Multicultural Education: Professionals' Beliefs and Practices on Acculturation and Second-Language Acquisition

A cross-sectional study on primary education in Norway

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Abstract

Cultural diversity in schools is increasing and addressing educational inequalities faced by minority learners is imperative. The persistency of achievement gaps between native and immigrant students in contexts of social integration and inclusive education, such as the Norwegian, highlights the need of research on implicit mechanisms of inequalities perpetuation. Educators' attitudes towards and expectations about minority background students significantly impact on their academic outcomes. Since most educational research on cultural diversity has focused on the negative effects of prejudices on achievement, the study of educators' positive beliefs on cultural diversity is still needed. The aim of this study was to analyse the impact of professionals' multicultural beliefs on their educational practices with culturally and linguistically diverse learners, as well as on their support to students' acculturation processes. Additionally, the relations between multilingual beliefs and types of linguistic support provided were examined. This cross-sectional research was based on survey data provided by the EU/H2020 funded project ISOTIS (Inclusive Education and Social Support to Tackle Inequalities in Society). Results showed that Norwegian educators hold strong multicultural belief, which were not associated with practices, but were related to the support of students' multicultural identities and integration. Multilingual beliefs' was significantly associated with the incorporation of students' home-languages and with the encouragement of the mainstream language. Implications for future research and practice are considered.

Keywords: multicultural education, teachers' beliefs, CLD learners, acculturation strategies, second-language acquisition.

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ABREVIATIONS

CLD learners: Culturally and Linguistically Diverse learners.

MCE: Multicultural Education

PIRLS: Progress in International Reading and Literacy Study.

PISA: Programme for International Student Assessment.

TIMSS: Trends in International Mathematics and Science Study.

IMDi: Directorate of Integration and Diversity, Norway.

ISOTIS: Inclusive Education and Social Support to Tackle Inequalities in Society.

CHAPTER 1. INTRODUCTION

In the contemporary context of population movements and the increase of asylum seekers in Europe it is urgent to implement policies to address educational inequalities faced by students from diverse cultural backgrounds. International measurements, such as PISA, PIRLS, and TIMSS have consistently revealed an alarming gap: pupils from immigrant background have lower levels of achievement than native students on central school-subjects, such as mathematics, and literacy, which have been regarded as important indicators of cognitive development and strong predictors of participation in the working life (Rözer & van de Werfhorst, 2017).

Norway is a culturally diverse society. Since 1990, more than 850,000 people have immigrated to the country. Today, almost 18% of the population have different ethnic, religious, and linguistic backgrounds (SSB, 2016). The educational system in Norway is inclusive and all children, including immigrants and asylum seekers, have the right to public primary and secondary education. In 2017, about 16% of students in primary and lower secondary education had an immigrant background (OECD, 2017). Although educational policies ensure equal educational provision for all students, Norwegian national assessments are consistent with international measurements regarding achievement gaps between immigrant and native children (SSB, 2019).

Cultural and linguistic diversity can bring about numerous challenges for the provision of inclusive education. Since the its aim is to ensure equal opportunities, treatment, and outcomes for all children regardless of their background, attainment, or disabilities (UNESCO, 1994; OECD, 2012), teachers, managers, and policy makers might wonder: how is the inclusion of culturally and linguistically diverse (CLD) learners better attained? For instance, should different cultural heritages be taken into account or should similarities between students be emphasised in order to avoid stereotypes? Is it better to incorporate children's home languages into the classroom or should we focus on the mainstream language only in order to stimulate its rapid acquisition? To what extent should education be adapted for these students?

Numerous studies, have established the crucial role educational professionals, such as managers, teachers, and specialists play in students' learning outcomes. Teachers' beliefs about learning and instruction significantly influence the way they plan and implement their lessons (e.g. Staub, & Stern, 2002). Their attitudes towards and expectations about students has been observed to strongly influence minority background students' academic performance

and psychological wellbeing (OECD, 2017; NMER, 2007). Nevertheless, research in this field has been mainly focused on the effects of negative stereotypes and discrimination on immigrant students' attainment (Schofield, 2006). But, could genuine intentions of implementing inclusive education produce different educational practices due to differences in professionals' beliefs? For instance, could educators' beliefs about second language acquisition influence the way the try to support immigrant students? How? Indeed, social-psychological research suggests that different *favourable* beliefs about cultural diversity could have different implication for social interaction (e.g. Richeson & Nussbaum, 2004; Plaut, Thomas, & Goren, 2009), however, evidences in educational research are still scarce (Hachfeld et al, 2011).

The aim of this research was to examine the relations between educational staff's beliefs on cultural and linguistic diversity and their practices with students from diverse cultural backgrounds in Norwegian primary schools. These associations were analysed in three main areas: (a) multicultural educational practices (or practices of cultural inclusion), (b) types of support provided to students' acculturation processes (related to identity formation), and (c) types of linguistic support provided for second language acquisition.

To this end, survey data on Norwegian educational professionals' attitudes and practices on cultural diversity was analysed through inferential statistics in a correlational, cross-sectional design. This recently collected data (2018) was provided by the EU-funded (H2020) project ISOTIS (Inclusive Education and Social Support to Tackle Inequalities in Society). ISOTIS is a collaborative project that includes 17 partner institutions in 11 countries[1]. Its main aim is to fight educational inequalities faced by culturally and linguistically diverse families in Europe and to increase inclusiveness, by providing evidence-based recommendations for policy and practice development (http://www.isotis.org/).

1.1 Outline of this dissertation

This dissertation is organised in four chapters, following an IMRaD format[2]. The first section of the present chapter introduces the topic of the study. The second section, presents the context, policies and challenges of multicultural education in Norway. On the third section, the theoretical foundations of the study are detailed: Banks (2004) model of

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[1] In Norway ISOTIS partner institutions are the Centre for Educational Measurement (CEMO) at the University of Oslo, and the University College of Southeast Norway (HSN), from which the Work-Package 2 team collected data used in this study. The provision of this data was authorised by ISOTIS coordinators from Utrecht University.

[2] IMRaD is an acronym for Introduction – Method – Results – and – Discussion. It is a format used in empirical research, which does not include a separate theory chapter, rather, it is incorporated in the introduction.

multicultural education (MCE) is underpinned by Berry's (1997) acculturation strategies, and Cummins' (1979, 2001) writings on bilingualism. The fourth section presents relevant evidences in support of theory. Finally, the research questions, hypotheses, and goals of the study are stated.

Chapter two describes the methodological approach, design, and research methods of the study. Next, an account of participants, research instrument, and the scale construction process is offered, as well as a description of analyses performed and methodological considerations for the improvement of validity and reliability. Finally, ethical concerns are addressed.

Chapter three presents the results of the study. Firstly, distributional features of the data and preliminary correlational analyses are reported. Secondly, regression analyses for each research question are detailed, accompanied by evaluation of the model, compliance with regression assumptions, and conditions for generalisability. Finally, unexpected findings are outlined.

In chapter four a discussion about the implications of results is offered in light of theoretical and empirical backgrounds. Additionally, the limitations of the study are considered through an assessment of its strengths and weaknesses. Finally, implications for future research and educational practice are specified.

1.2. Norway's multicultural context

A central concept throughout this study was *multiculturalism.* According to Tiryakian (2003), there is an analytical difference between multiculturalism and multicultural. While the latter is a demographic condition, namely the heterogenic cultural composition of a society, the former is an ideological claim for enhancing the opportunities of participation, social mobility, equal rights, and non-discrimination of minority background individuals and groups within a society (Tiryakian, 2003). Today, many democratic states have embraced multiculturalism through policies that promote the development of pluralistic societies. In the following lines, Norway's cultural context, its educational policies and its current challenges on the implementation of inclusive education for CLD learners are reviewed.

1.2.1. Immigration and attitudes towards immigrants in Norway

Norway is a multicultural society. Today, 17.7 % of the population have a diverse cultural and linguistic background, the majority (14%) due to immigration from more than two hundred different countries. In 2018, newcomers aggregated about 52,500, most of them

from non-western nations. First-generation immigrants, those who are foreign-born, represent two thirds of the total immigrant population; while second-generation immigrants, born in Norway to foreign-born parents, reach almost 180,000s (SSB, 2016). The largest immigrant population is concentrated in the suburbs of Oslo, where they live in cramped conditions and have the largest households among the population (SSB, 2019).

Labour, family, refuge, and education are among the main reasons for immigrating to Norway. In 2018 around 4,700 people entered the country with a refugee status. This group has been reported as the one with stronger tendency to stay and with more needs regarding housing, health and educational support (SSB, 2019). Furthermore, demographic projections indicate that an important part of Norway's population growth will be due to immigration in the upcoming decades (SSB, 2019). Thus, diversity in Norway is on the rise.

Two recent surveys, namely the *Norwegian Integration Barometer* (IMDi, 2017, as cited in Thorud, 2018), and *Attitudes towards Immigrants and Immigration* (SSB, 2018) have shown that Norwegians have divided postures towards immigrants and immigration. While the majority have a positive attitude, and think immigrants contribute to the country's working market and enrich the cultural life in Norway (SSB, 2017), a record low number think that immigration is good for the Norwegian economy (Thorud, 2018). Concerns regarding lack of security and threats to Norwegian values and to the welfare system divide the population roughly in half (Thorud, 2018). Additionally, in the *Barometer* questions concerning attitudes towards acculturation revealed a strong support to assimilation (i.e. immigrants should adapt to the majority), followed by a strong support to integration (i.e. reciprocal adaption), while not requisites for immigrants' adaption had little support. Language and work are seen as key requirements for integration. Concerning to tolerance and stereotypes, wide-reaching tolerance was found with little variation towards different cultural groups. Yet, regarding hiring teachers of different nationalities, respondents had higher levels of reservation towards Somalis and Pakistanis (Thorud, 2018).

1.2.3. Educational policies and challenges in Norway

The educational system in Norway is public. 91% of all primary and lower secondary schools are free in order to ensure the right to education for all pupils (SSB, 2018). Additionally, private schools, such as faith-based or alternative pedagogy schools are government-supported. A study by Lauglo (2009) analysing a large database from Statistics Norway on primary and lower secondary education concluded that private schools presented

few signs of socio-economic bias in recruitment due to the high portion of costs covered by public subvention (Lauglo, 2009).

Norway has embraced the principles of inclusion and *multicultural education* (MCE), which is an approach to school reform for ensuring equal learning opportunities to students from diverse groups (Banks, 2009). The Education Act (NMER, 1998/2014), promotes democracy, equality, understanding of cultural diversity, and a pluralistic society (NMER, 2017). Accordingly, schools must foster an environment of security and social belonging for all pupils, free from racism, discrimination, bullying and violence. For instance, it is stated that students should not be grouped by gender, level of ability, or ethnic background, in order to safeguard their need for social belonging (NMER, 1998/2014).

In 2017, around 16% of students in primary and lower secondary education had an immigrant background (OECD, 2017). Although educational policies ensure equal educational opportunities for all students, measurements on attainment in national tests show a continuous pattern across grades and years since 2014: not only Norwegian pupils more often achieve higher levels in mathematics and reading, but students with immigrant background more often show a bigger proportion of lowest achievement in those school subjects (SSB, 2017). Around 20 % of all students had the lowest level in the 5th grade 2018 national tests. This proportion raised to 39.4%, and 37.4%, for and first –and second generation immigrant students, respectively (SSB, 2019).

Policies for addressing linguistic diversity establish that pupils with linguistic backgrounds other than Norwegian and Sami are entitled to bilingual or even mother tongue subject teaching if needed until they reach sufficient proficiency to follow mainstream classes (NMER, 2007). Today, from a universe of almost 640,000 students, over 55,000s receive some kind of special training. The main share (77.5%) are those who have additional training in Norwegian, followed by those who with bilingual education (14.3%). Instruction in native language, adapted education, and a combination of native language and bilingual training are the least represented (3.5%, 2.9%, and 1.9%, respectively) (SSB, 2019).

The Norwegian education system is strongly decentralised. Municipalities and county authorities have big responsibilities on the implementation of inclusive education for CLD learners, such as, the assessment of Norwegian proficiency and provision of adapted language education for recently arrived pupils (OECD, 2017; NMER 2007). Nevertheless, big challenges for both students and teachers have been reported when asylum seeker minors – accompanied and unaccompanied- enter the Norwegian school system. Educators have none or little knowledge about children's previous educational experiences and lack the appropriate

tools for assessing them. Thus, many children do not receive the educational provision they need and remain in *reception classes*[3] for longer than they should (NAFO, 2013). This, at the same time prevents them from being promptly integrated.[4]

According to the National Centre for Multicultural Education (NAFO, 2013) educators must be competent on cultural and linguistic diversity, consider children's diverse cultural backgrounds as resources in the classroom, and create cooperative relationships with parents, among other intercultural competences. Additionally, the Education Act (NMER, 1998/2014), indicates that educational staff must be provided with opportunities for the enhancement of their competences on regular bases. NAFO (2013), reports several projects for the implementation of multicultural education and for enhancing professionals' intercultural competences. Nevertheless, there is evidence that educators in Norway feel ill prepared for teaching in multicultural settings and practicing linguistic and cultural integration in the classroom (Rambøll, 2006, as cited in Tosic, 2012; NAFO, 2013)

For primary and lower secondary levels, schools have the responsibility to ensure parents and students' representativeness, and to encourage their participation in councils to express their concerns (NMER, 1998/2014). However, there is evidence that immigrant parents can be reluctant of getting involved in school and that professionals' lack resources to connect appropriately with parents (NAFO, 2013).

Professionals' have a key role on how multicultural education is implemented (Banks, 2009; Cummins, 2001). The aforementioned challenges for the implementation of multicultural education stress the need of research regarding the education of culturally and linguistically diverse learners in Norway. This study aimed at contributing to it.

1.3. Theoretical foundations of the study

This section opens with a revision of the construct of multiculturalism and the definitions provided by several authors. Afterwards, three main theories which were used complementarily in this study are reviewed. Firstly, as an all-encompassing framework, Banks' (1993, 2009) model of multicultural education (MCE), is described, accompanied by

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[3] *Mottaksklasse* is a support class for newly arrived student from minority languages. It is designed to provide a rapid acquisition of the Norwegian language in order to allow students to join regular classes. The maximum time to remain in these classes is two years (NMER, 2007).

