

Determinants of Mexican Lower Secondary School Students' Attitudes Toward Inclusive Education

Marcela Pozas¹, Verena Letzel-Alt

Received: 06 October, 2022, Accepted: 23 November, 2023

Abstract

PURPOSE. Given the ever-increasing diversity of the global student body and the individual learning needs of students, the establishment of inclusive educational settings has become still more relevant worldwide. Empirical evidence suggests that the success of inclusive schooling strongly relies on the attitudes of all stakeholders involved. As a result, research has focused intensively on examining the determinants of teacher and parent attitudes toward inclusive education. However, when considering students' attitudes toward inclusive education, empirical research to date has focused primarily on examining the attitudes (and their determinants) of students without special education needs toward their peers without special education needs, while research on students' general attitudes toward learning in inclusive educational settings is scarce. Against this background, this study aimed to explore the determinants of Mexican lower secondary school students' attitudes toward inclusive education.

METHODS. A total of 307 Mexican lower secondary students from 20 classes participated voluntarily in this study. The students completed a voluntary online self-report questionnaire on their attitudes toward inclusive education. Based on the literature review on individual and context-level determinants of students' attitudes, the questionnaire, including data on students' sociodemographic variables and general self-efficacy, as well as ratings of their teachers differentiated instructional practice, was developed.

RESULTS. Descriptive results indicate that students tend to hold positive attitudes toward inclusive schooling, $t(306) = 26.31$, $p < .001$, Cohen's $d = .76$. Moreover, results from a multilevel regression analysis revealed that student attitudes toward inclusive education are not predicted at the class level, $\beta = -.04$, $SE = .10$, $t(288) = -.36$, $p = .72$. However, specific variables at the individual level, such as gender, $\beta = .27$, $SE = .09$, $t(288) = 3.03$, $p < .01$, and general self-efficacy, $\beta = .25$, $SE = .07$, $t(288) = 3.34$, $p < .01$, proved to be significant predictors of students' attitudes toward inclusion.

CONCLUSION. The findings of this study emphasize that solely attending a class together with a peer with special educational needs does not inherently translate into more positive attitudes towards inclusion, but rather the quality of contact and meaningful experiences between students do. Additionally, considering the significant role that students' general self-efficacy has on their attitudes, the present study calls for appropriate instructional actions and interventions in which students can foster their personal beliefs on how they can engage with other students as well as with educational tasks within inclusive learning settings.

Keywords: inclusive education, attitudes, students, secondary school education, Mexico

¹ Corresponding author: marcela.pozas.guajardo@hu-berlin.de



Points of Interest:

- Students' attitudes towards inclusive education are a significant indicator of social participation.
- However, despite the relevance of students' attitudes towards inclusive education, up to now research has mostly focused on exploring the determinants of teachers' and parents' attitudes towards inclusion.
- This study examined determinants of Mexican lower secondary students' attitudes toward inclusive education by means of multilevel regression analysis.
- Overall, results revealed that Mexican students perceive that their teachers rarely implement inclusive teaching practices, such as differentiated instruction.
- Students' gender and self-efficacy significantly predicted positive attitudes towards inclusive education.
- The attitudes towards inclusive education do not differ between students with and without special education needs.
- The findings accentuate the importance of developing and promoting the general self-efficacy of students.

Introduction

Teachers are confronted with a highly diverse student population that differs not only in terms of academic readiness, but also cultural background, language competence, learning styles, and motivation, as well as social and self-regulatory competencies (Honkimäki & Kálmán, 2012; Maulana et al., 2020). Thus, with increasing student diversity, policy makers worldwide are calling for a shift “from focusing on the inclusion of students with special educational needs, to the inclusion, participation and development of all learners” (Schwab & Alnahdi, 2020, p. 1). In order to develop an inclusive classroom environment, teachers are urged to implement appropriate instructional responses by meaningfully adapting their instruction to address the increasingly diverse students in their classrooms (Ralejoe, 2019; UNESCO, 2017, 2020). However, the success of inclusive education does not solely depend on teachers, principals, teacher trainers, parents, and/or structural factors (e.g., resources), but also on the students themselves (Goldan & Schwab, 2020). Students play a key role in inclusive education, as they are the core social context within a classroom (León et al., 2021).

Within educational research, and in particular within the field of inclusive education, the attitudes of stakeholders have received substantial attention. According to Spörer et al. (2020), “attitudes influence how individuals behave in classroom-based learning situations” (p. 2). With regards to students, their attitudes can therefore impact not only how, but also the extent to which students in inclusive classrooms interact with one another, develop friendships, or join and participate in group activities (de Boer et al., 2012; Freer, 2023; Schwab, 2018). With this background, it is therefore critical to examine students' attitudes towards inclusive education in order to understand how learners perceive and experience inclusive learning settings, as well as the process behind their classroom social contexts (Sánchez et al., 2019). Multiple studies have consistently identified student attitudes as a main indicator of social participation amongst peers with special education needs (SEN) or non-compliant behavior (de Boer et al., 2012; Loeper et al., 2022; Rademaker et al., 2020). Nonetheless, most of the studies that have evaluated the attitude object of inclusive education have focused on teachers (Page et al., 2019) or parents (Lavin et al., 2022; Magumise & Sefotho, 2020). In the case of students, empirical research within the field has mainly focused on attitudes of students without SEN towards their peers with SEN (Avramidis & Toulia, 2020; de Boer et al., 2012; Schwab, 2017; Spörer et al., 2020). In contrast, very little research concerning attitudes towards inclusive education (and not towards peers with SEN) has been conducted (Schwab, 2018). To the best of the authors' knowledge, there is a very limited number of studies that center on students' attitudes towards inclusive education (e.g., León et al., 2021; Schwab, 2018; Schwab et al., 2012; Spörer et al., 2020). This study attempts to fill this gap in the literature and aims to examine students' (with and without SEN) attitudes towards inclusive education. Additionally, this study sets the spotlight on Mexico, a country that, as Forlin et al. (2010) state, has experienced

“significant changes in social, cultural and political environments aligned with disparate economic situations ... [and these] have led to extreme diversity between school communities and great difficulties in enabling inclusive practices in Mexico” (p. 724). Mexico has faced legal changes with a newly proposed educational model (SEP, 2017) through which inclusive education has become a priority (García-Cedillo et al., 2014; Reynaga-Peña et al., 2018). Nonetheless, research into Mexican students’ perspectives within inclusive learning settings is still very limited (Lavin et al., 2022). Against this background, this study attempts to provide a deeper understanding of Mexican students’ attitudes towards inclusive learning.

In order to set the context of the study, the following section will briefly describe the Mexican educational system as well as its inclusive education regulations. Afterwards, it will elaborate on the current international research on students’ attitudes towards peers with SEN and inclusive learning settings.

The Mexican Education System

Mexico’s education system is organized into three education levels (OECD, 2019): a) basic education including pre-school education, primary education, and lower secondary education; b) upper-secondary education, with general or vocational program options, and lastly, c) higher education. School attendance is obligatory from pre-primary to upper-secondary school (Santiago et al., 2012). Students in Mexico are first formally streamed into different educational pathways before they enter upper-secondary education at the age of 15 (OECD, 2018). Such upper-secondary tracks are: a) general academic, which is designed to prepare students for higher education, b) technological education, which are programs that follow a similar line as the general academic track but also provide employment-gear technical specialization subjects (e.g., marine technology, computer science, tourism) and c) vocational/applied science, which prepares students for entry into the labor market.

