional de educación para la justicia social* 9 (2): 61–82.
<https://doi.org/10.15366/RIEJS2020.9.3.004>.

- Moberg, Sakari, Etsuko Muta, Kanako Korenaga, Matti Kuorelahti, and Hannu Savolainen. 2020. "Struggling for Inclusive Education in Japan and Finland: Teachers' Attitudes Towards Inclusive Education." *European Journal of Special Needs Education* 35 (1): 100–114.
<https://doi.org/10.1080/08856257.2019.1615800>.
- Neubacher, Maria, and Christian Wimmer. 2021. "Indikatoren D: Output – Ergebnisse des Schulsystems." In *Nationaler Bildungsbericht Österreich 2021*, Bundesministerium für Bildung, Wissenschaft und Forschung Editor, 286-332. Vienna, Austria: BMBWF.
- Niederbacher, Edith, and Markus P. Neuenschwander. 2020. "Disparities in academic achievement due to social background: The role of parents' self-efficacy and achievement-enhancing behavior and teachers' expectations of achievement Generalizability of a mediation model for monolingual and foreign-language/multilingual students." *Zeitschrift für Erziehungswissenschaft* 23 (4): 739–67. <https://doi.org/10.1007/s11618-020-00955-9>.
- Nilholm, Claes. 2021. "Research About Inclusive Education in 2020 - How Can We Improve Our Theories in Order to Change Practice?" *European Journal of Special Needs Education* 36 (3): 358–70.
<https://doi.org/10.1080/08856257.2020.1754547>.
- OECD. 2020. "Education responses to COVID-19: Embracing digital learning and online collaboration." https://read.oecd-ilibrary.org/view/?ref=120_120544-8ksud7oaj2andtitle=Education_responses_to_Covid-19_Embracing_digital_learning_and_online_collaboration
- OECD. 2021. *Education at a Glance 2021: OECD Indicators*. Paris, France: OECD Publishing. <https://doi.org/10.1787/b35a14e5-en>.
- OECD. 2023. *Equity and Inclusion in Education: Finding Strength through Diversity*, Paris, France: OECD Publishing. <https://doi.org/10.1787/e9072e21-en>.
- Pozas, Marcela, and Christoph Schneider. 2019. "Shedding Light on the Convolutional Terrain of Differentiated Instruction (DI): Proposal of a Di Taxonomy for the Heterogeneous Classroom." *Open Education Studies* 1 (1): 73–90.
<https://doi.org/10.1515/edu-2019-0005>.
- Pozas, Marcela, Verena Letzel, and Christoph Schneider. 2021. "'Homeschooling in Times of Corona': Exploring Mexican and German Primary School Students'