[4] In the launch of the UNESCO's Global Education Monitoring Report 2019 organised by NORAD in Oslo, a student leader was invited to the discussion panel on *Norwegian perspectives. Challenges and solutions*. Edvard Botterli Udnæs, clearly illustrated the vicious circle in which some minority background children/youngsters are caught: students in reception classes are often segregated from the rest of the school, either by infrastructure or by curricular design. As a consequence, they have less opportunities to interact with Norwegian speaking students, which hinders their second language learning and social integration.

theoretical underpinnings from Berry's (1997, 2016) acculturation strategies, and Cummins' (1979, 2001) writings on bilingual education.

These scholars have been chosen due to the relevance they have in their fields. Their theories have been widely used and have significantly stimulated research in the last decades, receiving extensive empirical support. Additionally, their frameworks provide clearly defined terms and offer visual display of their components' interrelations. Finally, I have selected these frameworks because they speak to my personal worldview.

1.3.1. Multiculturalism

Much of the theory reviewed in this section has been built upon the construct of *multiculturalism*, which is a complex phenomenon manifested in numerous spheres of social life. Analogous to the abovementioned Tiryakian's (2003) distinction between multicultural and multiculturalism, van de Vijver and colleagues (2007) found three definitions or aspects of the term: (a) multiculturalism is, indeed, a feature of cultural diversity in the composition of a population, (b) multiculturalism can denote a specific type of policy for the promotion of equal rights and participation of people from minority cultural background, and (c) -the most relevant for this study- multiculturalism is an *attitude* of acceptance of and support for the culturally diverse composition of a society, as stated by Berry and Kalin in 1995 (van de Vijver, Breugelmans, & Schalk-Soekar, 2007). In this account, we have reviewed the first two aspects of multiculturalism in the Norwegian context. Now we will address the third one.

Multiculturalism has a multifaceted nature. It refers to policies and individuals rights, to public and private life, to minority's adaption and mainstream openness (van de Vijver et al., 2007). Depending on the scope of study, scholars have offered different views on this phenomenon. When viewed from a broad perspective, it has been described as an ideology, a process, and a social movement, while when examined at the level of individuals it has been denoted as a system of beliefs and behaviours, or as a moral preference (e.g. Rosado, 1996; Banks & McGee Banks, 2010; as cited in Moser, et al., 2017; van de Vijver et al., 2007). All these definitions are related to the recognition of and respect for cultural diversity. Differently, Fay (1996) invites scholars to analyse the phenomenon by adopting a processual way of thinking. For this he redefine multiculturalism in terms of *interactionism*, for emphasising the fluidity that characterise cultural exchanges.

Cultural interactions are complex fluid processes that occur at both individual and societal levels. At the individual level, it is important to analyse where the intertwined nature

of beliefs, attitudes, and behaviours. Individuals hold *beliefs* about phenomena, which are convictions acquired mainly through experiencing, especially in the absence of empirical proof (APA, 2018). Additionally, individuals develop *attitudes* or dispositions to act in a certain way based on evaluations about phenomena, which are assumed to be influenced by beliefs (APA, 2018). Thus, attitudes towards cultural diversity are based on unproven convictions, ranging from positive to negative, and disposing individuals to behave in certain ways towards people from other cultures. Conversely, societies hold and promote certain beliefs, attitudes, and behaviours implicitly or explicitly. Those explicitly encouraged may be institutionalised in the form of policies, while those tacitly prompted are manifested in a variety of ways. For instance, Tiryakian (2003) argues that the success of modern nation-states was based on a policy of *monoculturalism,* which is – as opposed to multiculturalism-the public recognition of the mainstream culture, but he also acknowledges the covert role of symbols in fostering national identity. Moreover, attitudes of individuals do not necessarily correspond to what is publicly or officially encouraged, and different -even opposing-attitudes can coexist within a society. Berry and Kalin (1995) recognise that Canadians endorse both multiculturalism and ethnocentrism, the latter understood as a more positive evaluation (attitude) of one's own culture over other ethnic groups. In summary, attitudes refer both to beliefs and behaviours that can be implicitly inherited, transferred, and encouraged, and that can differ at the private and public levels.

Different positive beliefs and attitudes towards cultural diversity have emerged in response to racial and ethnic inequalities and discrimination. For instance, in the United States the idea of offering everyone equal treatment regardless of racial or cultural background has been termed *color-blindness*, while in Europe a similar concept is *egalitarianism*. Both attitudes aim at deemphasise cultural differences and avoid stereotypes. Differently, *multiculturalism* stresses diversity between cultures, and recognise other perspectives as legitimate and enriching (Hachfeld et al., 2011). Both attitudes can be seen as favourable and inclusive, nevertheless, since egalitarianism (and color-blindness) disregard cultural differences, recognition and exchange between cultures are not encouraged. In contrast, multiculturalism addresses cultural differences and foster interethnic encounters (Hachfeld et al., 2011). Once more, this is in essence the old dilemma between equality (giving everyone the same) and equity (giving everyone what they need to succeed).

In the educational arena, Hachfeld and colleagues (2011) hypothesised that teachers who hold egalitarian beliefs will focus their efforts in treating children equally, emphasising similarities, and favouring a common curriculum; while professionals who hold multicultural

beliefs consider diversity as a resource, are sensitive to children different needs, and adapt their practices taking into account diverse cultural backgrounds (Hachfeld et al., 2011). Evidence on these claims are presented in section 1.4 of this chapter.

1.3.2. Multicultural Education

"In social conditions of unequal power relations between groups, classroom interactions are never neutral with respect to the messages communicated to students about the value of their language, culture, intellect, and imagination."

(Jim Cummins, 2001, p.650)

Educational environments can convey different messages about cultural diversity. Banks (2009) argues that schools usually replicate the cultural and economic stratification of society, which are reflected in textbooks, curriculum, materials, teachers' attitudes and expectations, and languages allowed and used in the educational organisation. Similarly, Cummins (1986/2001) already in the 1980s, acknowledged that societal power structures are directly relevant for analysing the power relations of the school culture. He affirms that there are patterns of identity devaluation that have affected minority background students for generations. Therefore, schools and professionals are key agents of change who could mediate the reproduction of these inequalities by advocating for the empowerment of CLD learners (Cummins, 1986/2001).

According to Banks (2009) multicultural education (MCE) arouse as a response to ethnic revitalisation movements in the 1960s. He defines it as "an approach to school reform designed to actualize educational equality for students form diverse racial, ethnic, cultural, social-class, and linguistic groups." (p.13). The main goal of MCE is to restructure educational organisations in order to provide equal opportunities for learning for all students. Additionally, MCE promotes the development of students' skills, knowledge, and attitudes required to participate as critical and reflective citizens in ethnically diverse contemporary societies (Banks, 2009).

In 1993 Banks, arguing that MCE had been misunderstood as the mere integration of ethnic content to curricular designs, developed a framework with five overlapping and interrelated dimensions of MCE (Banks, 1993, 2009):

(a) *Content integration* refers to the use of content, data, and examples from a variety of cultures in order to illustrate key concepts, principles, and theories in different subject

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areas. More opportunities for integrate ethnic and cultural content is acknowledge for the humanities and arts, yet teachers from scientific disciplines are encouraged undertake this endeavour as well.

(b)   *The knowledge construction process* describes activities that help pupils to develop awareness on how knowledge is built upon different cultural assumptions. It refers to strategies that encourage students to investigate, identify, and understand how knowledge is influenced by ethnic, cultural, and class perspectives and biases. The aim of this dimension is the development of critical thinking among students by acknowledging that researchers and theorists cannot separate their beliefs and values from the knowledge they create.

(c)   The *prejudice reduction* dimension describes strategies and interventions that promote the development of positive attitudes towards different racial and ethnic groups among students. It also aims at helping students understanding how the attitudes of the majority and the school context influence ethnic identity.

(d)   *An equity pedagogy* refers to the modification of teaching methods and techniques to allow children from diverse groups to improve their academic achievement. For example, teachers can implement cooperative learning, role-playing activities, simulations, and discovery for covering the whole range of students' learning styles.

(e)   *An empowering school culture and social structure[5]* implies the assessment and restructure of how the school is organised for promoting that minority background students experience educational equality and cultural empowerment. This means that educational leaders and professionals examine the school structure and culture, for instance, regarding grouping and labelling students, participation in extracurricular activities such as sports, achievement gaps, special education provision, staff's cultural composition, and the interactions between educators and students.

Banks' (1993, 2009) five dimensions of MCE can be considered a comprehensive framework for evaluating to what extent educators' practices with CLD learners implement the premises of MCE[6]. Nevertheless, this is not enough. Many of daily school exchanges are determined by educational professionals' attitudes. For instance, the implementation of the fifth dimension, *an empowering school culture*, requires that educational staff actually believe that minority background students are entitled to the same opportunities the mainstream have

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[5] Banks (2009) attributes the concept of empowerment to Cummins (1986).
[6] For instance, the five dimensions of Banks' (1993, 2009) MCE model were used in this research for constructing scales referred to multicultural policies and multicultural practices.

access to, and the willingness to make deep changes in daily school life. In order to understand these processes of adaption between cultural groups and institutions –and between individuals- Berry's (1993, 2016) framework of acculturation strategies will be reviewed in the following section.

1.3.3. Acculturation strategies

When individuals and groups from different cultures are in continuous direct contact, they experience subsequent changes in their original cultural patterns (Redfield, Linton, & Herskovits, 1936, as cited in Berry, 2016). This process is known as *acculturation*, which is in principle a neutral concept because both groups may experience modifications. Nevertheless, in practice often one group is induced to undergo more changes than the other due to power differences that define what we have come to call *mainstream* (dominant) and *minority* (non-dominant) groups (Berry, 1997). Factors influencing acculturation processes are: (a) how voluntary or forced is the acculturation situation, (b) if the person arrives to a new culture (e.g. immigrant) or a new culture has been brought to her (e.g. indigenous or "national minority"), and (c) if the situation is temporary or permanent (Berry, 1997).

According to Berry (1997) individuals and groups in multicultural societies undertake one of four acculturation strategies depending on the value they give to the preservation of their ethnic identity (i.e. *cultural maintenance*), and the extent to which they want to become involved with other cultural groups (i.e. *contact and participation*). This is under the theoretical assumption that people can choose how they wish to acculturate, although in reality there may be social constrains set by the dominant group. A review of this four acculturation strategies taking into account both voluntary and forced situations follows:

(a) *Assimilation* occurs when individuals do not wish to maintain their original culture and pursue frequent interaction with other cultures. The notion of *melting pot* is used when this option is freely undertaken, while the expression *pressure cooker* is employed when assimilation is imposed.

(b) *Integration* takes place when individuals have daily interactions with other cultures while maintaining her own cultural identity. This can only occur in explicitly *multicultural* societies where cultural diversity is valued, there are low levels of prejudice (i.e. low ethnocentrism, racism, and discrimination), and both by minority and majority groups experience a sense of belonging. In this case, a process of

mutual accommodation is undertaken where, for instance, the minority group adopts the mainstream values while the dominant group accept to adapt national institutions.

(c) *Separation* is experienced by individuals who wish to maintain their original culture while avoiding interaction with other cultures. Cultural maintenance can only occur when there are collective efforts from the ethnic group. When separation occurs involuntarily due to constrains imposed by the dominant group, it is referred as *segregation.*

(d) *Marginalisation* occurs when individuals avoid both cultural maintenance and relations with other cultures. It rarely occurs voluntarily and it is usually due to forced attempts of assimilation and segregation.

So far, this framework has been described for intergroup relations, but it may well be employed to analyse educational policies and programmes. For instance, Banks' (1993, 2009) five dimensions of MCE have a clear integrationist approach, which implies assessment of and changes in the school culture, and certainly in professionals' beliefs and attitudes. It is evident that policies do not always coincide with personal choices of acculturation. Berry (1997) warns that individuals may experience *acculturation stress* when policies are in conflict with their acculturation preferences. From a psychological perspective, the effects of acculturation processes on individuals' outcomes may be moderated by individual factors (i.e. age, gender, education, migration status, cultural distance, coping strategies, etc.), as well as by group-level factors (i.e. political context, economical situation, mainstream attitudes and ideologies, social support, etc.) (Berry, 1997).

Schools often are the primary acculturation milieu for immigrant children. Regardless of how inclusive school policies may be, personal exchanges can have a big impact on the psychological wellbeing of newly arrived and minority background children. An inclusive school environment, with positive teacher-student interactions, where expectations and encouragement are high, and peer are open to meet children from other cultures can be important sources of social support. Empirical findings related to immigrant students' psychological wellbeing and cognitive benefits of biculturalism, which is the outcome of integration, are presented in section 1.4.

1.3.4. Hypotheses on second language acquisition

Language is one of the most important expressions of cultural heritage. Several scholars have underlined the central role of the mother tongue for the development of minority students' identity (Berry, Phinney, Sam, & Vedder, 2006; Cummins, 2001). Incorporating students' home languages may facilitate integration and reduce acculturation stress. Additionally, the incorporation of CLD learners' home languages constitutes an important aspect of the implementation of two MCE dimensions, namely *equity pedagogy* and *empowering school culture.* Nevertheless, pupils and teachers with different linguistic background may face several challenges in daily life communication, and even more in the development of literacy skills, which are critical for academic achievement. Then, how are these skills better supported? How can educators effectively help CLD learners to acquire the mainstream language? School programmes and strategies will largely depend on educational leaders and professionals' assumptions regarding bi/multilingualism. Evidence-based decisions are vital for effectively support minority students.

As described earlier, beliefs are unproven deeply-held convictions. Apart from being interconnected with attitudes, beliefs have a complex relation with knowledge. When teachers strongly connect disciplinary knowledge and personal experiences, beliefs and knowledge can be closely intertwined (Ennis, 1994). Additionally, pedagogical knowledge could be outdated, based in obsolete theories and approaches.

In this section, I will review several hypothesis described by Jim Cummins (1979, 2001) which may be at the centre of some of the most common beliefs educators hold about bi/multilingualism, influencing the way they support CLD learners in the acquisition of a second language (L2). Worth to note, these hypotheses are provided only as possible explanations of educators' beliefs and practices regarding multilingualism. They are not offered for explaining how L2 can be better acquired, which is a discussion that is out of the scope of this research.

According to Cummins (1979, 2001) several postures have arisen regarding how to better accommodate linguistically diverse students. For instance, supporters of bilingual education in the United States in the 1970s argued that the mismatch between home and school languages should be addressed by means of first language (L1) instruction. Opponents to bilingual education claimed that it was unreasonable to aim at improvements in L2 learning by supporting L1. Cummins argued that both postures were based upon incorrect assumptions.