The Mexican education system caters to the educational needs of a large and highly diverse population (Forlin et al., 2010): more than 800,000 students speak 68 indigenous languages and over 360 dialects (OECD, 2019). Additionally, more than 20% of the population lives in rural areas, while more than half of the schools have teachers that serve multi-grade students (SEP, 2012). Students with SEN attend basic mainstream schools or specialized institutions (García-Cedillo et al., 2014). Although certain policies and practices such as delayed tracking and limited ability grouping are implemented, reports from the OECD (2018) indicate that Mexico ranks amongst the countries with the lowest levels of inclusion. However, in comparison to other Latin American countries, Mexican students do perform above average in mathematics and reading (García-Cedillo et al., 2014).

More than 90% of students attending public schools have access to free education (OECD, 2019). In contrast, private schools are not publicly subsidized and are tuition-based (Santiago et al., 2012). Most private schools are thus attended by students of middle and high socioeconomic status (García-Cedillo et al., 2014). However, private schools require the authorization of the state educational authorities and follow the national curriculum established by the Secretariat of Public Education (Secretaría de Educación Pública; SEP), and they are independent in their management and implementation of their choice of teaching and learning approaches. Hence, teaching processes are implemented differently in public and private schools (Lavin et al., 2022).

Inclusive Education in Mexico

In 2006, Mexico adopted the Salamanca Statement and the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2008). However, it was not until 2011 that the president established a law requiring the inclusion of students with SEN in the education system (*Diario Oficial de la Federación* [DOF; Official Gazette of the Federation], 2011). Moreover, in 2012, a constitutional reform established quality education as a right for all Mexicans (OECD, 2018). Within this new reform, Mexico promoted a New Educational Model which was set to take effect during 2018/19 (SEP, 2017). This educational model established inclusive education and equity as main priorities, and aimed to “strengthen the capacities of schools and educational services that serve indigenous children, migrants and students with SEN” (OECD, 2018, p. 9). This process was urged forward through financial and

academic support as well as improving the infrastructure of disadvantaged schools (OECD, 2018). In addition, Mexican law states that private schools cannot deny admission to students with SEN (DOF, 2011).

There are three models of education in Mexico established to meet students' needs (García-Cedillo et al., 2014): a) multiple attention centers (CAM), b) general education support units (USAER), which provide support to students with SEN in inclusive education settings (classrooms), and c) participation of students with SEN in inclusive education settings without USAER support. CAMs are non-inclusive special education schools for children with SEN whose additional support needs are assessed as limiting their engagement in the general education curriculum (García-Cedillo et al., 2014). On the other side, the USAER provides educational support, such as curricular adaptations and accommodations, to students with SEN in inclusive settings by collaborating with parents, teachers, and school personnel. Although Mexico has adopted the USAER model to provide appropriate support to students with SEN, Romero-Contreras et al. (2013) argue that inclusive education in Mexico is still unsatisfactory. Surprisingly, of the 15% of students who have a SEN, only 2.85% actually receive an adequate education tailored to their needs (DOF, 2018). Numerous barriers contribute to this situation. For example, the lack of infrastructure, financial resources, and certified personnel mean that students, parents, and school staff must find their own ways through inclusive education (García-Cedillo et al., 2014). Because private schools operate without government funding, many students with SEN do not receive adequate support for their specific learning needs, as they must pay for both tuition and the additional support required in these schools (García-Cedillo et al., 2014). Inclusive education in Mexico faces other important barriers as well, such as lack of teacher collaboration and support (García-Cedillo et al., 2014), and the low academic expectations of teachers and parents (Cedillo et al., 2021). Nevertheless, despite these barriers and challenges, empirical research has shown that students with SEN have greatly benefited from attending inclusive classrooms with regards to their emotional, social, and academic development (Contreras & Cedillo, 2013). For instance, empirical studies have reported that both students with and without SEN perform better academically, develop stronger social and communication competences, and foster empathy for and collaboration with one another (Castro Rodríguez & Carbajales Carballo, 2018).

Students' Attitudes and their Determinants towards Peers with SEN and Inclusive Education

According to Gall et al. (1996), an attitude can be defined as an individual's disposition, viewpoint, or subjective evaluation of specific individuals or objects (p. 273). This evaluation process is composed of affective, cognitive, and behavioral components (Maio & Haddock, 2010) and can differ according to valence and strength (Vogel & Wänke, 2016). Consequently, attitudes are the expression of a person's opinion that strongly influences their actions (Ajzen, 1991; Haddock & Maio, 2014). Given the critical role that attitudes play in an individual's behavior, attitudes towards inclusion have been an important research topic within the field of inclusive education (de Vroey et al., 2016). The extensive empirical findings from international studies have consistently stressed the importance of attitudes (de Boer et al., 2012; Freer, 2023; Lavin et al., 2022; Ruberg & Porsch, 2017; Schwab, 2018). Within this large body of research, the attitudes of students have become an essential topic for investigation, given "the risk of social exclusion of students with SEN in inclusive education" (Schwab, 2018, p. 31). However, as previously discussed, most of these studies have focused on regular students' attitudes towards peers with SEN and far less has been done to explore the attitudes of students (with and without SEN) towards inclusive education (de Boer et al., 2012; Schwab, 2018; Spörer et al., 2020). For instance, within a literature review of students' attitudes towards peers with SEN, de Boer et al. (2012) concluded that the attitudes of students were mostly neutral. Nevertheless, differences across the formation and development of students' attitudes can be attributed to several determinants. In a recent systematic literature review, Freer (2023) was able to identify key predictors of students' attitudes towards peers with SEN, such as gender, age, contact, teachers, and self-efficacy.

Freer's (2023) systematic literature review pointed out that female students' attitudes towards SEN are more positive than those of their male counterparts. Regarding age, the review yielded mixed results: some studies revealed that younger students had more positive attitudes, while others showed either

those older students had more positive attitudes towards SEN, or no effect at all. However, although Vignes et al. (2009) state that attitudes are expected to vary with age, it is possible that the heterogeneous results revealed across the research could be due to the fact that age comparisons are done by contrasting a very narrow age range between the participants (e.g., a two-year difference). Contact was another factor identified as an important determinant within the review, which can be categorized either at the individual level—referring to the quality of contact that students have had with people with SEN, such as an immediate family member or friendships—or at the class level (Freer, 2023). Overall, studies indicate that students learning in inclusive settings hold more positive attitudes towards SEN (Nowicki & Sandieson, 2002; Petry, 2018). Nonetheless, Schwab (2017) indicated that simply having students with and without SEN in the same learning space does not inherently lead to more positive attitudes, but rather the (quality of) joint activities amongst students do.