- and Parents' Chances and Challenges During Homeschooling.” *European Journal of Special Needs Education* 36 (1): 35–50.
<https://doi.org/10.1080/08856257.2021.1874152>.
- Rother, Pia, and Jennifer Buchna. 2020. “Bildungsbenachteiligung.” In *Handbuch Ganztagsbildung* edited by Petra Bollweg Editor, Jennifer Buchna Editor, Thomas Coelen Editor and Hans-Uwe Otto Editor, 379–389. Wiesbaden, Germany: Springer Fachmedien. https://doi.org/10.1007/978-3-658-23230-6_29
- Saldaña, Johnny. 2021. *The Coding Manual for Qualitative Researchers*. Fourth edition. [Washington, D.C.]: SAGE Publications Ltd.
- Schleicher, Andreas. 2022. “Building on COVID-19's Innovation Momentum for Digital, Inclusive Education.” *International Summit on the Teaching Profession*.
<https://doi.org/10.1787/24202496-en>.
- Smale-Jacobse, Annemieke E., Anna Meijer, Michelle Helms-Lorenz, and Ridwan Maulana. 2019. “Differentiated Instruction in Secondary Education: A Systematic Review of Research Evidence.” *Frontiers in Psychology* 10: 2366–2366. <https://doi.org/10.3389/fpsyg.2019.02366>.
- Spiteri, Jane, Josephine Deguara, Tania Muscat, Charmaine Bonello, Rosienne Farrugia, Josephine Milton, Suzanne Gatt, and Lara Said. 2023. “The Impact of COVID-19 on Children's Learning: a Rapid Review.” *The Educational and Developmental Psychologist* 40 (1): 5–17.
<https://doi.org/10.1080/20590776.2021.2024759>.
- Steiner, Mario, Maria Köpping, Andrea Leitner, Gabriele Pessl and Lorenz Lassnigg. 2020. “Lehren und Lernen unter Pandemie-Bedingungen Was tun, damit aus der Gesundheits- nicht auch eine Bildungskrise wird?” Institut für höhere Studien.
<https://irihs.ihs.ac.at/id/eprint/5873/24/ihs-report-2021-steiner-koepping-leitner-pessl-lassnigg-lehren-und-lernen-unter-pandemiebedingungen.pdf>”
- Terhart, E. (2021). “Zukunftsthemen der Schulforschung.” In *Schule und Schulpolitik während der Corona-Pandemie. Nichts gelernt?* edited by Detlef Fickermann Editor, Benjamin Edelstein Editor, Julia Gerick Editor, and Kathrin Racherbäumer Editor, 147-175. Münster, Germany: Waxmann.
<https://doi.org/10.25656/01:23872>
- Thorell, Lisa B, Charlotte Skoglund, Almudena Giménez de la Peña, Dieter Baeyens, Anselm B. M Fuermaier, Madeleine J Groom, Irene C Mammarella, et al. 2022.

- “Parental Experiences of Homeschooling During the COVID-19 Pandemic: Differences Between Seven European Countries and Between Children with and Without Mental Health Conditions.” *European Child & Adolescent Psychiatry* 31 (4): 649–61. <https://doi.org/10.1007/s00787-020-01706-1>.
- Trani, Jean-Francois, Parul Bakhshi, and Anand Nandipati. 2012. “‘Delivering’ Education; Maintaining Inequality. The Case of Children with Disabilities in Afghanistan.” *Cambridge Journal of Education* 42 (3): 345–65. <https://doi.org/10.1080/0305764X.2012.706259>.
- Ulloa, Emmanuel M. and de Ávila González, Josué. 2020. “Respuesta inicial por un grupo de docentes mexicanos al cierre escuelas por Covid-19.” *Revista Del Centro De Investigación De La Universidad La Salle* 14 (53): 11– 44.
- UNESCO. 1994. *The Salamanca Statement and Framework for Action on Special Needs Education*. UNES.
- UNESCO. 2020. *Global education monitoring report, 2020: Inclusion and education: all means all*. Paris, France: United Nations Educational, Scientific and Cultural Organization.
- Valiandes, Stavroula. 2015. “Evaluating the Impact of Differentiated Instruction on Literacy and Reading in Mixed Ability Classrooms: Quality and Equity Dimensions of Education Effectiveness.” *Studies in Educational Evaluation* 45: 17–26. <https://doi.org/10.1016/j.stueduc.2015.02.005>.
- VERBI Software. 2021. MAXQDA 2022 [computer software]. VERBI Software. Available from: maxqda.com
- Woltran, Flora, Ralph Chan, Katharina-Theresa Lindner, and Susanne Schwab. 2021. “Austrian Elementary School Teachers’ Perception of Professional Challenges During Emergency Distance Teaching Due to COVID-19.” *Frontiers in Education* (Lausanne) 6. <https://doi.org/10.3389/feduc.2021.759541>.
- Young, Iris Marion. 1990. *Justice and the Politics of Difference*. Princeton, NJ: Princeton Univ. Press.
- Zeng, Junxia, Xiaopeng Pang, Linxiu Zhang, Alexis Medina, and Scott Rozelle. 2014. “Gender Inequality in Education in China.” *Contemporary Economic Policy* 32 (2): 474–91. <https://doi.org/10.1111/coep.12006>.