Linguistic mismatch hypothesis

One of the assumptions that stimulated the development of bilingual education was that the home/school linguistic mismatch had negative effects on academic outcomes (Downing, 1974; UNESCO, 1953, as cited in Cummins, 1979). It was argued that minority language students failed academically due to the switching of languages. Cummins (1979, 2001) offered evidence for the refutation of this hypothesis, arguing that different bilingual programmes, such as, *immersion* programmes (i.e. L2 for mainstreamers) and *submersion* programmes (i.e. L2 for minority students) involved language switching but had very dissimilar outcomes. This was due to the influence of sociocultural factors and could not be explained by pure linguistic causes. For instance, in immersion programmes all students had the same beginner status, were praised for their merits, and shared one of the languages with the teacher. The result was successful L2 acquisition. Conversely, in submersion programmes students had different levels of proficiency, and the lack of it was often seen as a lower academic ability. Students in these programmes often became frustrated due to the impossibility of communicating with the teacher who usually did not share any language with the linguistic minority children. According to the author minority students' home languages were seen as the cause of their academic problems, thus, they were not encouraged, disregarding important aspects of their identities. The outcome was difficulties in L2 acquisition and low academic achievement (Cummins, 1979, 2001). Another reason for rejecting this hypothesis, says Cummins (1979), is that numerous studies suggested that rather than of being source of cognitive confusion, bilingualism had a positive impact of cognitive and linguistic development (Cummins, 1976, 1978b, as cited in Cummins 1979). This statement is supported by recent evidence (see section 1.4).

Insufficient exposure hypothesis

Opponents to bilingual education affirmed that minority background students had lower achievement in L2 because they had been less exposed to that language than mainstream students. Consequently, school programmes had to compensate this deficiency by intensively exposing the child to L2. Again, home-languages were seen as the source of the problem and, consequently, never encouraged at school. This hypothesis was related to theories of cultural deprivation that see the child as lacking the appropriate resources for school success due to primary socialisations within homes that prevent them from developing the cognitive skills and cultural characteristics needed (Banks, 2009). However, Cummins (2001) refers to empirical evidence in which no associations and even negative associations

were found between the amount of L2 exposure and academic achievement (Baker & de Kanter, 1981; Cummins, 1983a, 1984; Skutnabb-Kangas, 1984, as cited in Cummins, 2001).

Developmental interdependence hypothesis

Cummins (1979, 2001) criticise both previously outlined hypotheses due to the unidimensionality of their causal explanations that do not account for the multiple factors intervening in minority students' school underachievement. Among them, the author (2001) emphasise the societal power structure that is permeated into the school through patterns of identity devaluation or disregard. Additionally, he refers to evidence that cultural mismatch may be mediating students' academic progress (Wong Fillmore, 1983, as cited in Cummins, 2001), and to the lack of school programmes' quality assessment.

Consequently, the developmental interdependence hypothesis (1979, 2001) proposes that the attainment of L2 is in part explained by the level of competence that the child has developed in L1 at the moment in which intensive exposure to L2 starts. This means that the extent to which a child's mother tongue has been developed before contact with the second language will impact on the proficiency the child develops in L2. Skills developed in L1 can, to some extent, be transferred to L2. This has important implications for teaching. If competence in the home language is stimulated, proficiency in the mainstream language may be highly benefited. However, Cummins (1979) is clear about the conditions that mediate this transference. This will occur only if certain sociocultural factors are present: "…to the extent that instruction through a minority language is effective in developing academic proficiency in the minority language, transfer of this proficiency to the majority language will occur, given adequate exposure and motivation to learn the majority language (Cummins, 1979, 1983a, 1984)." (Cummins, 2001, p. 659). Cummins clarifies that the basis for this ideas were first proposed by Toukomaa and Skutnabb-Kangas (1977, as cited in Cummins, 1979).

In sum, educators may or may not incorporate CLD learners' home languages in the school context. Yet, teaching practices by themselves do not offer information about the assumptions behind educators' decisions and attitudes. These hypotheses may aid to explain the underlying beliefs that sustain practices of linguistic support. While the insufficient exposure hypothesis motivates the exclusion of home languages from the school context, the linguistic mismatch and the developmental interdependence hypotheses imply their incorporation, although due to different reasons. In the former it is assumed that pupils cannot learn in a language they do not master and that L1 and L2 are negatively affecting each other.

In the latter, it is argued that the development of both languages is connected and that by stimulating competence in L1 it is possible to enhance proficiency in L2 as well.

1.4. Empirical evidence in support of theoretical frameworks

In this section diverse empirical findings will support the importance of implementing the dimensions of Bank's (2009) MCE framework. In addition, findings on the dynamics of acculturation processes (Berry, 1997), and on which beliefs and attitudes from mainstreamers have been found more favourable for the integration of minorities in general and of CLD learners in particular are presented. Furthermore, evidences on the benefits of incorporating home-languages into the school context will be reviewed.

Values, beliefs, attitudes, and behaviours have been operationalised by scholars as different construct, but they are empirical intertwined and it is impossible to observe them separately. Therefore, much of the evidence on attitudes here presented would be understood as referring to beliefs as well. As described earlier, beliefs are unproven deeply-held convictions and as such, often taken as knowledge by individuals.

1.4.1 Implicit mechanisms of inequality perpetuation

Although the principles of inclusive education and MCE aim at equal learning opportunities for all students regardless of background, their educational experiences may still differ in relation to their social and cultural upbringing. There is evidence that in the Norwegian context access to educational opportunities is fairly unbiased by socioeconomic status (Lauglo, 2009). Nevertheless, the achievement gap between immigrants and natives is still present (SSB, 2018). Therefore evidences provided in this section will refer to more implicit inequalities than socioeconomic ones.

Social and cultural inequalities experienced by minorities in the social context are permeated into the schools. The textbooks, curricular content, materials used, and attitudes of the educational staff convey messages of affirmation or disregard towards CLD learners identities (Banks, 2009; Cummins, 2001). According to Cummins (2001) sociological and anthropological research imply that power relations play an important role on minority students' school failure (Fishman, 1976; Ogbu, 1978; Paulston, 1980 as cited in Cummins, 2001). Additionally, there is international evidence that teachers' high expectations of students is a key factor for pupils' actual learning (OECD, 2017; NMER, 2007). Numerous

findings have indicated that educators' expectations on children from diverse cultural background are usually lower (for a meta-analysis see Tenenbaum & Ruck, 2007). This impacts on the way teachers handle students and affects them in the long term perpetuating inequalities (Cummins, 2001; Banks, 2009; Slot et al., 2017).

Low expectations are often based on beliefs related to cultural deprivation, which imply that student's achievement is responsibility of parents (e.g. DeCastro-Ambrosetti & Cho, 200; Sakka, 2010, as cited in Slot et al., 2017). Two types of low expectations, have been recognised as originating or maintaining inequalities: *self-fulfilling prophecies*, which are based on false ideas that evoke behaviours leading to low achievement; and *self-maintaining expectations*, based on real differences that perpetuate poor outcomes (Van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010, as cited in Slot et al., 2017). For instance, implicit prejudice has been found related to low expectations on students' achievement, and to low mathematic and reading skills (Van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010, as cited in Slot et al., 2017). Norwegian researches indicate that teachers have regularly lower expectations of minority background students (Øzerk 2003, as cited in NMER, 2007).

1.4.2. Acculturation stress and social support

Early stages of acculturation processes are often related to stress, while later stages are associated with psychological wellbeing (Berry, 1997). This may be mediated by mainstream attitudes and the level of social support received by the newly arrived individual (Berry, 1997). Schools are usually the primary acculturation environment for immigrant children and personal encounter may have an important impact on how they cope with acculturation stress.

A review by Kale and Hjelde (2017), indicated that immigrants to Norway, especially (un)accompanied refugee minors, are at risk of psychological distress and disorders. School stress and problems with peers was associated with emotional and behavioural difficulties, particularly on immigrant boys, who had lower social support from classmates (Alves et al. 2011; Noam et al. 2014; as cited in Kale & Hjelde, 2017). Perceived discrimination predicted anxiety and depression regardless of background, but victimisation among immigrant children was higher (Oppedal 2011; Fandrem et al., 2011, as cited in Kale & Hjelde 2017). On the other hand, the review found evidence that positive acculturation (i.e. acquiring competence in a new culture) and mental health are related to diverse sources of social support, such as family and friends.

Additionally, a review on multicultural identity processes at intrapersonal, interpersonal, and collective levels by Hong and colleagues (2016) revealed that biculturalism is more related to psychological and sociocultural adjustment than monoculturalism. Among the negative consequences of discrimination the authors found: hampered self-esteem, sense of belonging, motivation, depression, substance abuse, and decreased academic performance (Hong, Zhan, Morris, & Benet-Martínez, 2016).

All in all, life conditions, interventions over traumatic experiences, and social network were found to be important factors for improving psychological wellbeing among minority individuals in general, and specially for immigrant children (Kale & Hjelde 2017). The role of professionals on the development of inclusiveness and social support at school is crucial.

1.4.3. Attitudes towards cultural diversity

Professionals' beliefs about students significantly influence their educational practices, and student's learning outcomes (Pajares, 1992). Qualitative evidence suggests that cultural and linguistic integration produce several advantages in the socioemotional aspects of learning. By letting students draw from their cultural knowledge, feelings of pride on their own multicultural identity may arise, promoting their self-esteem and self-confidence (Kenner et al. 2008; Sneddon 2009; Cable 2009 as cited in Frederickson & Cline, 2015).

A literature review conducted in 2017 by the core-team of ISOTIS' work package 5[7] indicates that findings regarding professionals' attitudes towards cultural diversity are mixed. There are positive, neutral, and negative attitudes among educators (Slot et al., 2017). Among allegedly favourable attitudes towards diversity, studies have found two main attitudes or ideologies: *egalitarianism* (or color-blindness) and *multiculturalism* (Hachfeld et al., 2011, 2015). Apparently both attitudes aim at equality, yet, numerous studies have shown they have different implications for intergroup relations. For instance, multiculturalism predict lower racial bias than colour-blindness (e.g. Richeson & Nussbaum, 2004; Plaut, Thomas, & Goren, 2009). Additionally, the former promotes interethnic exchanges while egalitarianism prevents them (Vorauer et al., 2009). Furthermore, acceptance of differences between individuals (Wolsko et al., 2000) have been found associated to multiculturalism.

Applied to educational research, evidence show that teachers who hold multicultural beliefs reported lower endorsement of stereotypes, a higher motivation to control prejudices,

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[7] ISOTIS WP5: Development of professionals and organizations. Core-team: Pauline Slot, Bodine Romijn (Universiteit Utrecht), and Bénédicte Halba (Institut de Recherche et d'Information sur le Volontaria – IRIV)

more integrative views on acculturation, and more willingness to adapt their lessons, than the ones who hold egalitarian beliefs (Hachfeld et al., 2011, 2015). Additionally, multiculturalism was found negatively associated with authoritarianism (Hachfeld et al., 2011)

Additionally, teachers from mainstream cultural background tend to endorse colour-blind beliefs (e.g. Van Tratwijk, Den Brok, Veldman & Wubbels, 2009) but both types of beliefs could be balanced among teachers as well (Hachfeld et al., 2015). Markus and the Steeles (2000) explain that ignoring ethnic differences (i.e. colour-blindness) is indeed a barrier to inclusion because it obstructs the recognition of societal dynamics of inequality. Likewise, Hong and colleagues' (2016) review revealed that not only identity-based discrimination jeopardise the mental health and performance of multicultural individuals, but denial of identity does it as well. On the whole, multicultural attitudes have been found to be more beneficial than egalitarian attitudes for the integration of CLD learners.

1.4.4. Attitudes towards linguistic diversity

The development of cultural identity is strongly linked to the mastery of the mother tongue (Berry, Phinney, Sam, & Vedder, 2006; Cummins, 2001). Abundant evidence has shown that supporting heritage language (and culture) is related to mental health, wellbeing, school achievement (Berry, Phinney, Sam, & Vedder, 2006), and literacy in a second language (e.g. Cummins, 2001; Cummins, Mirza, & Stille, 2012, as cited in Slot et al., 2017). Similarly, a study in Oslo revealed that multilingual identity positively influence the socio-psychological development of children (Svendsen, 2006, as cited in Tosic).

According to Slot and colleagues (2017), international evidence on attitudes towards linguistic diversity show an overall tendency of an assimilationist approach by supporting children's development of the mainstream language (e.g. Blom, 2015; Saka, 2010, as cited in Slot et al., 2017), overlooking the aforementioned benefits of first language learning. Some studies have shown that the encouragement of the majority language often comes from schools' policies (e.g. Vetter, 2013, as cited in Slot et al., 2017), whereas teachers acknowledge that incorporating home-languages may have benefits for self-esteem and learning of a second language (Slot et al., 2017).

In Norway, policies support the integration of minority students to regular classes provided in Norwegian language. In fact, only a small share of student who receive some kind of language support have either bilingual or mother tongue education (22.6%), while the majority (about 78%) receive additional training in Norwegian (SSB, 2018). Although educational

policies in Norway embrace multiculturalism, regarding language education there seems to be a more assimilationist approach. According to Aasen (2012), good competence in Norwegian is necessary to benefit from teaching, for mastering the challenges of a profession, for participating in social contexts, and to be accepted as a Norwegian citizen.

Professionals' beliefs on linguistic support are not only relevant for understanding their endorsement of policies and relations to practices, but they might shed light about the general encouragement of certain acculturation processes.

1.4.5. Classroom interactions

Interpersonal teacher-student relations have a great impact on the socioemotional components of learning. In the 2015 PISA report on student's well-being, perceived negative relationships with teachers was reported as a source of stress and a threat on pupils' sense of belonging (OCDE, 2017).

According to Slot's et al. (2017) review, professionals modify their behaviours when dealing with minority children. A meta-analysis from the US showed that teachers provided less positive speech to minority children (Ruck, 2007, as cited in Slot et al., 2017). Additionally, other research has indicated that educators focus more on classroom management when dealing with diversity (e.g. den Brok & Levy, 2005, as cited in Slot et al., 2017). Furthermore, Dutch teachers reported engaging in a more dominant but caring interpersonal style with immigrant background students (den Brok, Tartwijk, Wubbels, & Veldman, 2010, as cited in Slot et al., 2017).

Accommodating cultural diversity from a multicultural stance, requires a review of one's own cultural biases, openness to changes, and to new perspectives (i.e. intercultural competence). Individuals who embrace multiculturalism are less oriented towards social dominance, exhibit more appreciation of diversity, and comfort with differences (Rosenthal & Levy, 2012, as cited in Hong et al. 2016). Contrary, social-psychological research in the U.S. has evidenced that authoritarianism is associated with opposition to societal change and progress (Jost, Glaser, Kruglanski, & Sulloway, 2003; as cited in Hachfeld 2011).