With regard to the impact of teachers, the review indicated that students' attitudes towards peers with SEN were influenced by their perception of their teachers' instructional behaviors (Hellmich & Loeper, 2018). Teachers' instructional practices and strategies "play a crucial role in ensuring all learners are able to reach their educational potential and feel a sense of belonging" (OECD, 2023, p. 252). Addressing diverse learning needs could be done through the inclusive teaching approach of differentiated instruction (DI; OECD, 2023; Varsik, 2022). Scientific literature has recognized DI as an important teaching quality domain (Maulana et al., 2020), and a core element of effective teaching that seeks to ensure equity as well as educational justice (Lindner & Schwab, 2020; OECD, 2012; Valiandes & Neophytou, 2018; Varsik, 2022). DI is an inclusive instructional approach that enables teachers to meet the needs of all learners in heterogeneous classrooms by implementing a set of intentional, systematically planned, and reflected practices (Graham et al., 2021; Letzel, 2021). Teachers can implement DI through a variety of instruction behaviors, such as tiered assignments, homogeneous or heterogeneous subgroups based on learners' performance or interests (Maulana et al., 2020), tutoring systems, staggered nonverbal learning aids such as helping cards, diverse open education practices, and variants of mastery learning (Darnon et al., 2012; Pozas & Schneider, 2019; Tomlinson, 2017). Overall, teachers' DI practice has been found to have positive effects on students' achievement and non-achievement outcomes, such as school well-being, social inclusion, and academic self-concept (Maulana et al., 2020; Pozas et al., 2021; Sangermán Jiménez & Ponce, 2021). Even though there is limited availability of studies exploring teachers' DI practice and its impact on students' attitudes towards inclusion, findings from a recent study by Dotzel et al. (2022) showed that teachers' DI practice can influence student attitudes towards performance heterogeneity as well as towards peers with SEN (Hellmich & Loeper, 2018). Thus, it can be assumed that teachers' DI behaviors could influence their students' attitudes towards inclusion. Lastly, when exploring students' attitudes towards inclusive education, it is important to consider students' general self-efficacy (Briones et al., 2005; Klassen, 2010; Mælan et al., 2021; Salami, 2010). According to Bandura (1997), self-efficacy refers to an individual's belief in his or her ability to plan, organize, and execute an action with a desired outcome (p. 3). Research has suggested that students' general self-efficacy is positively correlated with student attitudes towards SEN (Freer, 2023). In detail, students' attitudes appear to be closely related to their confidence, in terms of their ability to interact with and befriend students with SEN. Additionally, results from a study by Hellmich and Loeper (2018) indicated that students' attitudes towards peers with SEN were explained by their self-efficacy beliefs. In this context, it can be assumed that students' general self-efficacy beliefs can positively impact their attitudes towards inclusive education.

In sum, the determinants of students' attitudes towards peers with SEN have been well-established in the literature. However, research has yet to generally examine the attitudes of students with and without SEN towards the specific attitude object of inclusive schooling (Schwab, 2018; Spörer et al., 2020).

The Present Study

Within the context of inclusive education, previous research has mostly focused on examining the attitudes of students without SEN toward their peers with SEN. Research into the student attitude facet of inclusive education is relatively limited. Given that students are key actors within inclusive education (León et al., 2021; Mitchell, 2017), it is essential to investigate the determinants of this particular attitude facet (Spörer et al., 2020). In this context, and in line with the work by Freer (2023), the aim of the

present study is to explore the determinants of Mexican students' attitudes towards inclusive education. With respect to this research aim, the following research questions (RQ) and hypotheses (H) are proposed:

RQ₁: Is there a significant difference between inclusive and non-inclusive classes regarding students' attitudes towards inclusive education?

H₁: Given that students' attitudes can be influenced by the characteristics of the classroom environment (Fabunmi et al., 2007), such as being taught within inclusive classrooms (Freer, 2023), it is expected that attitudes towards inclusive education are more positive in inclusive classes (Petry, 2018).

RQ₂: Are students' attitudes towards inclusive education predicted by variables at the students' individual levels (age, gender, having SEN, students' general self-efficacy, and their ratings of their teachers' DI practice) and class levels (inclusive vs. non-inclusive classroom)?

H₂: At the individual level, it is assumed that female participants hold more positive attitudes towards inclusive education (de Boer et al., 2012; Freer, 2023), and that students without SEN will score lower (Vignes et al., 2008). Additionally, participants with higher levels of self-efficacy and with higher ratings of their teachers' use of DI practice (Hellmich & Loper, 2018) will score higher in their attitudes towards inclusive education. Lastly, empirical research concerning students' ages and their attitudes towards peers with SEN and/or learning in inclusive settings have yielded heterogeneous results (Freer, 2023; Vignes et al., 2008). Consequently, there is no specific hypothesis regarding the determinant of student age and this factor will be fully explorative within this study.

Method

Participants

The analyses for this study are based on data from the study DI-STePP-MTY (Differentiated Instruction – Students', Teachers' and Parents' Perspectives in the City of Monterrey) in lower secondary schools (UDEM, 2023). The DI-STePP study is a cross-sectional study conducted in the city of Monterrey, Nuevo Leon, a state located in the northeast of Mexico. A convenient sample of 307 Mexican students from 20 lower secondary classes (51% female) with a mean age of 13.10 years participated voluntarily in the study (6th Grade $n = 59$; 7th Grade $n = 60$; 8th Grade $n = 92$; 9th Grade $n = 96$). Out of this sample, 98% of the students attended private schools, 29% learned in an inclusive classroom setting¹, and 17% (self-)reported (with and without USAER support) as having SEN (hearing impaired $n = 1$; visually impaired $n = 14$; learning difficulties $n = 11$ emotional and behavioral disorder $n = 15$; social skills difficulties $n = 11$). The participants completed a voluntary online survey, which took approximately 15 to 20 minutes. Given that students were underage, informed consent from parents or tutors was obtained for all participants completing the questionnaire. The research project was approved by the [blinded] Ethical Committee. Data were collected from the middle of February through March 2022.

Instruments

Students' Attitudes Towards Inclusive Education. Students' attitudes towards inclusive education were measured using an adapted scale from Lavin et al. (2022). The original scale of Lavin et al. (2022) was established to assess teachers' and parents (or family caregivers) attitudes towards inclusive education. For the purpose of the study, the original scale was adapted to address the student sample perspective. Students rated each statement on a 5-point Likert scale, (from 1 = *not true at all* to 5 = *very true*) e.g., "*It is a valuable experience for all students to be involved in inclusive education*". In the current sample, the reliability of the scale is acceptable ($\alpha = .88$).

General Self-efficacy. Students' general self-efficacy was measured using the Spanish version (Bläßler et al., 1993) of the General Self-efficacy Scale from Schwarzer and Jerusalem (1999). The scale consists of 10 items (i.e. "I can always manage to solve difficult problems if I try hard enough") and comprises a 4-point Likert scale ranging from 1 = *not at all true* to 4 = *exactly true* ($\alpha = .90$).

Students' Ratings of Their Teachers' use of DI. In order to measure students' ratings of their teachers' DI practice, an adapted version of the differentiated teaching scale by Letzel (2021), which stems from previous work developed by Pozas & Schneider (2019), was utilized. The teacher perspective questionnaire by Letzel (2021) was reviewed and adapted to assess teachers' DI teaching practices from students' perspectives. In a recent small-scale study conducted by the Pozas et al. (2021), the scale has been previously back-translated from German to Spanish. The scale consists of twelve items based on a 5-point Likert scale (e.g., "My teacher forms groups of students with different capabilities", 1 = *never* to 5 = *very frequently*; $\alpha = .87$ for the current sample).