Additionally, Bartholomew and colleagues' (2017) longitudinal studies have shed light on the negative impact of authoritarian teachers on students' motivation. While controlling teachers use intimidation and elicit negative feelings and behaviours, supportive teachers who encourage autonomy create more supportive environments (Soenens & Vansteenkiste, 2010; Reeve, 2009; as cited in Bartholomew et al, 2017). Moreover, high

teacher authoritarianism was negatively associated with pedagogical conflict solving, and more related to ethnic prejudices (Petzel, et al., 1997; Zick & Six, 1997, as cited in Hachfeld 2011).

1.4.6. Intercultural competence

Professionals dealing with CLD learners must be sensitive to the main features of children's cultures, and are aware of their own cultural values and biases, opened to experience a process of restructuring attitudes and beliefs (Causey et al. 2000, as cited in Frederickson & Cline, 2015). Yet, professionals have reported not feeling competent to deal with multiculturalism and multilingualism and that they need further training (e.g. DeCastro-Ambrosetti & Cho, 2005; Michel & Kuiken, 2014; as cited in Slot et al., 2017). In the Norwegian context, as well, there is evidence that teachers feel ill prepared to deal with diversity (NMER, 2007).

Lack of intercultural competence may lead to misidentification and overrepresentation of special educational needs. Several authors have warned about this issue either related to what professionals believe to identify as language impairments (Cummins, 2001; NEA, 2008) or to what they associate with behavioural problems, but is most probably caused by the discrepancies between school and home behavioural conventions (Frederickson & Cline, 2015).

1.4.7. Factors influencing professionals' attitudes

Diverse factors influence professionals' belief, attitudes, and practices. Personal characteristics, such as gender, cultural background, and educational level have shown mixed findings (Slot et al., 2017). Additionally, both pre-service an in-service training on multicultural or multilingual education have been found consistently effective (e.g. Flores & Smith, 2009, as cited in Slot et al., 2017).

Features of the classroom, school or context can influence professionals' attitudes as well. For instance, exposure to different cultures is related to positive approaches (DeCastro-Ambrosetti & Cho, 2005, as cited in Slot et al., 2017), while lack of exposure is associated insecurity and fear of conflict (e.g. Youngs & Youngs, 2001, as cited in Slot et al., 2017). Yet, cultural awareness -as a matter of knowledge, not of beliefs- does not always turned into quality practices (Sakka, 2010, as cited in Slot et al., 2017)

Another factor influencing professionals' attitudes is the presence of educational leaders who foster a common view on cultural diversity among teams (Mannix & Neale, 2005, as cited

in Slot et al., 2017). Their attitudes are relevant for the whole school culture since leaders often define the meaning of situations and make decisions regarding the frequency and type of in-service training professionals access (Heikka & Waniganayake, 2011; Philpott, Furey, & Penney, 2010; Schachner et al., 2016, as cited in Slot et al., 2017). In fact, there is evidence that leaders devoted to cultural inclusiveness and social justice can stimulate positive changes within organisations (Riehl, 2000, as cited in Slot et al., 2017). In this study, managers' beliefs and practices have measured and compared to the ones of professionals (i.e. teachers, social workers, and specialists.

On the whole, the most relevant findings taken as points of departure for this research were: (a) professionals' lower expectations of minority students' elicit the production and perpetuation of educational inequalities, (b) multiculturalism and multilingualism elicit better outcomes for mental health and performance, (c) professional leaders are highly relevant for the development of inclusive school cultures. Consequently, studying the beliefs and practices of professionals and educational leaders is crucial for the promotion and implementation of multicultural policies and inclusion.

1.5. Statement of the Problem

Regardless the embracement of multiculturalism in Norway's educational policies and the efforts for supporting minority background students academically, there are still big challenges for the implementation of educational equity and inclusiveness, as evidenced by the persistence of achievement gaps and the prevalence of mental health issues among the immigrant population. A vast body of research from different fields has pointed to the impact educators' attitudes towards cultural diversity may have on children's psychological and academic outcomes. This has been regarded by some scholars as the key for the reproduction of societal inequalities within schools (Banks, 2006), and as the opportunity educators' have for changing them (Cummins, 2001).

Research on attitudes and behaviours is complex. Numerous personal, contextual, and interactional factors overlap, and often findings are mixed or inconsistent. These conditions stress the need to further study the links between professionals' cultural and linguistic beliefs and their practices with culturally and linguistically diverse (CLD) learners in the context of multicultural education, which is what I will address in this study.

1.5.1. Goal and objectives

The overarching goal of this study was to analyse the relations between educators' beliefs and attitudes on cultural and linguistic diversity and their educational practices and behaviours when working with culturally and linguistically diverse (CLD) learners in primary school level in Norway. In this research, *educators* comprised professionals working directly with children (i.e. teachers, specialists, and social workers), as well as managers within formal education and after-school activities. *Educational practices* referred to the ways educators implement policies and lessons in order to recognise cultural diversity and promote inclusion. *Behaviours* were defined as expressions of attitudes and referred to the types and levels of support provided to children's acculturation processes and second-language acquisition. *CLD learners* encompassed immigrant students and pupils from internal minorities.

In order to achieve the aforementioned goal, this research was guided by three objectives:

1) Identifying and characterising the associations between educators' multicultural beliefs and their practices for diversity recognition and inclusion of CLD learners.
2) Identifying and characterising the associations between educators' multicultural beliefs and the types of support they provide to CLD learners' acculturation process.
3) Identifying and characterising the associations between educators' multilingual beliefs and the types of support they provide to CLD learners' second-language acquisition.

1.5.2. Research Questions

In order to achieve the above objectives this study was guided by the following research question:

How are educators' beliefs on cultural and linguistic diversity associated with their practices with CLD learners in Norway's primary schools?

Three sub-questions arose from this main inquiry:

i. *What are the associations between educators' multicultural beliefs and the way they plan and implement policies and lessons for the recognition and inclusion of children with diverse cultural backgrounds?*
ii. *What are the associations between educators' multicultural beliefs and the support they deliver to minority children's acculturation processes?*

iii. What are the associations between multilingual beliefs and the support educators provide to minority children's second-language acquisition?

1.5.3. Research Hypotheses

Each aforementioned question and the review of theory and empirical evidence have been used for formulating three main hypotheses:

H1: *Educators who hold strong multicultural beliefs adapt their practices in order to accommodate cultural diversity in the classroom or school, they incorporate children's cultural background in their lessons, plan activities for enhancing children's cultural awareness, make efforts to communicate with minority parents, and implement policies of cultural recognition.* Therefore, a **positive association** between multicultural beliefs and multicultural practices was expected.

H2: *Educators who hold strong multicultural beliefs direct their efforts towards an acculturation process of integration by supporting the development of a multicultural identities among minority children. Meanwhile, educators who present weaker multicultural beliefs encourage the maintenance of cultural roots.*
Consequently, a **positive association** between multicultural beliefs and multicultural identity support was expected, while the association of multicultural beliefs with the support of ethnic identities was predicted as **negative**.

H3: *Educators' who hold strong multilingual beliefs incorporate minority children's home-languages, while those with weaker multilingual beliefs tend to emphasise the mainstream language.*
Thus, a **positive association** between multilingual beliefs and home-language incorporation was expected, while the association of multilingual beliefs with the encouragement of the Norwegian language was predicted as **negative**.

1.6. Significance of the Study

The study of professionals' attitudes on cultural and linguistic diversity may contribute to the identification of implicit mechanisms that perpetuate educational inequalities faced by minority background children in Norway. Since the aim of this research was to analyse the

relations between beliefs and practices, one of its major concerns was the recognition and characterisation of barriers for the implementation of MCE education and inclusion.

Identifying trends in professionals' attitudes could provide a picture about the extent to which primary school professionals endorse multicultural policies in Norway. This could inform decision-making regarding types of training professionals may benefit from. Additionally, detecting inconsistencies between beliefs and practices (e.g. strong multicultural beliefs, and low multicultural practices) may signal the way for further research to consider factors or methodologies excluded from this study.

1.7. Operational definitions

The following operationalisation of concepts will clarify how the constructs *beliefs* and *practice* were measured in this study. A more comprehensive explanation of some of these constructs can be found in section 1.3 of this chapter. Additionally, other definitions have been synthesised in order to distinguish terms used throughout this research.

Belief: unproven deeply-held convictions usually arose from experience (Alexander & Dochy, 1995). Acceptance of the veracity of something, particularly in the absence of empirical proof (APA, 2018).

Attitude: relatively stable overall evaluation of an object, person, or group ranging from negative to positive. Attitudes are assumed to be derived from specific beliefs, emotions, and past experiences (APA, 2018). "The readiness of the psyche to act or react in a certain way" (Jung, 1971, p.451).

Immigrant children: foreign –born children (first generation) or children born in the host country from foreign–born parents (second generation). Children who, to some extent, have inherited a cultural background that differs from the mainstream culture.

Minority group: a group of individuals that coexists with but is subordinate to a more dominant group. The term minority refers to this condition of disadvantage and not to population.

Culturally and linguistically diverse (CLD) learner: a learner whose culture differs from the mainstream culture in terms of ethnicity, social class, and or language. The term encompasses students with immigrant backgrounds and from internal minorities.

Cultural awareness: the knowledge, attitudes, and skills for functioning in a culturally diverse world (EU, as cited in Slot et al., 2017)

Intercultural competence: the ability to understand one another across and beyond all types of cultural barriers" (Slot et al., 2017, p.11). Its components are: (a) *Attitudes* of diversity appreciation, pluralism, and willingness to learn from people from a different background. (b) *Knowledge* and understanding of the internal diversity, processes, values and practices of cultural groups. (c) *Skills,* such as multiperspectivity, empathy, cognitive flexibility, and mediation abilities (Huber & Reynolds, 2014, as cited in Slot et al., 2017).

Multicultural beliefs: convictions that cultural diversity is valuable, must be respected, understood, and embraced in the educational context. Variable measured by professionals' professionals' level of agreement statements expressing how cultural diversity should be introduced to children.

Multilingual beliefs: convictions that linguistic diversity is valuable, must be acknowledge, and embraced in the educational context. Variable measured by professionals' level of agreement with statements expressing positive (negative items reversed) attitudes towards the incorporation of minority students' languages.

Multicultural practices: educational practices of cultural diversity embracement through cultural and linguistic incorporation, curriculum adaption, materials, and inclusive environment. Variable measured by professionals' self-reported frequency in which they engage in these types of practices with individual students and with the whole group.

Acculturation support: assistance professionals provide to the process of identity development of culturally and linguistically diverse learners. According to Berry (1997) there are four acculturation strategies ranging from exclusive adoption of mainstream culture (assimilation), to the maintenance of cultural roots (separation/segregation). A combination of both (integration), or the identification with none (maginalisation) are the other two strategies. In this study, only integration approaches were measured by means of two non-exclusive variables described below.

Multicultural identity support: type of acculturation assistance in which professionals encourage CLD learners to embrace the mainstream culture and to maintain their cultural heritage simultaneously. Variable measured by professionals' self-reported responses to a hypothetical situation with individual students and the whole group.

Cultural roots support: type of acculturation assistance in which professionals emphasise the maintenance of students' cultural heritage without denial of identification with mainstream culture. Variable measured by professionals' self-reported responses to a hypothetical situation with individual students and the whole group.

Linguistic support: assistance professionals provide to students' processes of second language (L2) acquisition. According to Cummins (2001), educators choose to incorporate minority pupils' languages or emphasise the mainstream language. In this study, both types of support were measured as two exclusive variables as described below.

Home-language incorporation: type of linguistic support in which professionals acknowledge and incorporate minority students' languages. Variable measured by professionals' self-reported responses to a hypothetical situation.

Norwegian prompt: type of linguistic support in which professionals encourage the exclusive use of mainstream language. Variable measured by professionals' self-reported responses to a hypothetical situation.

CHAPTER 2: RESEARCH METHODOLOGY

This chapter will present the methodology used to investigate the associations between cultural diversity beliefs and practices of primary school educators in Norway. It will provide detailed information about the research design and methods employed, the characteristics of the sample and the instrument of data collection, procedures undertook to ensure validity and reliability, and ethical considerations of the study.

2.1. Research Approach

In this study, specific theories have been used as structures for developing hypotheses about relations between variables, and a deductive style of enquiry was followed in order to empirically test them. Since investigating the degree and direction of associations between variables requires measurement, analyses, and interpretations performed through statistical procedures, the methodological approach of this research is inherently quantitative (Creswell, 2013).

According to Kuhn (1962, as cited in Chalmers, 1999), a paradigm is built upon general theoretical assumptions and laws that "…[set] the standards for legitimate work within the science it governs" (Chalmers, 1999, p.101). This research was developed within the standards set by postpositivism, which challenges the notion of absolute truth by assuming that knowledge is conjectural and antifoundational, and by recognising that evidence as fallible and influenced by the researcher background (Phillips and Burbules, 2000, as cited in Creswell, 2013). Consequently, objectivity is pursued by acknowledging the possible effects of biases and applying procedures for addressing them.

2.2 Research Design

This research was designed as a *cross-sectional* study, because it is concerned with information collected at a single point of time without follow-up of participants' developments or changes in time, as opposed to longitudinal studies (Field, 2009). Indeed, survey data used in this investigation was collected in 2018 by the WP2 team from the University College of Southeast Norway (HSN) within the EU-funded (H2020) project ISOTIS (Inclusive Education and Social Support to Tackle Inequalities in Society).

Survey, as a research strategy, involves collecting information about the same characteristics (variables) from a large number of cases (sample) which allows comparison among cases, and generalisability of findings to a representative population (Creswell, 2014;

Gall et al, 2007). This is based on the assumption that variables can be categorised, measured, grouped, organised, and/or associated. In fact, since the main concern in this study was to find relations among observed variables, it constitutes a *correlational* study.

2.3 Research Methods

Types of analysis and interpretation were primarily determined by the research questions. Since they implicated relations among independent and dependent variables, both descriptive and inferential analyses were needed. Bivariate and multivariate analyses in the form of correlation and linear regression were employed to model these associations. Other aspects, such as the characteristics of the instrument, and sample size and structure of data required several types of tests and procedures for improving accuracy of the models. All the analyses were performed on SPSS-IBM version 25 software.

The methods used in this study were divided in the following stages:

1) Exploration of sample and instrument
2) Scale construction
3) Data issues and analyses of biases
4) Preliminary and main analyses

2.4 Participants

In this section, the original sampling strategy and challenges in data collection process will be described. Additionally, a presentation of participants' main characteristics will follow.