Data Analyses

The analyses within this study were conducted using SPSS 27. As an initial step, means, standard deviations, and correlations of all variables under study were calculated. Furthermore, a multilevel regression analysis was conducted in order to examine the nested structure of the data (students nested within classrooms) (Level 2: classes, Level 1: individual student). As suggested by Ryu (2015), all metric variables at Level 1, such as students' attitudes, general self-efficacy and ratings of their teachers' DI practice, were centered at the grand mean. Two models were calculated for the outcome (attitudes towards inclusive education): first, a model without any predictors was calculated to estimate the variance at Level 2 (class level). Subsequently, a model with predictors at the student level (age, gender, SEN, general self-efficacy, ratings of DI) and predictors at the class level (school setting) was calculated.

Results

Students' Attitudes towards Inclusive Education: Descriptive and Correlation Analyses

In relation to students' attitudes towards inclusive education, the scale mean for the whole sample was 4.15 ($SD = .77$). One-sample t -tests revealed that students' attitudes towards inclusive education were significantly higher than the theoretical mean of the scale, $t(306) = 26.31$, $p < .001$, Cohen's $d = .76$, whereas students' ratings for their teachers' use of DI was significantly lower, $t(306) = -18.04$, $p < .001$, Cohen's $d = .81$, than the theoretical mean (both scales $M = 2.5$). Lastly, for general student self-efficacy, a one sample t -test for dependent samples indicated that students' ratings were significantly higher than the theoretical mean of the scale, $M = 2.5$, $t(301) = 16.70$, $p < .001$, Cohen's $d = .62$.

Table 1 presents an overview of the means, standard deviations, and inter-correlations of all variables. For the dummy-coded variables, i.e. gender, SEN status, and school setting, point biserial correlation coefficients were calculated. However, for metric variables, Pearson correlation coefficients were calculated. Results show that the more positive attitudes students hold towards inclusive education, the higher their general self-efficacy. In addition, female students' hold more positive attitudes towards inclusive education. Furthermore, the more students perceive that their teachers implement DI, the higher their general self-efficacy. The correlation analysis indicates that students with SEN have significantly lower general self-efficacy compared to their peers without SEN. However, neither the school setting nor student ratings of their teachers' DI practices did not appear to be related to student attitudes towards inclusive education.

Table 1. Means, Standard Deviations, and Correlations.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Attitudes towards inclusive education	4.15	.77	—						
2. General self-efficacy	3.10	.62	.19**	—					
3. Differentiated Instruction	2.16	.81	-.04	.28**	—				
4. Age	13.10	1.14	.01	.04	.03	—			
5. Gender ^a	—	—	.14*	-.05	.05	-.07	—		
6. SEN status ^b	—	—	-.04	-.17**	-.01	-.08	.07	—	
7. Class setting ^c	—	—	.03	-.08	.12*	-.11	.07	.22**	—

^a(Dummy coded variables) Gender: 1 = male, 2 = female. ^bSEN status: 1 = no, 2 = yes. ^cClass setting: 1 = inclusive classroom, 2 = non-inclusive classroom.

* $p < .05$. ** $p < .01$.

Multilevel Regression Analysis

Table 2 presents the findings from the multilevel regression analysis. The first model without any predictors did not explain any variance at all, indicating that there was no significant variance at the class level. When entering all of the predictors into Model 2, the analyses revealed that student gender, $\beta = .27$, $SE = .09$, $t(288) = 3.03$, $p < .01$, and general self-efficacy, $\beta = .25$, $SE = .07$, $t(288) = 3.34$, $p < .01$, had a significant influence at the individual student level and explained a variance of around 55%. All other predictors were not significant.

Table 2. Estimates of the Multilevel Regression Analyses to Predict Attitudes towards Inclusive Education (Model 2 with Predictors).

	Attitudes towards inclusive education		95% confidence interval	
	β	<i>SE</i>	Lower bound	Upper bound
Individual level variables				
Age	.02	.04	-.06	.10
Student gender (male vs. female)	.27**	.09	.09	.44
Student SEN status (SEN vs. no SEN)	-.07	.13	-.32	.17
General self-efficacy	.25**	.08	.10	.40
Ratings of teachers' DI practice	-.08	.06	-.19	.03
Class level variable				
Class setting (non-inclusive vs. inclusive class)	-.04	.10	-.24	.16
Intra-group variance (variance at the student level)	.55**	.05		
Inter-group variance (variance at the class level)	-	-		
Deviance	642.90			

* $p < .05$. ** $p < .01$.

Discussion

It has been consistently stated in scientific literature that attitudes towards inclusive schooling are a crucial factor for the success of inclusive education. As a result, there has been an extensive research output worldwide exploring teachers and parents' attitude objects towards inclusive education (Lavin et al., 2022; Magumise & Sefotho, 2020; Page et al., 2019). In contrast, far less attention has been placed on investigating the attitudes of students (with and without SEN) towards inclusive learning settings (León et al., 2021; Schwab, 2018; Spörer et al., 2020). Given the key role of student attitudes within the field of inclusive education, the present study seeks to fill this important research and knowledge gap. Consistent with previous findings from international literature reviews (de Boer et al., 2012; Freer, 2023) and studies regarding students' attitudes towards their peers with SEN (Arampatzi et al., 2011; Avramidis & Toulia, 2020; Hellmich & Loeper, 2018), non-complaint classroom behavior (Loeper et al., 2022), as well as attitudes towards performance heterogeneity (Dotzel et al., 2022), descriptive results revealed that, overall, students hold moderate to highly positive attitudes towards inclusive education. Moreover, the results also indicated that Mexican lower secondary school students perceive high levels of general self-efficacy, which is in line with previous findings for the Mexican context (García et al., 2021; Rodríguez-Nieto et al., 2016). In contrast, descriptive analyses indicate that students rate their teachers' DI practice at critically low levels. Although international research exploring both teacher and student perspectives regarding teachers' DI implementation has indicated a similar trend, this is quite surprising for the Mexican context. Results from PISA 2015 revealed that Mexican students' ratings of their teachers' DI implementation is far more frequent than the OECD average (Schleicher, 2016). Such findings were also confirmed in a recent small study by Pozas et al. (2021), which explores private and public student perceptions of their teachers' DI use. It could be very well possible that the current COVID-19 pandemic and educational crisis have had an impact on teachers' differentiated practice (see Cedillo et al., 2021; Pozas et al., 2023). However, such assumptions cannot be confirmed within this study and further research using a qualitative approach is therefore needed in order to provide better insights into this result.

The effects of student and classroom variables as determinants of students' attitudes towards inclusion constitute the research goal of this specific study, as they were focused on less often in other studies. With regards to H_1 , the results from the multilevel analyses showed that students' attitudes towards inclusive schooling could not be significantly explained at the class level. Consequently, the hypothesis has to be rejected. Despite the fact that previous studies have reported that students in inclusive settings hold more positive attitudes toward peers with SEN (Nowicki & Sandieson, 2002; Petry, 2018), it is important to bear in mind that Schwab (2017) emphasized that the mere allocation of students with and without SEN into a classroom is not directly associated with more positive attitudes. In this vein, it is important to highlight that the quality of contact experiences, engagement, and interaction at the (individual) student level is what could have a significant impact on students' attitudes (Bates et al., 2015). In this study, however, data on student (quality and frequency of) interaction experiences and/or engagement with peers with SEN within an inclusive learning setting was not collected. In further studies, contact should be explored not only at the class level (inclusive vs. non-inclusive classrooms), but also at the individual level, while considering friendships between students with and without SEN (Freer, 2023), which is still a rather unexplored research field. Another possible explanation discussed by Kwon et al. (2017) is that learners in inclusive classrooms often do not realize that some of their peers have SEN, and thus consider that they have had no prior contact with a classmate with SEN. Taken together, in order to fully examine the effect of class composition on individual attitudes, future studies should employ longitudinal and mixed-methods designs that allow for casual and detailed interpretations.