2.4.1. Sampling strategy and data collection[8]

The data used in this study was collected in the form of an online questionnaire in 2018 by a research team from the USN within the project ISOTIS, which aims to combat educational inequalities faced by culturally and linguistically diverse families in Europe (http://www.isotis.org/). Hence, the questionnaire was designed to allow comparison among countries and its target-populations included educational staff, parents, and students at different educational levels. The present study analysed data only from elementary school staff in Norway.

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[8] This information was provided by a USN PhD candidate involved in the data collection process.

The original sampling strategy in Norway was designed as multistage structure in which organisations and participants would be selected according to specific criteria. Kindergartens and schools should present a high level of diversity among children, and both urban and rural areas must be included. Both conditions were successfully achieved through the collection process.

Regarding participants, both managers and professionals (i.e. teachers, specialists and social workers) should be included. The design established a minimum of five respondents per school, with a specific focus on professionals and expecting participation of some managers. Collecting data was a challenging process. Initially, schools were contacted through email with a link to the electronic questionnaire on LimeSurvey. Follow up phone calls on an early stage encouraging schools to participate, and later prompting professionals to finish the survey, were crucial. This improved the recruitment process, although the multistage structure was not accomplished.

2.4.2. Sample characteristics

Table 2.1 summarises main features of the sample by type of professional. Regardless the aforementioned challenges in data collection, professionals were more than twice as many as the managers. The former, who worked directly with children and families, comprised preponderantly teachers (67.5%), with fewer specialists (22.5%), and social workers (10%).

Regarding cultural background, the majority of the participants had Norwegian nationality and exploration of other variables, such as home-language, and parents' country of birth, confirmed this homogeneity. Females were the largest group, and the mean age for the whole sample was 44 years of age.

Concerning educational level, 80% of respondents had higher education, from which 42% completed teacher training, and 7% had a master's degree. Regarding to type of setting,

Table 2.1.

Sample characteristics by type of professional

Type of professional	*n*	Sex		Age (years)	Nationality		Educational level		Type of setting	
		Females	Males		Norwegian	Other	Secondary or lower	Higher Education	Formal	After-school care
Professionals	42 (68.9%)	28 (78%)	8 (22%)	43.33	36 (97.3%)	1 (2.7%)	8 (21.6%)	29 (78.4%)	34 (81%)	8 (19%)
Managers	19 (31.1%)	6 (67%)	3 (33%)	47.22	8 (88.9%)	1 (11.1%)	1 (12.5%)	7 (87.5%)	11 (57.9%)	8 (42.1%)
Total	61 (100%)	34 (76%)	11 (24%)	44.31	44 (95.7%)	2 (4.3%)	9 (20%)	36 (80%)	45 (73.8%)	16 (26.2)

Note. Response rate: Sex = 73.8%, Age = 59%, Nationality = 75.4%, Educational level = 73.8%, Type of setting = 100%

the majority were employed within formal education, but an important proportion of managers (42.1%) worked on after-school activities. Additionally, concerning to work experience, both groups had means near 20 years of practise within the fields of education, childcare or family services.

2.5. Instrument of the study

The original instrument was an online self-administered questionnaire via LimeSurvey, initially constructed in English by the core-team of ISOTIS WP5 (Slot, Romijn, Cadima, Nata, & Wysłowska, 2018) and later translated into Norwegian Bokmål by national partners. It contained 88 questions relating to staff's beliefs on, and practices with culturally, linguistically, and socio-economically diverse students and families. Additionally, the questionnaire targeted perceptions on professional development, organisational climate, support-needs, and inter-agency collaboration, among others.

The original instrument was, in fact, two different not entirely overlapping questionnaires, directed to each type of professional (i.e. managers and professionals). Most of the questions selected for this study were directed to all participants. However, two questions targeted one of each group: *Q012. Diversity policy in the organisation* for managers only ($n = 19$), and *Q021: Multicultural practices* for professionals only ($n = 35$ from a total of 42).

Seven scales from the questionnaire were preselected to inform this study (see Appendix B), each containing between four and twelve items, aggregating a total of 52 items. Most of them were stated as close-ended questions or statements, for which participants should express a degree of agreement, importance, frequency, etc. through a Likert scale type of response (e.g. Q011A. "What proportion of children in your organisation is from another cultural background than Norwegian" 5-point Likert scale; proportions: Almost none – Almost all).

Worth noting, while these types of psychometric scales have made possible to quantify attitudinal data in social and psychological research, it is important to acknowledge that this kind of variables are in essence categorical (i.e. ordinal), and yet, for analytical purposes usually treated as continuous (i.e. interval). Awareness on this issue requires cautious procedures and interpretations (Bishop & Herron, 2015). For instance, during the course of this research, non-parametric analyses were sometimes used complementarily to parametric ones in order to enhance validity.

2.5.1 Scale construction

Original scales were designed to measure constructs broader than the scope of this research. For instance, *diversity beliefs* may refer not only to cultural background, but include socioeconomic status and language. In addition, preselected scales aggregated a substantial amount of items that would not be easily analysed. Therefore, there were conceptual and methodological reasons for the construction of new scales that could, first, reliably inform research questions and, second, integrate the amount of data into fewer variables.

As the study included established scales, I used principal component analysis (PCA) to examine the dimensionality of the scales, based on the theoretical constructs measured, and the statistical appropriateness of the items included in each scale. The goal of PCA is to reduce the amount of data through combinations of variables that retain as much information as possible (Fabrigar, Wegener, MacCallum, & Strahan, 1999). This statistical procedure allowed me to identify main underlying components within previously designed scales. The identification of underlying components was in all cases seen in light of the theoretical construct measured by the component, which makes the scale construction a balancing between the theoretical content of the construct, and the empirical evidence in the PCA (Fabrigar et al., 1999).

When performing PCA, measured variables are considered as linear composites of underlying components. The first component identified will account for as much variability in the data as possible, and each succeeding component found will explain for as much of the remaining variability as possible. This is done through a rotation of the axes of the original coordinate system, in which each new axe (component) will be orthogonal (uncorrelated) or oblique (correlated) to the previous one (Field, 2009; Brown, 2009).

In these PCA analyses, direct Oblimin (oblique) rotation was employed, allowing correlations among components. Additionally, cautious observation of correlation matrices and scree plots enabled me to make an informed selection of items (Brown, 2009).

Whenever correlations were found and the scree plot showed one main component, only one scale was constructed by reversing scores of items with negative factor loadings and dismissing items with low loadings. Conversely, whenever the scree plot and component matrix indicated more than one main component, and correlations were not found, items were not rescored and two scales were constructed.

Internal consistency of each new scale was tested using coefficient alpha, which is an index of reliability that can be used in cross-sectional studies since it does not require retest

(John & Benet-Martinez, 2000). Afterwards, scales were computed into single mean variables.

Table 2.2 summarises psychometric properties of the major variables of this study. The first four variables informed the independent variable *beliefs*, while the rest provided information about the independent variable *practices*.

Table 2.2

Descriptive Statistics and Psychometric Properties of Major Variables

	n	*M*	*SD*	N° of Items	α	Range Potential	Range Actual	Skew	Kurtosis
Beliefs									
Perceived level of students' diversity	60	2.98	0.74	2	.93	1.00 - 5.00	2.00 - 5.00	0.73	0.46
Value of multicultural policies	19[a]	4.01	0.51	4	.65	1.00 - 5.00	3.00 - 4.50	-1.13	-0.09
Multicultural beliefs	58	4.71	0.42	5	.76	1.00 - 5.00	3.20 - 5.00	-2.26	5.22
Multilingual beliefs	55	2.73	0.89	7	.78	1.00 - 5.00	1.00 - 4.57	-0.14	-0.76
Practices									
Multicultural practices	35[b]	3.62	0.52	11	.72	1.00 - 5.00	2.64 - 4.91	0.28	-0.13
Norwegian prompt	52	2.52	0.86	3	.73	1.00 - 4.00	1.00 - 4.00	0.08	-0.96
Home-language integration	52	2.42	0.66	4	.60	1.00 - 4.00	1.00 - 4.00	-0.22	0.28
Multicultural identity support	48	3.19	0.61	3	.61	1.00 - 4.00	1.00 - 4.00	-0.96	2.05
Cultural roots support	43	2.40	0.66	3	.55	1.00 - 4.00	1.00 - 3.67	-0.29	-0.58

Note. Statistics from data prior imputation. $N = 61$
[a]. Managers only ($n = 19$). [b]. Professionals only ($n = 35$ out of 42).

Perceived level of student's diversity was constructed from *Q011: Level of diversity in the organisation* with an excellent reliability by choosing only items related to cultural and linguistic diversity and dismissing others about socioeconomic status. Additionally, *value of multicultural policies* was built from *Q012: Diversity policy in the organisation*, which was directed only to managers for measuring how important they considered policies on diversity. In this case, only four out of six items were found to be reliable. Both variables were thought as possible covariates for modelling regression.

Multicultural beliefs was built upon *Q013: Diversity beliefs*, which included items expressing different types of attitudes towards diversity as seen in chapter one (e.g. multiculturalism and egalitarianism). It was found that only multicultural beliefs was reliably measured in this sample. Furthermore, *multicultural practices* was one of the most reliable variables computed, preserving 11 of the 13 items from *Q021* (homonymous), which was directed to professionals only, who aggregated a total of 42 participants, from which only 35 responded Q021. Both computed variables were considered to reliably inform research question i.

Multilingual beliefs stemmed from *Q014* (homonymous), in which four statements expressed agreement with the inclusion of diverse languages and three in favour of encouraging more Norwegian. These items were found to have negative loadings and were rescored for composing one main scale for measuring multilingualism only, as the scree plot indicated just one main component. This scale was considered to adequately inform the independent variable *multilingual beliefs* in research question iii.

Norwegian prompt and *home-language integration* were scales originated from *Q022: Vignette 1*, and were thought as two different and exclusive types of *language support* educators may engage in when dealing with situations of bilingualism as pictured by the vignette. As explained in chapter one, concerning language integration, educators' may or may not integrate students' home-languages depending on their beliefs on bilingualism. Therefore, these variables were considered to soundly address the dependent variables of research question iii.

Variables *multicultural identity support* and *cultural roots support* were built upon *Q028: Vignette 3*, as different but conceptually non-exclusive types of acculturation-support educators may provide for the process of identity formation of minority children. Each one of these forms of support had a different focus. Hence, these variables where thought to satisfactorily inform research question ii.

2.6. Analyses and methodological considerations

In this section, considerations and methods undertaken to increase validity and reliability of the study, will be reviewed. In general terms, *reliability* indicates how consistent and reproducible the instrument or procedure is across situations, while *validity*[9] refers to how accurately an instrument, construct, or conclusion represents what it is supposed to account for (Field, 2009).

2.6.1. Validity and reliability of scale construction

At each stage of this study, there were different types of validity and reliability worth to consider. Two of the most significant for scale construction were *criterion validity* and *content validity*. The former refers to the degree in which scores from an instrument match with external measures conceptually linked to the measured construct; the latter indicates that

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[9] Estimations of external validity is addressed in several sections of this chapter, as well as in chapters three (results for each research question), and four (Limitations of the study).

an instrument thoroughly represent the full content range of the construct it intends to measure (Field, 2009). Hence, the attribution of constructs to principal components and the selection of items for scale construction, required special attention both to theoretical arguments and results from the PCA.

Regarding reliability, it was important to keep in mind that in contrast to representational measurements, the psychometric approach do not provide *internal consistency* checks through empirical evidence. Instead, it depends on aggregate patterns of data because individual measures are highly susceptible to error. Consistency is achieved when scale items present a sound level of content homogeneity and content saturation (John & Benet-Martínez, 2000). Since in this research, retest and parallel forms were not available options, internal consistency of constructed scales was tested through Cronbach's alpha, which performs a mean of all split-half methods (John & Benet-Martinez, 2000).

2.6.2 Data issues and external validity

Data issues, such as missing data and the presence of extreme values can bias results and interpretations, which threats validity and reliability (Field, 2009). Therefore, mean variables were explored to detect outliers, which were *winsorised*, this is, rescored to the higher or lower value within whiskers (i.e. Q1-1.5*IQR, Q3+1.5*IQR)

Missing data is threat to external validity, namely the level of generalisability of findings from a sample to a population (Gall et al., 2007). "[M]issing data can have a detrimental effect on the legitimacy of the inferences drawn by statistical tests." (APA, 2010, p.33). Since in this study, the total sample was limited, analysing and handling missing data was imperative.

As a rule of thumb, missing data is considered an issue when it is higher than 5% (van Buuren, S., 2018). Analysis of missing values (i.e. MVA) indicated that 88.9% of the variables, 36% of the cases, and 13.6% of the values included in this study were affected by missing data. Table 2.3., presents percentages of missing data in mean variables computed after scale construction. Variables targeting only one group of participants (i.e. professionals or managers) were not included since they distorted the analysis and imputation was not needed in these variables.

Table 2.3 shows that some computed variables presented more than 20% of missing data, and that this increased as the questionnaire advanced, most probably because of participants' non-response. This issue was present across groups and affected dependent

variables more strongly than predictors as they appeared later in the questionnaire. Visual analysis of missing values revealed a monotone pattern with missing data clustering to the right-lower corner of the chart, which confirmed the participants' non-responses.

Table 2.3

Percentages of missing data in major variables by Type of professional and Type of setting

	Type of professional		Type of setting		
	Professional	Manager	Formal Education	After-school care	Total
Type of professional (Q009)	0	0	0	0	0
Type of setting (Q010)	0	0	0	0	0
Perceived level of students' diversity (Q011)	2.4	0.0	2.2	0.0	1.6
Multicultural beliefs (Q013)	4.8	5.3	2.2	12.5	4.9
Multilingual beliefs (Q014)	9.5	10.5	8.9	12.5	9.8
Norwegian prompt (Q022)	14.3	15.8	15.6	12.5	14.8
Home-language integration (Q022)	14.3	15.8	15.6	12.5	14.8
Multicultural identity support (Q028)	11.9	42.1	20.0	25.0	21.3
Sex (Q073)	14.3	52.6	22.2	37.5	26.2
Cultural roots support (Q028)	19.0	52.6	28.9	31.3	29.5
Mean missing data	9.0	19.5	11.6	14.4	12.3

Note. Missing data analysis performed after scale construction on computed mean variables. *N*= 61. Questions directed to only one group of participants were not included (i.e. Q012 & Q021).

Regarding the mechanism of missing data, Little's MCAR test indicated that data was most probably missing completely at random (*p* = .428), which means it was not related to any observed variable (i.e. MAR), or to the variable of the missing value itself (MNAR) (van Buuren, S., 2018). Nevertheless, as indicated in Table 2.3. percentages of missing values were higher in two interrelated groups: managers and after-school care settings (from which 42% of managers came from). Although, this was not statistically significant for Litte's test, it was taken into consideration for how to handle missing data.

Complete case analysis (i.e. using only cases with full datasets) was not an option for addressing missing data due to the high proportions of missing values and the small sample size. Single imputation methods, such as simple mean imputation, were rejected as they are based on unrealistic assumptions (e.g. the missed value being exactly the mean of the observed values), which usually underestimate the variability of the imputed variables and produce extremely narrow standard errors (Jakobsen, Gluud, Wetterslev, & Winkel, 2017).

Consequently, *multiple imputation*, was chosen as the most appropriate method because it can be used when there is less than 40% of missing data, and when one cannot

assume that data is in fact MCAR or MAR due to the characteristics of the data (Jakobsen, et al., 2017). Additionally, it avoids the issue of narrow standard errors originated by single imputation, since it produces a more realistic variability in the data (van Buuren, S., 2018).

In simple terms, multiple imputation, follows three steps: (a) *imputation*, in which a number of complete datasets is created (in this case 20 imputations were chosen, considering the proportions of missing data), (b) descriptive *analysis* of each dataset, and (c) *pooling* of datasets into a single final estimate (Jakobsen et al., 2017; van Buuren, S., 2018).

After multiple imputation was completed, an independent sample t-test by Type of professional was performed in order to compare the original and pooled datasets, revealing significant mean differences for the same variable (i.e. Norwegian prompt, $p =.034$) in both datasets. This indicated that the pooled dataset values were within appropriate ranges.

2.6.3 Parametric and non-parametric correlations

Correlation analyses are powerful tools for identifying significance, strength, and direction of associations between variables. Correlation coefficients are based on the idea of finding similar patterns in the variance of two variables, which is referred as *covariance* (Field, 2009). Pearson's correlation coefficient has the advantage of being a standardised measure, thus, it can be used to observe effect sizes (Field, 2009). Nevertheless, its assumptions of continuity and normality could represent limitations, especially with variables such as the ones presented in the previous section.

Non-parametric correlations, such as Spearman's rho provide better estimates when the assumption of normality is violated -which happened for some of the variables in this study-, by ranking the data, and then, running Pearson's correlation (Field, 2009). However, Kendall's tau is recommended when the sample is small and there are numerous ranks among the variables. According to Howell (1997, as cited by Field, 2009), it is actually a better estimate of correlation in the population than Spearman's rho. In this study, all three correlations where performed as preliminary analysis to identify associations among major variables[10].

2.6.4 Regression analyses and assessment of biases

Regression analyses are "any of several statistical techniques that are used to describe, explain, or predict (or all three) the variance of an outcome or dependent variable using scores

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[10] A correlation table of Pearson's and Kendall's coefficients is presented in chapter three.

on one or more predictor or independent variables. Regression analysis is a subset of the general linear model. It yields a regression equation as well as an index of the relationship between the dependent and independent variables." (APA, 2019).

Conceptually, regression analysis is based on the idea that the relation between variables can be described through a linear model and a certain amount of error. Any straight line attempting to describe the data will produce some distance between the predicted points and the actual data points (i.e. residuals). In order to find which line represents better the association between variables, the *method of least squares* is used. This is a mathematical technique calculated through the sum of all squared residuals (i.e. *sum of squares*) for finding the line of best fit (i.e. the one with the lowest error) (Diez, Barr & Çetinkaya-Rundel, 2015).

A straight line is defined by two elements: (a) a *slope* (b_1), which is an estimate of how much a predictor X impacts on an outcome variable Y; and (b) a position in space usually called *intercept* (b_0), which is the value of Y when X is 0 (Field, 2009). A simple linear regression (SLR) in which the Y is predicted from X is expressed as: $Y_i = (b_0 + b_1X_1) + \varepsilon_{yi}$. Here the regression coefficient (i.e. b_1) is interpreted as the effect of the independent variable on the outcome, and expresses the direction and strength of the relation (Diez, et al., 2015).

Similarly, a multiple linear regression (MLR) in which Y is predicted from two or more independent variables is denoted by: $Y_i = (b_0 + b_1X_{1i} + b_2X_{2i} +…+ b_nX_n) + \varepsilon_{yi}$ (Field, 2009). In this case the regression coefficients are interpreted as partial effects of one predictor, while controlling for the potential influence of other predictor(s) (e.g. when X_2 is held constant) (Diez, et al., 2015).

Additionally, a *moderating effect* "…occurs when a third variable changes the nature of the relationship between a predictor and an outcome, particularly in analyses such as multiple regression." (American Psychological Association [APA], n.d.). In moderation the interaction between primary predictor and moderator is added as a third term $Y_i = b_0 + b_1X_i + b_2Z_i + (b_3X_iZ_i) + \varepsilon_i$. In this case, b_1 is influenced by the moderator (Z), and by the interaction term (b_3).

These three types of regression analyses were employed for modelling relations between variables in this study. Overall model assessments were performed through ANOVA, which tests the null hypothesis that models have no explanatory power by means of F-statistic. This is an indicator of how good the model represents the data. It is calculated as the ratio between the mean squares for the model (MSM) and the residuals' mean squares (MSR) (Field, 2009).

Threats to validity and reliability in regression are usually caused by the violation of assumptions, which are: *linearity and normality*, *homogeneity of variance*, and *error independence* (Field, 2009).

The assumption of linearity denotes that the relationship to be model between dependent (*Y*) and independent variable (*X*) is linear, which means that when *X* increases, changes in *Y* will lie in a straight line. This was explored through visual inspection of scatterplots, and by examining standardised residuals plots in each regression analysis.

For analysis of normality, dependent variables were explored through descriptives, histograms, and P-P plots. Additionally, *t*-tests and non-parametric Mann-Whitney *U* test were employed to determine if non-normal distributions could have been composed of two different groups. Furthermore, Shapiro-Wilk normality test was used to assess the significance of deviations from normality. Likewise, in each regression analysis, normality of residuals was explored through descriptives, histograms, and P-P plots, finding no extreme deviations.

For a line to be a good fit of the data it should be positioned at similar distance from all data points. This property of homogeneity of residuals' variance –also referred as *homoscedasticity*-, was gauged through visual representations of standardised residuals.

Independence of errors was examined through Durbin–Watson test in which correlations between residuals in a model are assessed. This test has values between 0 and 4, where 2 means no autocorrelation. In this study, no values lower than 1 or greater than 3 were found. Moreover, multicollinearity -which is the high correlation between predictors that impedes to determine their individual explanatory contributions (Diez, et al., 2015)- was tested in MLR an moderation models by observing correlation matrices, variance inflation factor (VIF), and tolerance.

2.6.5 Significance, power and effect sizes

Although *p*-values are extremely useful in null hypothesis statistical testing (NHST) they do not offer an idea of how large is the relation between predictor and outcome; rather, they just express how unlikely is to observe data "as inconsistent with the null hypothesis as the data actually observed" (Hedges, 2008, p.168). Back in 1994, Cohen joined four decades of criticism against the misinterpretation and thoughtlessness with which statistical testing had been used. Many researches, he argues, interpret statistical significance as the probability of the null hypothesis being false or improbable, or that its rejection leads to successful replications, or -even worse- to affirm the theory behind the test. Additionally, Hedges (2008) argues that the *p*-value depends on the test statistics employed, and on the sample size, and

that it cannot be used for comparison among studies. Both authors emphasise the importance of estimating effect sizes.

"Effect sizes are quantitative indexes of relations among variables." (Hedges, 2008, p.167). They are used to estimate the size of the effect in the population. They respond to the need to communicate findings in a way that can be broadly understood and compared across studies. Unlike p-values, effect sizes do not depend on sample size. Additionally, they are not based upon the scale used to measure the outcome variable. In general, there are three families of effect sizes: standardized mean differences, standardized regression coefficient, and odds ratio (Hedges, 2008). Naturally, the second family is the one related to this study.

The standardized regression coefficient (β) describes how many SD change in the outcome variable when the predictor vary in 1 SD. This is true for a SLR. For a MLR, the interpretation of β is different. Changes in the outcome are related to 1 SD of change in X_1, while covariates are held constant (i.e. controlled) (Hedges, 2008; Field, 2009).

Correlation coefficients are estimates of effect size that belong to the family of standardized regression coefficients. Both are identical when there is a single predictor (Hedges, 2008). Cohen (1988, 1992, as cited in Field, 2009) suggests overall benchmarks for correlation effect sizes: a small effect would be $r = .10$, which squared (R^2) explains 1% of the total variance; a medium effect, $r = .30$, which accounts for 9%; while a large effect, $r = .50$ explains 25% of the total variance.

Nevertheless, the interpretation of effect sizes must always be carried out in light of the research field and context (Hedges, 2008; Hill et al., 2008; Field, 2009; Sapp, 2012). Cohen himself (1977, as cited in Hedges, 2008) warned about the use of these criteria only when there was no other specific knowledge to draw on. Additionally, judgements on effect sizes should always take into account measures of uncertainty (i.e. standard error and confidence intervals (Hedges, 2008). Furthermore, Hill and colleagues (2008) emphasise the importance of considering the population characteristics, measures instruments, and recurring to high quality studies and meta-analyses when interpreting effect sizes. Unfortunately, effect sizes within the field of multicultural education research are scarcely reported (Sapp, 2012). In chapter three, effect sizes of each regression model are compared with effect sizes reported in similar previous research, whenever found, and when conditions for generalisation of the model is attained.

Also related to external validity, *cross-validation* is an evaluation of the accuracy of a regression model across different samples. It is observed through the adjusted R-squared (ΔR^2), which represents the amount of variance in Y that could be explained in a model

derived from the population (Field, 2009). SPSS provides estimates based on Wherry's equation, which has been criticized because it does not provide information on how well the regression model would predict an entirely different sample (Field, 2009). Field (2009) suggest using Stein's equation for cross-validation[11]. In the Results chapter of this study I provide both for each analysis.

Finally, *statistical power* is the probability that a test will detect an effect that is actually there. Big sample sizes will be more sensitive to small effects, while large effects can be detected with smaller samples. Power is inversely related to beta, which is the probability of making a Type II error: power = $1 - \beta$ (Field, 2009). Applying Miles and Shevlin's (as cited in Field, 2009) sample size estimations to this study, $N = 61$ would allow detection of large effects up to 20 predictors, and of medium effects in SLR. Furthermore, Green (1991, as cited in Field, 2009), considers that a minimum sample size for testing the overall model is $50 + 8k$, while for individual predictors is $104 + k$. Hence, in SLR this sample was sensitive to model effects (i.e. $N > 58$), but not to predictor's impacts (i.e. $N < 105$).

3.7 Ethical Considerations

At every stage of their investigations, researchers must be aware of and attend to ethical concerns that may have consequences for the participants and for the quality of the study. Assessing risks and benefits is especially important for conducting ethical research in the educational field (Gall et al., 2007).

Regarding data collection, ethical approval was obtained in the Netherlands with no need of a second permission from the Norwegian Centre for Research Data (NSD), since the latter recognises approvals from other EU countries. Data storage and participants' personal information was handled following standards set by the General Data Protection Regulation (GDPR, European Parliament, 2016). Responses were collected online and sent directly to the Netherlands via LimeSurvey.[12]

Furthermore, during the course of this research, data was handled cautiously into encrypted devices at all times, and it will not be disclosed to any unauthorised person or entity. Likewise, original datasets, links and passwords to the access it, and full or partial copies are acknowledged properties of ISOTIS and will not be released to anyone after the study.

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[11] $\Delta R2 = 1 - \left[\left(\frac{n-1}{n-k-1}\right)\left(\frac{n-2}{n-k-2}\right)\left(\frac{n+1}{n}\right)\right](1 - R^2)$

[12] This information was provided by a USH PhD candidate involved in the data collection process.

Ethical standard for participation were thoroughly met. Prospective participants were freely invited to respond the questionnaire and fully informed about the purposes of the study, their rights to anonymity, confidentiality, free participation, and withdrawal. Informed written consents were signed by all partakers.[4]

Throughout this investigation, and especially in this report, the use of unbiased language was revised. Awareness was particularly important when referring to individuals and groups of concern, such as *minority children* or *immigrant background*. These terms where defined at an early stage of the study in accordance with policies, current research, and the standards set in the "Publication Manual of the American Psychological Association" (APA, 2010),

Fair dissemination of and public access to this study will be ensured by its publication in the form of an electronic document on DUO (Digital publishing at the University of Oslo).

Finally, procedures and methods for increasing the quality of this study and the integrity of its results were undertook whenever possible and as far as the competences of this researcher allowed it. In the same spirit, this study does not claim any contributions to the field of educational research beyond its limitations.

CHAPTER 3: RESULTS

This chapter presents results of analysis performed for addressing the research questions of this study. The first section introduces preliminary analyses, such as tests on distributions and correlations among variables. The second section, describes results from regression analyses in which different models were tested in order to represent the associations between variables. Finally, the third section encompasses additional findings. Explanations of statistical tests were provided in chapter two. The present chapter presents results only. Implications of these findings are reviewed in chapter four.

3.1 Preliminary Analyses

This section describes results from analyses performed prior to linear regression. In the first part, a presentation of data distributional features is offered with an emphasis on the compliance with the assumption of normality required both by Pearson's correlation and linear regression. The second part, will introduce results from parametric and non-parametric correlations employed for identifying associations among variables.

3.1.1 Presentation of data

Table 3.1 provides a general presentation of data distributional characteristics. Additionally, normality tests, and independent samples t-tests (for differences between groups of professionals) were reviewed. The structure of the table emphasises the type of variable and if data was imputed or raw. As explained in chapter two, two variables were addressed to only one of each type of professional, thus, they were excluded from multiple imputation, for which they remained with smaller sample sizes (i.e. professionals $n = 35$, managers $n = 19$).

A general review of descriptives revealed important data features and findings: educators had strong multicultural beliefs, $M = 4.75$, and managers gave high importance to multicultural policies, $M = 4.14$. Accordingly, these variables were skewed and non-normally distributed. In addition, the wider variability was present in two variables: multilingual beliefs, $SD = 0.86$, and Norwegian prompt, $SD = 0.83$.

The latter variable was in fact a special case throughout this whole investigation: when assessing normality[13] of outcome variables, Shapiro-Wilk test indicated that Norwegian prompt was near the critical value, $W = 0.96$, $p = .059$. Moreover, it presented two modes

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[13] Additionally, for the purpose of assessing normality of dependent variables histograms and P-P plots were employed.