While focusing on H_2 , the predictors at the individual level, variables that were noted to significantly contribute to predicting students' attitudes towards inclusion were gender and general self-efficacy. Hence, hypothesis H_2 was partially supported by the results of the study. In detail, the findings are in line with previous studies, which have consistently identified that female participants generally show more positive attitudes than their male counterparts (de Boer et al., 2012; de Laat et al., 2013; Freer, 2023; Loeper et al., 2022; 2017; Olaleye et al., 2020; Sheridan & Scior, 2013; Vignes et al., 2009). In line with the findings from Hellmich and Loeper (2018), students' general self-efficacy appears to be an

important predictor for student attitudes towards inclusive education. As the authors discuss, students' general self-efficacy can be directly visible through their behavior in learning situations when they deal and interact with peers with SEN. In contrast, students' SEN status, their ratings of their teachers' DI practice, and their age did not contribute to explaining variance in students' attitudes towards inclusion. Therefore, the results from the present study were not consistent with the results of other studies (for SEN status see e.g., Vignes et al., 2009; for DI practice see Hellmich & Loeper, 2018 and Dotzel et al., 2022). In the case of students' ratings of their teachers' DI practice, the issue could have been a result of the design of the study. According to the findings from Hellmich & Loeper (2018), students' self-efficacy functions as a mediator between students' perceptions of their teachers' instructional behaviors and their attitudes. At the very least, from the results the present study, it is possible to corroborate a relationship between students' general self-efficacy and their ratings of their teachers' DI practice. Thus, it is of utmost importance that further research explore in detail such complex relationships between the variables.

Concerning SEN status, the findings are in line with the results from Schwab (2018), which also found no significant differences between the attitudes of students with and without SEN. In addition, it worthwhile to note that results from the correlation analyses clearly show that SEN status is significantly associated with a lower self-efficacy. Hence, the findings imply that students with SEN are not reaching satisfying levels in their general self-efficacy. Therefore, students' general self-efficacy should also be an important focus for vulnerable students (such as those with SEN), and it is necessary to implement appropriate prevention and intervention strategies. Lastly, with regards to students' ages, the findings from this study seem to be in line with Lloyd et al. (2017) and Magnusson et al. (2017). However, it is possible that no differences were revealed because the sample included a narrow age range (difference of 3 to 4 years). Hence, further research should attempt to compare students across different educational stages, such as primary, lower-, and upper-secondary school.

Limitations

While interpreting the present results, one has to keep in mind that this study has several limitations. First, although the students' attitudes towards the inclusive education measurement instruments used in the study was adapted from existing research exploring teacher and parent perspectives, information on the internal validity of the applied questionnaire is still pending. Hence, further research should consider exploring the factorial structure of the instrument. Second, given the research design, the present study made use of cross-sectional data. Therefore, it is not possible to provide statements concerning the causal relationships between the variables under study. More importantly, it is necessary to explore the formation and development of students' attitudes towards inclusion (Spörer et al., 2020), which can only be done using a longitudinal design. A third limitation is that the study used student ratings (self-reported), which do not allow for an in-depth analysis of the information provided by the participants (Cedillo et al., 2021). Therefore, further research using mixed method designs that allow for a comprehensive exploration of the data is strongly suggested. More importantly, as has been discussed within this paper, the attitudes and perceptions of all stakeholders (students, parents, teachers) involved in inclusive education must be taken into account (Schwab, 2018). Consequently, it is necessary for further research to implement multi-perspective research designs.

Additionally, this study only considered certain variables (i.e. age, gender, self-efficacy) in its analyses. Nevertheless, Freer's (2023) review pointed out other key variables such as knowledge, type of SEN, role of parents, diversity, and socioeconomic status. Consequently, further research is suggested to explore the interplay of such factors. Lastly, and by far an important limitation of this study, is the fact that the sample was composed mainly of students attending private schools. As a result, no class level differences between school types (private vs. public schools) could be conducted, and thus the results must be interpreted with caution. As mentioned in the theoretical section, there are significant differences across public and private schools (i.e., economic, access to resources), and as such it can be expected that students in disadvantaged situations perceive and experience inclusive education completely differently.

Conclusions and Implications

As Freer (2023) stated, negative attitudes “threaten the very nature of inclusive education” (p. 1). Consequently, the attitudes of students are of key importance, as they can either foster or hinder the development of a welcoming and including environment in which all learners feel accepted so that their academic and social-emotional needs can be effectively met. Though there are some important limitations within this study that need to be addressed in more detail, the findings from this work contribute empirical evidence to the current research gap with regards to the attitudes of all students (with and without SEN) learning together in inclusive educational settings. Moreover, it also attempts to be an initial step in extending prior research by providing insights into Mexican students’ perceptions and experiences of inclusion in lower secondary schools. From a practical perspective, this research recognizes the importance of supporting students’ general self-efficacy as a mean to foster positive attitudes towards inclusion. Students’ general self-efficacy could be supported and fostered by activities and materials adapted to their specific learning needs, providing not only a sense of accomplishment but a more positive attitude overall. Considering this, it is necessary to invest in efforts to support teachers in their implementation of DI practices. This could be done through collaboration among teachers and professional development training. Lastly, the present study wishes to encourage educational researchers to further explore not only student attitudes within inclusive educational settings, but to recognize the necessity of conducting multi-perspective studies to increase our knowledge of inclusive education from the perspectives of all involved stakeholders.

Declaration of Conflicting Interests. The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding. The authors received no financial support for the research, authorship, and/or publication of this article.

References

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Arampatzi, A., Mouratidou, K., Evaggelinou, C., Koidou, E., & Barkoukis, V. (2011). Social developmental parameters in primary schools: Inclusive settings’ and gender differences on pupils’ aggressive and social insecure behaviour and their attitudes towards disability. *International Journal of Special Education*, 26(2), 58–69. <https://files.eric.ed.gov/fulltext/EJ937175.pdf>
- Avramidis, E., & Toulia, A. (2020). Attitudes and inclusion of students with special educational needs in regular schools. *Oxford Research Encyclopedia of Education*. <https://doi.org/10.1093/acrefore/9780190264093.013.1237>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W H Freeman/Times Books/ Henry Holt & Co.
- Bates, H., McCafferty, A., Quayle, E., & McKenzie, K. (2015). Review: Typically-developing students’ views and experiences of inclusive education. *Disability and Rehabilitation*, 37(21), 1929–1939. <https://doi.org/10.3109/09638288.2014.993433>
- Bläßler, J., & Schwarzer, R. (1996). Evaluación de la autoeficacia: Adaptación española de la escala de autoeficacia general [Measuring generalized self-beliefs: A Spanish adaptation of the General Self-Efficacy Scale]. *Ansiedad y Estrés*, 2(1), 1–8.
- Briónes, E., Tabernero, C., & Arenas, A. (2005). Variables psicosociales relacionadas con el proceso de integración social de los estudiantes inmigrantes [Psychosocial variables related with the social inclusion process of immigrant students]. *Culture and Education*, 17(4), 337–347. <https://doi.org/10.1174/113564005775133766>
- Castro Rodríguez, M. M., & Carbajales Carballo, V. (2018). Atención a la diversidad e inclusión educativa en la escuela rural [Attention to diversity and inclusive education in rural school]. In R. Calixto Flores (Ed.), *Investigaciones y prácticas pedagógicas en educación inclusiva*

- [Studies and pedagogical practices regarding inclusive education] (pp. 62–91). <https://repo.umc.cl/items/ca38bd6c-8842-4d29-b8bf-fe4d1bca1d26>
- Contreras, S. R., & Cedillo, I. G. (2013). Educación especial en México. Desafíos de la educación inclusiva [Special education in Mexico. Challenges of inclusive education]. *Revista latinoamericana de educación inclusiva*, 7(2), 77–91.
- Darnon, C., Buchs, C., & Desbar, D. (2012). The jigsaw technique and self-efficacy of vocational training students: A practice report. *European Journal of Psychology of Education*, 27(3), 439–449. <https://doi.org/10.1007/s10212-011-0091-4>
- de Boer, A., Pijl, S. J., & Minnaert, A. (2012). Students' attitudes towards peers with disabilities: A review of the literature. *International Journal of Disability, Development and Education*, 59(4), 379–392. <https://doi.org/10.1080/1034912X.2012.723944>
- de Laat, S., Freriksen, E., & Vervloed, M. P. J. (2013). Attitudes of children and adolescents toward persons who are deaf, blind, paralyzed or intellectually disabled. *Research in Developmental Disabilities*, 34(2), 855–863. <https://doi.org/10.1016/j.ridd.2012.11.004>
- De Vroey, A., Roelandts, K., Struyf, E., & Petry, K. (2016). Inclusive classroom practices in secondary schools. Towards a universal teaching approach. In B. De Wever, R. Vanderlinde, M. Tuytens, & A. Aelterman (Eds.), *Professional learning in education. Challenges for teacher educators, teachers and student teachers* (pp. 179–202). Academia Press. <http://www.oapen.org/search?identificer=639595>
- Diario Oficial de la Federación [DOF, Official Gazette of the Federation]. (2011). *Ley general de la educación* [General education law] (DOF 11–16- 11). Camara de Diputados.
- Diario Oficial de la Federación [DOF, Official Gazette of the Federation]. (2018). *Acuerdo 271217. Reglas de operación del programa para la inclusión y la equidad educativa* [Agreement 271217. Rules of operation of the program for educational inclusion and equity]. Cámara de Diputados. http://dof.gob.mx/nota_detalle.php?codigo=5328358&fecha
- Dotzel, S., Bonefeld, M., & Karst, K. (2022). Students' attitudes towards performance heterogeneity and their relation to contextual factors. *European Journal of Psychology of Education*, 37, 101–121. <https://doi.org/10.1007/s10212-021-00544-2>
- Fabunmi, M., Brai-Abu, P., & Adeniji, I. A. (2007). Class factors as determinants of secondary school student's academic performance in Oyo State, Nigeria. *Journal of Social Sciences*, 14(3), 243–247. <https://doi.org/10.1080/09718923.2007.11978355>
- Forlin, C., García Cedillo, I., Romero-Contreras, S., Fletcher, T., & Rodríguez Hernández, H. J. (2010). Inclusion in Mexico: Ensuring supportive attitudes by newly graduated teachers. *International Journal of Inclusive Education*, 14(7), 723–739. <https://doi.org/10.1080/13603111003778569>
- Freer, J. R. R. (2023). Students' attitudes toward disability: A systematic literature review (2012–2019). *International Journal of Inclusive Education*, 27(5), 652–670. <https://doi.org/10.1080/13603116.2020.1866688>
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Education research, an introduction*. Longman Publishers.
- García-Cedillo, I., Romero-Contreras, S., & Fletcher, T. V. (2014). Special education today in Mexico. In *Special education international perspectives: Practices across the globe* (Advances in special education, Vol. 28; pp. 61–89). Emerald Group Publishing-Limited. <https://doi.org/10.1108/S0270-401320140000028009>
- García-Cedillo, I., Romero-Contreras, S., & Flores Barrera, V. J. (2021). COVID-19: Condiciones de estudio y repercusiones sobre el estado emocional y aprendizajes escolares de alumnos con necesidades educativas especiales [COVID-19: Study conditions and repercussions on the emotional state and school learning of students with special educational needs]. *MLS Inclusion and Society Journal*, 1(1), 76–92. <https://www.mlsjournals.com/MLS-Inclusion-Society/article/view/1050>
- García García, J., Sánchez Miranda, M. P., & Muñiz García, M. G. (2021). Validación y adaptación de la escala de autoeficacia matemática para niños del noreste de México [Validation and adaptation of the mathematics self-efficacy scale for children in northeastern Mexico]. *IE Revista de Investigación Educativa de la REDIECH*, 12, Article e1244. https://doi.org/10.33010/ie_rie_rediech.v12i0.1244

- Goldan, J., & Schwab, S. (2020). Measuring students' and teachers' perceptions of resources in inclusive education: Validation of a newly developed instrument. *International Journal of Inclusive Education*, 24(12), 1326–1339. <https://doi.org/10.1080/13603116.2018.1515270>
- Graham, L. J., de Bruin, K., Lassig, C., & Spandagou, I. (2021). A scoping review of 20 years of research on differentiation: Investigating conceptualisation, characteristics, and methods used. *The Review of Education*, 9(1), 161–198. <https://doi.org/10.1002/rev3.3238>
- Haddock, G., & Maio, G. R. (2014). Einstellungen [Attitudes]. In K. Jonas, W. Stroebe, & M. Hewstone (Eds.), *Sozialpsychologie* (pp. 197–229). Springer.
- Hellmich, F., & Löper, M. F. (2018). Primary school students' attitudes and their perceived teacher behavior towards peers with special educational needs. *Empirische Sonderpädagogik*, 10(2), 151–166. <https://doi.org/10.25656/01:16003>
- Honkimäki, S., & Kálmán, O. (2012). Approaches to transition support for first year students in higher education. In Tynjälä, P., Stenström, M.-L., & Saarnivaara, M. (Eds). *Transitions and transformations in learning and education* (pp. 247–270). Springer. https://doi.org/10.1007/978-94-007-2312-2_15
- Klassen, R. M. (2010). Confidence to manage learning: The self-efficacy for self-regulated learning of early adolescents with learning disabilities. *Learning Disability Quarterly*, 33(1), 19–30. <https://doi.org/10.1177/073194871003300102>
- Kwon, K.-A., Hong, S.-Y., & Jeon, H.-J. (2017). Classroom readiness for successful inclusion: Teacher factors and preschool children's experience with and attitudes toward peers with disabilities. *Journal of Research in Childhood Education*, 31(3), 360–378. <https://doi.org/10.1080/02568543.2017.1309480>
- Lavin, C. E., Francis, G. L., Mason, L. H., & LeSueur, R. F. (2022). Perceptions of inclusive education in Mexico City: An exploratory study. *International Journal of Disability, Development and Education*, 69(3), 1065–1079. <https://doi.org/10.1080/1034912X.2020.1749572>
- León, S. P., & Barroso-Carballo, S., & García-Martínez, I. (2021). Social inclusive education in secondary schools. A student's perspective approach. *International Journal of Inclusive Education*. Advance online publication. <https://doi.org/10.1080/13603116.2021.1995904>
- Letzel, V. (2021). *Binnendifferenzierung in der Schulpraxis: Eine quantitative Studie zur Einsatzhäufigkeit und zu Kontextfaktoren der Binnendifferenzierung an Sekundarschulen* [Differentiated Instruction in practice: A quantitative study on frequency of use and context factors of differentiated instruction in secondary schools; Doctoral dissertation, University of Trier]. <https://doi.org/10.25353/ubtr-xxxx-b711-2fc7>
- Lindner, K.-T., & Schwab, S. (2020). Differentiation and individualisation in inclusive education: A systematic review and narrative synthesis. *International Journal of Inclusive Education*. <https://doi.org/10.1080/13603116.2020.1813450>
- Lloyd, A., Smith, M., Dempsey, I., Fischetti, J., & Amos, K. (2017). Short- and medium-term impacts of the Just Like You disability awareness program: A quasi-experimental comparison of alternative forms of program delivery in New South Wales' primary schools. *Australian Journal of Education*, 61(3), 288–304. <https://doi.org/10.1177/0004944117730649>
- Loeper, M. F., Schwab, S., Lehofer, M., & Hellmich, F. (2022). The role of students' experiences in attitude formation towards peers with non-compliant classroom behaviour in inclusive primary schools. *European Journal of Special Needs Education*, 37(6), 921–935. <https://doi.org/10.1080/08856257.2021.1967295>
- Magnusson, D. M., Cal, F., & Boissonnault, J. S. (2017). Influence of a short-term disability awareness program on knowledge and attitudes of school-aged children in Southern Belize: Results of a community-university partnership. *Physical Therapy*, 97(4), 408–416. <https://doi.org/10.2522/ptj.20160139>
- Magumise, J., & Sefotho, M. M. (2020). Parent and teacher perceptions of inclusive education in Zimbabwe. *International Journal of Inclusive Education*, 24(5), 544–560. <http://dx.doi.org/10.1080/13603116.2018.1468497>
- Maio, G. R., & Haddock, G. (2010). *The psychology of attitudes and attitude change*. Sage Publications. <https://doi.org/10.4135/9781446214299>