Table 3.1

Descriptive Statistics and Distributional Properties of Major Variables

Imputed Independent Variables	N	M	SD	Mode	Skew	Kurt	Range Potencial	Range Actual	W [a]	t [b]
Perceived students' diversity	61	2.84	0.51	3.00	-0.46	-0.87	1.00 - 5.00	2.00 - 3.50	0.84***	-0.29
Multicultural beliefs	61	4.75	0.30	5.00	-1.37	1.13	1.00 - 5.00	4.00 - 5.00	0.78***	-0.99
Multilingual beliefs	61	2.74	0.86	2.57	-0.16	-0.60	1.00 - 5.00	1.00 - 4.57	0.98	0.03
Imputed Dependent Variables										
Norwegian prompt	61	2.49	0.83	1.67[c]	0.13	-0.08	1.00 - 4.00	1.00 - 4.00	0.96	2.76**
Home language incorporation	61	2.39	0.62	2.75	-0.28	0.25	1.00 - 4.00	1.00 - 3.75	0.97	-1.28
Multicultural identity support	61	3.22	0.48	3.33	-0.26	-0.39	1.00 - 4.00	2.30 - 4.00	0.93**	-0.65
Cultural roots support	61	2.41	0.56	3.00	-0.34	0.19	1.00 - 4.00	1.00 - 3.67	0.97	0.35
Non-imputed Variables										
Value of multicultural policies	19[d]	4.14	0.28	4.25	-0.35	-1.22	1.00 - 5.00	3.75 - 4.50	0.83**	[f]
Multicultural practices	35[e]	3.62	0.51	3.64	0.28	-0.13	1.00 - 5.00	2.64 - 4.91	0.98	[f]

Note: Descriptive statistics for imputed and raw data. N = 61. Questions addressed to only one type of professional were not imputed.
[a]. Shapiro-Wilk normality test. [b]. Independent sample t-test by Type of professional. [c]. Multiple modes exist. The smallest value is shown. [d]. Addressed only to managers. [e]. Addressed only to professionals. [f]. Cannot be computed for one group.
*$p < .05$ (2-tailed), **$p < .01$ (2-tailed), ***$p < .001$ (2-tailed)

which prompted me to test independence of samples. A significant difference between types of professionals was found through *t*-tests, $t = 2.76$, $p = .008$, and Mann-Whitney *U* non-parametric test indicated, $U = 230.5$, $p = .008$, where professionals were more favourable than managers to encourage the mainstream language, $M = 2.68$, $SD = 0.78$; and $M = 2.08$, $SD = 0.79$, respectively. None of the groups presented distributions that significantly deviated from normality (professionals: $W = .967$, $p = .225$, managers: $W = .926$, $p = .144$). Consequently, I did not attempt to transform this variable to a normal distribution.

In addition, multicultural identity support significantly deviated from normal distribution, $W = 0.93$, $p = .003$. Efforts for transforming this variable through a logarithmic function did not yield better results, hence, it was used with a negative skew, acknowledging that this might affect the accuracy and external validity of the subsequent regression analyses.

Supplementary, other grouping conditions (e.g. sex, cultural background, years of experience, etc.) were explored in order to find if there were significant differences between groups. The only findings were related to the grouping variable Type of setting (i.e. formal education and after-school care), which showed differences affecting only predictors. Since these analyses were focused on testing normality of dependent variables, this categorical variable was not further examined in this study.

On the whole, since the majority of dependent variables did not significantly deviated from normality and the two aforementioned cases could not be transformed, all variables were used as displayed in Table 3.1.

3.1.2 Correlations

As noticed in chapter two, Pearson's correlation has the limitations of assuming that variables are normally distributed and that data is continuous. Additionally, psychometric measures are essentially categorical although often treated as continuous. Keeping this in mind, a non-parametric correlation was used supplementary to Pearson's *r*. Since Kendal's tau has been regarded as a better estimate of correlation in the population than Spearman's rho for small samples (Field, 2009), it is presented in Table 3.2 alongside Pearson's coefficients.

Table 3.2

Parametric And Non-Parametric Correlations Of Major Variables

	TPro	PSDiv	MCPol	MCB	MLB	MCP	Nor	HLang	MCid	CRid
Beliefs										
Type of professional (TPro)	__	.04	.ᵃ	.13	-.00	.ᵃ	-.34**	.16	.08	-.05
Perceived students' diversity (PSDiv)	.09	__	-.23	-.19	-.41**	-.01	.19	-.01	-.12	-.11
Value of multicultural policies (MCPol)ᵇ	.ᵃ	-.24	__	.37	.51*	.ᵃ	-.32	.19	.28	.04
Multicultural beliefs (MCB)	.07	-.16	.41*	__	-.04	.15	-.20	.11	.32*	-.11
Multilingual beliefs (MLB)	.03	-.32**	.46*	.03	__	.01	-.51***	.49***	-.14	-.09
Practices										
Multicultural practices (MCP)ᶜ	.ᵃ	-.04	.ᵃ	.12	.01	__	.09	.26	.30	.06
Norwegian prompt (Nor)	-.29**	.13	-.33	-.12	-.41***	.03	__	-.21	-.09	.34**
Home-language incorporation (HLang)	.14	-.00	.18	.14	.36***	.19	-.19*	__	-.15	-.04
Multicultural identity support (MCid)	.07	-.10	.08	.15	-.12	.23	-.02	-.11	__	.14
Cultural roots support (CRid)	-.07	-.09	.01	-.02	-.05	.01	.26**	-.06	.08	__

Note. Pearson's coefficients are presented above the diagonal. Kendall's tau coefficients are shown below the diagonal. $N = 61$.
ᵃ. Cannot be computed because at least one of the variables is constant. ᵇ. Addressed to managers only. $n = 19$ ᶜ. Addressed to professionals only. $n = 35$.
* $p < .05$ (2-tailed), ** $p < .01$ (2-tailed), ***$p < .001$ (2-tailed)

Regarding H_1, I expected to find a positive association between educators' multicultural beliefs (MCB) and their multicultural practices (MCP). Yet, both Pearson's and Kendall's correlations were non-significant, $r(33) = .15$, $p = .399$, $\tau(33) = .12$ $p = .374$. Worth noting, multicultural practices was built upon a question addressed to professionals only ($n = 35$). Small samples are associated with increased variability and enlarged standard errors, which challenge the accuracy of results. Reviewing Pearson's assumptions[14]: outliers were not a problem, since they had been wisorized, but MCB significantly deviated from normality.

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[14] Homogeneity of variance and linearity were addressed concurrently with regression analyses.

Nonetheless, this issue was expected to be addressed by the non-parametric correlation. Additionally, both scales had good reliabilities, α = .76 and .72, respectively. Thus, no other concerns were found for concluding that multicultural beliefs and multicultural practices were in fact not associated in this sample.

In relation to H_2 a positive correlation between multicultural beliefs (MCB) and the support educators' provide to the development of students' multicultural identities (MCid) was expected. This was found to be significant only for Pearson's coefficient at the .05 level, $r(59)=.32$, $p =.013$; $\tau(59)= .15$, $p = .149$. Since, none of these variables met the assumption of normality, the significance of this association was accepted with caution due to the risk of engaging in a Type I error. Moving forward, a second expectation was a negative relation between MCB and the support to cultural roots (CRid). In this case, correlations were in the predicted direction, but non-significant, $r(59) = -.11$, $p = .391$; $\tau(59) = -.02$, $p = .865$. Risks of engaging in a Type II error will be analysed in the next section.

Linked to H_3, a significantly positive association between multilingual beliefs (MLB) and the incorporation of children's home-languages (HLang) was found at the .001 level, $r(59)= .49$, $p < .001$. In addition, MLB was significantly and negatively correlated with the encouragement of Norwegian (Nor) as expected, $r(59) = -.51$, $p < .001$. Regarding Pearson's assumptions, outliers were winsorized, and only Norwegian prompt had a distribution different from normality because it was actually formed by two normally distributed groups. Additionally, the variable type of professional (i.e. dichotomous) was a significantly correlated with the prompting of Norwegian language ($\tau = -.29$, p =.008).

3.2 Regression Analyses

Simple, multiple, and moderated regression models were tested in the attempt of representing associations between variables. MLR was performed through a hierarchical method in which predictors are added one by one so that contributions of each covariate to the model become evident. This method is typically used when theoretical and/or empirical reasons indicate that a specific independent variable will provide strong predictive power to a model (Field, 2009). Additionally, moderating effects were tested by means of PROCESS macro (Version 3.3; Hayes, 2019)[15].

Supplementary, analyses for evaluating compliance with regression assumptions were performed either prior to, or concurrently with each regression analysis. In addition, effect

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[15] © 2019 Andrew F. Hayes. www.processmacro.org.

sizes and cross-validation estimates were reviewed to assess the external validity of each model.

3.2.1 Multicultural beliefs and practices

There were none significant correlations between multicultural beliefs (MCB) and multicultural practices (MCP). Likewise, in a SLR represented as $MCP = b_0 + b_1MCB_1 + \varepsilon_i$, no coefficients were found to be significantly different from zero, $b_0 = 2.422$, $p = .093$; and $b_1 = 0.251$, $p = .407$, meaning that the predictor had no impact in the outcome variable. Overall the model explained only 2.2% of variance in the outcome and was not a significantly good representation of the data, $F(1, 33) = 0.730$, $p = .399$. No other predictors were tested since no other significant correlations were found.

3.2.2. Multicultural beliefs and acculturation support

Two types of acculturation support were measured: (a) educators' support to the development of multicultural identities in minority students (MCid), and (b) the support educator's provide to the maintenance of cultural roots (CRid). These scales constituted conceptually non-exclusive attitudes (as defined in operational definitions, chapter one) towards acculturation processes of minority students as MCid encompassed CRid, although not conversely.

3.2.2.1 Multicultural identity support

As indicated by preliminary analyses, the correlation between MCB and MCid was significant, but since the assumption of normality was violated, I considered this result with caution. In order to test potential confounders, a MLR was modelled by adding multilingual beliefs (MLB), and perceived level of students' cultural diversity (PSDiv) as covariates. The model was represented by: $MCid_i = b_0 + b_1MCB_1 + b_2MLB_2 + b_3PSDiv_3 + \varepsilon_i$.

Table 3.3 displays three models built through the hierarchical method. The determination coefficients (R^2), which indicate how much variance was explained in each model are at the bottom of the table. In model 1, MCB alone explained roughly 10% of the variance in the dependent variable. In model 2, it is evident that the second predictor added small variance explanation ($R^2_{Change} = 0.17$). The same occurred in model 3, were PSDiv added the same amount of explanation.

The ANOVA showed that all models predicted the outcome variable significantly better than if the mean value of Y is used, $F_{model\ 1}$ (1, 59) = 6.50, p = .013; $F_{model\ 2}$(2, 58) = 3.82, p = .028; $F_{model\ 3}$ (3, 57) = 2.92, p = .041. These values referred to models as a whole, but said nothing about the explanatory contribution of each variable.

In order to identify differences between models, changes in the F-ratio were observed. Models 2 and 3 did not provide significant F- changes (p = .294, and p = .295, respectively). Accordingly, t-values for the significance of individual coefficients (Table 3.3) confirmed that only the primary predictor was significantly different from zero in all models (model 1: t = 2.55, p = .013; model 2: t = 2.51, p = .015; model 3: t = 2.20, p = .032). In conclusion, covariates had no impact on the outcome, were not confounded with the primary predictor, and thus, did not add significant variance explanation.

Table 3.3

Hierarchical Multiple Regression Analyses Predicting Multicultural Identity Support from Multicultural Beliefs and Perceived Level of Students' Cultural Diversity

	Model 1			Model 2			Model 3		
	b	(SE)	β	b	(SE)	β	b	(SE)	β
(Constant)	0.814	(0.949)		1.057	(0.975)		1.776	(1.188)	
MCB	0.508	(0.199)*	0.315	0.499	(0.199)*	0.310	0.450	(0.204)*	0.279
MLB				-0.074	(0.069)	-0.131	-0.108	(0.077)	-0.192
PSDiv							-0.138	(0.130)	-0.146
R^2		.099			.116			.133	

Note. N = 61
* p < .05, ** p < .01, *** p < .001

Consequently, the MLR was simplified into a SLR with the following coefficients: $MCid_i = 0.814 + 0.508MCB$. This final model predicted that for one unit increase in MCB, MCid will increase by 0.508 units. The standardised coefficient (β = 0.315) provided a better idea of the impact of X in Y, considering that variables had different scale ranges (i.e. MCB = 1 to 5, and MCid = 1 to 4). Nonetheless, the high level of uncertainty of b_0 hampered the accurate positioning of the least squares line.

In Figure 3.1. the same regression plot is shown twice. The one on the left emphasises a clear display of the regression line in relation to data points by zooming in on to the range between 4 and 5. The plot on the right displays the entire range which evidences the widening of the confidence band towards the intercept. Since both variables were negatively skewed, data points are clustered to the right side of the plot, providing little information for estimating the regression line start point.
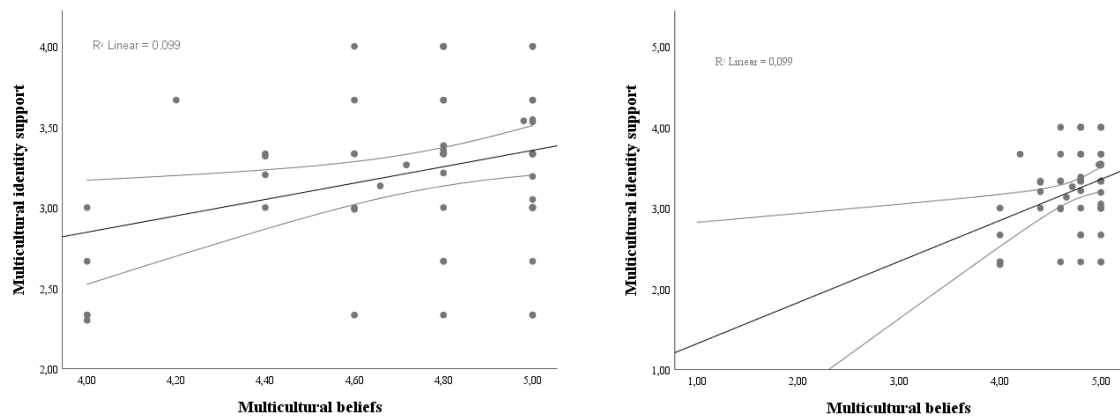
Figure 3.1. Regression plots of multicultural identity support predicted from multicultural beliefs. A rescaled plot (right) evidences the uncertainty in the least squares line.