- Maulana, R., Smale-Jacobse, A., Helms-Lorenz, M., Chun, S., & Lee, O. (2020). Measuring differentiated instruction in The Netherlands and South Korea: Factor structure equivalence, correlates, and complexity level. *European Journal of Psychology of Education*, 35(4), 881–909. <https://doi.org/10.1007/s10212-019-00446-4>
- Mælan, E. N., Gustavsen, A. M., Stranger-Johannessen, E., & Nordahl, T. (2021). Norwegian students' experiences of homeschooling during the COVID-19 pandemic. *European Journal of Special Needs Education*, 36(1), 5–19. <https://doi.org/10.1080/08856257.2021.1872843>
- Mitchell, R. (2017). Democracy or control? The participation of management, teachers, students and parents in school leadership in Tigray, Ethiopia. *International Journal of Educational Development*, 55, 49–55. <https://doi.org/10.1016/j.ijedudev.2017.05.005>
- Nowicki, E. A., & Sandieson, R. (2002). A meta-analysis of school-age children's attitudes towards persons with physical or intellectual disabilities. *International Journal of Disability, Development and Education*, 49(3), 243–265. <https://doi.org/10.1080/1034912022000007270>
- OECD. (2012). *Equality and quality in education: Supporting disadvantaged students and schools*. OECD Publishing. <https://doi.org/10.1787/9789264130852-en>
- OECD. (2018). *The resilience of students with an immigrant background: Factors that shape wellbeing*. OECD Publishing. https://read.oecd-ilibrary.org/education/the-resilience-of-students-with-an-immigrant-background_9789264292093-en
- OECD. (2019). *Strong foundations for quality and equity in Mexican schools*. OECD Publishing. <https://doi.org/10.1787/9789264312548-en>
- OECD. (2023). *Equity and inclusion in education: Finding strength through diversity*. OECD Publishing. <https://doi.org/10.1787/e9072e21-en>
- Olaleye, A., Ogundele, O., Deji, S., Ajayi, O., Olaleye, O., & Adeyanju, T. (2012). Attitudes of students towards peers with disability in an inclusive school in Nigeria. *Disability, CBR & Inclusive Development*, 23(3), 65–75. <https://dcidj.uog.edu.et/index.php/up-j-dcbrid/article/view/80>
- Page, A., Boyle, C., McKay, K., & Mavropoulou, S. (2019). Teacher perceptions of inclusive education in the Cook Islands. *Asia-Pacific Journal of Teacher Education*, 47(1), 81–94. <https://doi.org/10.1080/1359866X.2018.1437119>
- Petry, K. (2018). The relationship between class attitudes towards peers with a disability and peer acceptance, friendships and peer interactions of students with a disability in regular secondary schools. *European Journal of Special Needs Education*, 33(2), 254–268. <https://doi.org/10.1080/08856257.2018.1424782>
- Pozas, M., González, C. J., & Letzel, V. (2021). A change of perspective: Exploring Mexican primary and secondary school students' perceptions of their teachers differentiated instructional practice. *Journal of Research in Special Educational Needs*, 21(3), 222–232. <https://doi.org/10.1111/1471-3802.12514>
- Pozas, M., Letzel, V., Lindner, K.-T., & Schwab, S. (2021). DI (Differentiated instruction) does matter! The effects of DI on secondary school students' well-being, social inclusion and academic self-concept. *Frontiers in Education*, 6, Article 729027. <https://doi.org/10.3389/feduc.2021.729027>
- Pozas, M., Palacios Tovar, J. A., Pozas Guerra, L., Rivera Armendariz, L. R., & Lomelí Zubiría, A. S. (2023). 'From my perspective': Differentiated instruction in mathematics according to lower secondary school Mexican students. In V. Letzel-Alt & M. Pozas (Eds.), *Differentiated instruction around the world. A global inclusive insight*. Waxmann. <https://doi.org/10.31244/9783830997023>
- Pozas, M., & Schneider, C. (2019). Shedding light into the convoluted 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>
- Rademaker, F., de Boer, A., Kupers, E., & Minnaert, A. (2020). Applying The Contact Theory in inclusive education: A systematic review on the impact of contact and information on the social participation of students with disabilities. *Frontiers in Education*, 5, Article 602414. <https://doi.org/10.3389/feduc.2020.602414>
- Ralejoe, M. (2019). Teachers' views on inclusive education for secondary school visually impaired learners: An example from Lesotho. *Journal of Education (University of KwaZulu-Natal)*, 76, 128–142. <http://www.scielo.org.za/pdf/jed/n76/07.pdf>

- Reynaga-Peña C. G., Sandoval-Ríos, M., Torres-Frías, J., López-Suero, C., Lozano Garza, A., Dessens Félix, M., González Maitland, M., & Ibanez, J. (2018). Creating a dialogic environment for transformative science teaching practices: Towards an inclusive education for science. *Journal of Education for Teaching*, 44(1), 44–57. <https://doi.org/10.1080/02607476.2018.1422620>
- Rodríguez-Nieto, M. C., García-García, J., Peña-Moreno, J. A., & Sánchez-Miranda, M. P. (2016). Autoeficacia en niños de educación primaria y preferencia por un rol de profesor [Self-efficacy in primary school children and preference for a teaching role]. *Tecnociencia Chihuahua*, 10(2), 72–80. <https://doi.org/10.54167/tch.v10i2.574>
- Romero-Contreras, S., García-Cedillo, I., & Fletcher, T. (2013). The challenge of curriculum coherency and relevance in pre-service teacher training for inclusive education in Mexico. In P. Jones (Ed.), *Bringing insider perspectives into inclusive teacher learning: Potentials and challenges for educational professionals* (pp. 103–121). Routledge. <https://doi.org/10.4324/9781315883878>
- Ruberg, C., & Porsch, R. (2017). Einstellungen von Lehramtsstudierenden und Lehrkräften zur schulischen Inklusion: Ein systematisches Review deutschsprachiger Forschungsarbeiten [Attitudes of student teachers and teachers towards school inclusion: A systematic review of German-language research]. *Zeitschrift für Pädagogik*, 63(4), 393–415. <https://doi.org/10.25656/01:18583>
- Ryu, E. (2015). Multiple-group analysis approach to testing group difference in indirect effects. *Behavioral Research Methods*, 47(2), 484–493. <https://doi.org/10.3758/s13428-014-0485-8>
- Salami, S. O. (2010). Emotional intelligence, self-efficacy, psychological well-being and students attitudes: Implications for quality education. *European Journal of Educational Studies*, 2(3), 247–257.
- Sánchez, P. A., de Haro Rodríguez, R., García, S. A., & García, C. M. C. (2019). Escuchar las voces del alumnado para construir la inclusión y la equidad educativa: diseño y validación de un cuestionario [Listening students' voices to build inclusion and educational equity: design and validation of a questionnaire]. *REMIE: Multidisciplinary Journal of Educational Research*, 9(3), 258–292.
- Sangermán Jiménez, M. A., & Ponce, P. (2021). Differentiated teaching based on standardized metrics integrating Fuzzy Logic Type 2 Detection Theory: High school case—PrepaTec, Mexico. *Future Internet*, 13(4), Article 98. <http://dx.doi.org/10.3390/fi13040098>
- Santiago, P., McGregor, I., Nusche, D., Ravela, P., & Toledo, D. (2012). *OECD Reviews of Evaluation and Assessment in Education: Mexico 2012*. OECD Publishing. <https://doi.org/10.1787/9789264172647-en>
- Schleicher, A. (2016). *Teaching excellence through professional learning and policy reform: Lessons from around the world. International Summit on the Teaching Professions*. OECD Publishing. <https://doi.org/10.1787/9789264252059-en>
- Schwab, S., & Alnahdi, G. H. (2020). Do they practise what they preach? Factors associated with teachers' use of inclusive teaching practices among in-service teachers. *Journal of Research in Special Educational Needs*, 20(4), 321–330. <https://doi.org/10.1111/1471-3802.12492>
- Schwab, S. (2017). The impact of contact on students' attitudes towards peers with disabilities. *Research in Developmental Disabilities*, 62, 160–165. <https://doi.org/10.1016/j.ridd.2017.01.015>
- Schwab, S. (2018). *Attitudes towards inclusive schooling: A study on students', teachers' and parents' attitudes*. Waxmann Verlag.
- Schwab, S., Gebhardt, M., Ederer-Fick, E. M., & Gasteiger Klicpera, B. (2012). An examination of public opinion in Austria towards inclusion: Development of the 'Attitudes Towards Inclusion Scale' – ATIS. *European Journal of Special Needs Education*, 27(3), 355–371. <https://doi.org/10.1080/08856257.2012.691231>
- Schwarzer, R., & Jerusalem, M. (Eds.). (1999). Skalen zur Erfassung von Lehrer- und Schülermerkmalen [Scales for recording teacher and student characteristics]. In *Dokumentation der psychometrischen Verfahren im Rahmen der Wissenschaftlichen Begleitung des Modellversuchs Selbstwirksame Schulen* [Documentation of the psychometric procedures as part of the scientific support of the model experiment for self-effective schools]. Freie Universität Berlin. http://userpage.fu-berlin.de/~health/self/skalendoku_selbstwirksame_schulen.pdf

- SEP (Secretaría de la Educación Pública) (Ed.). (2012). *Atención educativa para la inclusión* [Educational care for inclusion]. *Plan de Estudios 2012* [Educational plan for 2012]. Secretaría de la Educación Pública, SEP.
- SEP (Secretaría de la Educación Pública) (Ed.). (2017). *Modelo educativo para la educación obligatoria* [Educational model for compulsory education]. Secretaría de la Educación Pública, SEP.
- Sheridan, J., & Scior, K. (2013). Attitudes towards people with intellectual disabilities: A comparison of young people from British South Asian and White British backgrounds. *Research in Developmental Disabilities, 34*(4), 1240–1247. <https://doi.org/10.1016/j.ridd.2012.12.017>
- Spörer, N., Lenkeit, J., Bosse, S., Hartmann, A., Ehlert, A., & Knigge, M. (2020). Students' perspective on inclusion: Relations of attitudes towards inclusive education and self-perceptions of peer relations. *International Journal of Educational Research, 103*, Article 101641. <https://doi.org/10.1016/j.ijer.2020.101641>
- Tomlinson, C. A. (2017). *How to differentiate instruction in academically diverse classrooms* (3rd ed.). ASCD.
- United Nations. (2008). *Convention on the Rights of Persons with Disabilities (CRPD)*. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html>
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2017). *A guide for ensuring inclusion and equity in education*. United Nations Educational, Scientific and Cultural Organization. <https://doi.org/10.54675/MHHZ2237>
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2020). *Global education monitoring report 2020: Inclusion and education: All means all*. United Nations Educational, Scientific and Cultural Organization. <http://creativecommons.org/licenses/by-sa/3.0/igo/>
- Universidad de Monterrey (UDEM). (2023). Su investigación impulsa la educación inclusiva [Their research promotes inclusive education]. <https://www.udem.edu.mx/es/ciencias-de-la-salud-institucional/noticia/su-investigacion-impulsa-la-educacion-inclusiva>
- Valiandes, S., & Neophytou, L. (2018). Teachers' professional development for differentiated instruction in mixed-ability classrooms: Investigating the impact of a development program on teachers' professional learning and on students' achievement. *Teacher Development, 22*(1), 123–138. <https://doi.org/10.1080/13664530.2017.1338196>
- Varsik, S. (2022). *A snapshot of equity and inclusion in OECD education systems: Findings from the Strength through Diversity Policy Survey* (OECD Education Working Papers 284). OECD Publishing. <https://doi.org/10.1787/801dd29b-en>
- Vignes, C., Coley, N., Grandjean, H., Godeau, E., & Arnaud, C. (2008). Measuring children's attitudes towards peers with disabilities: A review of instruments. *Developmental Medicine & Child Neurology, 50*, 182–189. <https://doi.org/10.1111/j.1469-8749.2008.02032.x>
- Vignes, C., Godeau, E., Sentenac, M., Coley, N., Navarro, F., Grandjean, H., & Arnaud, C. (2009). Determinants of students' attitudes towards peers with disabilities. *Developmental Medicine & Child Neurology, 51*(6), 473–479. <https://doi.org/10.1111/j.1469-8749.2009.03283.x>
- Vogel, T., & Wänke, M. (2016). *Attitudes and attitude change* (2nd ed.). Routledge & Taylor & Francis Group. <https://doi.org/10.4324/9781315754185>