Assessment of the model requires to review the compliance with regression assumptions. These can be evaluated through visual representations of standardised residuals. The histogram showed negative skewness, which was confirmed by the S-shaped P-P plot. The scatterplot exhibited increased variance on the right side of the plot (i.e. heteroscedasticity), as well as a curved shape which indicated non-linearity.

Cross-validation of this model provided by SPSS is based on Wherry's equation, ΔR^2 = .084. Since there is some criticism against it (see chapter two) I have used Stein's equation as well, ΔR^2 = .072, which has been regarded as a more accurate estimate of variance explanation in different samples (Field, 2009). Furthermore, the effect size was consistent with a previous study (Hachfeld et al., 2011) that found a similar positive association between multiculturalism and support to integration (β = .321) than this study (β = .315).

In conclusion, findings of this model were: (a) multicultural beliefs predicted roughly 10% of the variance in multicultural identity support, (b) the predictor had significant impact in the outcome which is expressed in a regression coefficient of 0.508, (c) violation of regression assumptions, such as normality, linearity and homoscedasticity of residuals. On the whole, appropriate conditions for generalisation of results were not attained.

3.2.2.2 Cultural roots support

As shown in preliminary analyses, multicultural beliefs (MCB) was not significantly correlated with cultural roots support (CRid) ($r = .11$, $p = .391$). In a SLR the predictor explained only 1.2% of the variance in the outcome. A t-test of individual coefficients indicated that while the intercept was significant, $b_0 = 3.41$, $t = 2.943$, $p = .005$, the slope was not, $b_1 = -0.21$, $t = -0.864$, $p = .391$. Accordingly, the model was not a good fit to the data, $F(1, 59) = 0.75$, $p = .391$.

3.2.3. Multilingual beliefs and type of linguistic support

Two types of language support were measured: the incorporation of students' home-languages into school activities, and the encouragement of the Norwegian language (Nor). These scales were mutually exclusive attitudes towards language development. I expected to find a positive association between multicultural beliefs (MLB) and home-language incorporation (HLang), and a negative one with Norwegian prompting (Nor). Both associations were found to be significant in the predicted directions.

3.2.3.1 Home-language incorporation

A significant positive correlation was found between multilingual beliefs (MLB) and the incorporation of children's home-languages (HLang). As an additional finding, perceived level of students' diversity (PSDiv) was negatively correlated with the predictor. In order to assess if this variable was acting as a confounder or as a moderator two regression models were tested:

- a hierarchical MLR: $HLang_i = (b_0 + b_1MLB_1 + b_2PSDiv_2) + \varepsilon_i$, and
- a moderation: $HLang_i = b_0 + b_1MLB_1 + b_2PSDiv_2 + b_3(MLB_1*PSDiv_2) + \varepsilon_i$.

As displayed by Table 3.4, model 1 explained roughly 24% of variance in the outcome, model 2 added 4.5%, and model 3 (moderation) did not contribute. All models were a good representation of the data, $F_{model\ 1}(1, 59) = 18.43$, $p < .001$; $F_{model\ 2}(2, 58) = 11.43$, $p < .001$; $F_{model\ 3} = 7.49$, $p < .001$, but only in model 1 all coefficients were significant ($p < .001$). Models 2 and 3 contained non-significant coefficients, thus, covariates did not constitute confounders and no evidences of moderation were found.

Consequently, models were simplified into a SLR with the following coefficients: $HLang = 1.43 + 0.35MLB$. For an increase of one unit in MLB, HLang will increase by 0.352

Table 3.4

Simple, Multiple and Moderated Regression Analyses Predicting Home-Language Incorporation from Multilingual beliefs and Perceived Level of Student's Cultural Diversity

	Model 1			Model 2			Model 3		
	b	(SE)	β	b	(SE)	β	b	(SE)	β
(Constant)	1.43	(0.235)***		0.45	(0.564)		2.34	(0.076)***	
MLB	0.35	(0.082)***	0.49	0.42	(0.088)***	0.582	0.42	(0.089)***	.a
PSDiv				0.28	(0.147)	0.231	0.28	(0.151)	.a
(MLB*PSDiv)							0.02	(0.178)	.a
R^2		.238			.283			.283	

Note. Model 1 in a SLR, model 2 is a MLR, and model 3 is a moderation model. $N = 61$.
a. Not computed by PROCESS macro 3.3
* $p < .05$, ** $p < .01$, *** $p < .001$

units. The standardised coefficient ($\beta = 0.49$) offered a better idea of the effect size of *X* in *Y*, considering that variables had different scale ranges (i.e. MLB = 1 to 5, and HLang = 1 to 4). Coefficient's standard errors were low, thus, there was some accuracy in the regression line position. Regarding assumptions, standardised residuals plots indicated a distribution close to normal, a constant variance, and no threats to the assumption of linearity were found.

Figure 3.2, displays the least squares line for the positive association between MLB and HLang, while the confidence band denote a restricted level of uncertainty.
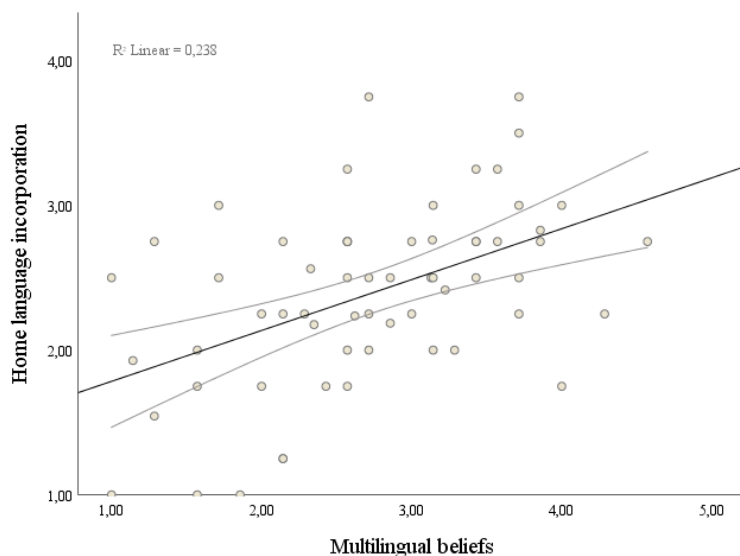

*Figure 3.2.*Regression plot of home-language incorporation predicted from multilingual beliefs.

On the whole, findings of this model were: (a) educators' multilingual beliefs have a large effect on the incorporation of children's home-languages in school activities, (b) the

predictor provides between 22% and 19% of variance explanation in the outcome when cross-validated, and (c) appropriate conditions for generalisation of results.

As previously explained in chapter two, the statistical power of this sample size allowed to detect large to medium effects when modelling a SLR. Observed significances (all at the .001 level) in the correlation between variables, coefficients t-tests, and F-ratio indicated that the null hypothesis could be rejected with less than 0.1% risk of engaging in a Type I error. Concerning cross-validation, Wherry's equation (from SPSS) estimated a 22.5% of variance explanation in the population, while Stein's equation, a 19.2%.

3.2.3.2 Norwegian prompt

As expected, multilingual beliefs (MLB) had a significant negative association with the encouragement of Norwegian language (Nor). Additionally, the dichotomous variable type of professional (TPro) was significantly correlated with the outcome. Furthermore, preliminary analyses (e.g. independent samples t-test) indicated that managers significantly differed from professionals in how much they encouraged the mainstream language in this sample. None of the groups significantly deviated from normality.

In this analysis, the covariate multicultural beliefs (MCB) was tested as an alternative explanation that could be controlled for. Consequently, three regression models were tested:

- a SLR: $Nor_i = b_0 + b_1 MLB_1 + \varepsilon_i$,
- a MLR for the whole sample: $Nor_i = b_0 + b_1 MLB_1 + b_2 MCB_2 + \varepsilon_i$, and
- a MLR for each types of professional:

$$Nor_{prof} = b_{0prof} + b_1 MLB_{1prof} + b_2 MCB_{2prof} + \varepsilon_{prof}$$
$$Nor_{man} = b_{0man} + b_1 MLB_{1man} + b_2 MCB_{2man} + \varepsilon_{man}$$

The latter MLR was tested as two individual models, one for each type of professional. This within-group analysis was design in response to evidence from preliminary analyses (i.e. independent samples t-test), which indicated that regarding the encouragement of Norwegian, managers and professionals were two different groups and could not be treated as one. At a first stage, these models were tested separately in order to accurately assess if they were significantly different from zero. Afterwards, a comparison between managers and professionals, to examine if regression models differ from each other, was performed by testing an interaction.

The ANOVA showed that models 1 and 2 were significantly good fits, $F_{model\ 1} (1, 59) = 20.98, p < .001; F_{model\ 2} (2, 58) = 13.15. p < .001$. Table 3.5 evidences that MCB added

around 5% of variance explanation in model 2, in which b_0 and b_1 were significant at the .001 level, while b_2 had a significance of $p = .045$.

However, when individual models by type of professional were introduced (i.e. model 3), the coefficient of determination increased, reaching up to 30.4% for professionals and 66.4% for managers. The third model was significant for both types of professionals, F_{prof} (2, 39) = 8.52, $p = .001$; F_{man} (2, 16) = 15.81, $p < .001$.

Partial correlations indicated that the primary predictor was associated with the outcome more strongly for managers, $r(17) = -.76$, $p < .001$, than for professionals, $r(40) = -.43$, $p = .002$. Additionally MLB was not associated with the covariate (MCB) in any of the groups, $r(17) = -.03$, $p = .454$; $r(40) = -.07$, $p = .329$. Therefore multicollinearity, was not an issue. Regarding the associations between covariate and outcome, these were significantly negative for professionals $r(40) = -.31$, $p = .023$, and non-significant for managers $r(17) = .28$, $p = .120$.

Table 3.5

Hierarchical Multiple Regression Analyses Predicting Norwegian Prompt from Multilingual Beliefs and Multicultural Beliefs by Type of Professional

| | Model 1 | | | Model 2 | | | Model 3 | | | | | |
| | | | | | | | Professional [a] | | | Manager [b] | | |
	b	(SE)	β	b	(SE)	β	b	(SE)	β	b	(SE)	β
(Constant)	3.85	(0.309)***		6.8	(1.475)***		7.81	(1.593)***		-1.42	(2.446)	
MLB	-0.49	(0.108)***	-0.51	-0.50	(0.105)***	-0.52	-0.45	(0.133)**	-0.46	-0.59	(0.112)***	-0.76
MCB				-0.62	(0.301)*	-0.22	-0.82	(0.322)*	-0.34	1.06	(0.506)*	0.31
R^2		.262			.312			.304			.664	

Note. Models 1 and 2 consider the complete sample ($N = 61$). Model 3 compares types of professionals.
[a]. $n = 42$. [b]. $n = 19$
* $p < .05$, ** $p < .01$, *** $p < .001$

Model 3: Professionals

In model 3 all coefficients for professionals were significantly different from zero, b_0 $p < .001$, b_1 $p = .001$, and b_2 $p = .015$. The regression equation was expressed as: Nor_{prof} = 7.806 - 0.454MLB$_1$ - 0.821MCB$_2$ + εi, meaning that for an increase of one unit in multilingual beliefs the encouragement of Norwegian was reduced by almost half point when the covariate was held constant. Conversely, a one point increase in multicultural beliefs resulted in a decrease of 0.8 in Norwegian prompt while the main predictor was held constant.

Regression assumptions of model 3 for professionals, such as error independence, $d = 1.459$, and normality were met, while multicollinearity was not found, VIF = 1.005.

Standardised residuals' histogram indicated a near normal distribution, while P-P plot and *ZRESID *ZPRED plot confirmed linearity and homoscedasticity with the presence of one outlier.

A further evaluation of the MLR for professionals drew my attention to the intercept's high SE = 1.593. In Figure 3.3, separate regression plots for each predictor are shown. The one to the right (multilingual beliefs) denotes a negative slope with a moderate confidence band. The one to the left (multicultural beliefs) was rescaled in order to emphasise how the confidence band widened towards the intercept. Regardless the significant explanatory contribution of MCB to the model, this covariate added a high level of uncertainty to the fit line.
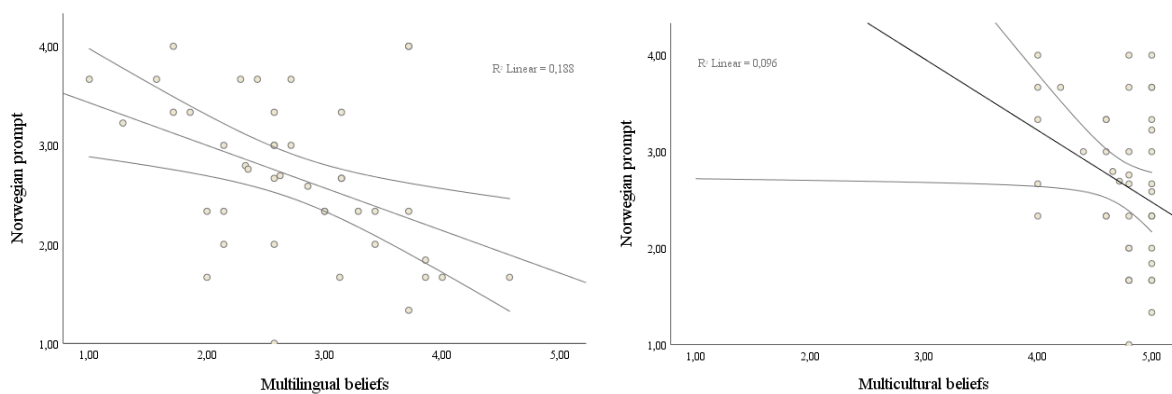

Figure 3.3. Partial regression plots for professionals' Norwegian prompt predicted from multilingual beliefs (left) and from multicultural beliefs (right)

It is worth to note that when the sample size is reduced (professionals $n = 42$) the statistical power decreases, and thus, the probability of engaging in a Type II error is enhanced. Additionally, having two predictors in a model increases the need for a bigger sample size. Again, following Miles and Shevlin's (as cited in Field, 2009) estimates of statistical power, when a covariate is included a minimum of 40 participants is needed for detecting large effects. Concerning cross-validation Wherry's equation (from SPSS) estimated a 26.8% of adjusted variance explanation, while Stein's formula a 21.7%.

In conclusion, this model appropriately fitted the data with a high proportion of variance explanation, but inferences for the population must consider the risks of the unstable intercept.

Model 3: Managers

Regardless the high coefficient of determination, $R^2 = .664$ (Table 3.6) and the significant ratio of signal to noise in model 3 for managers, $F(2, 16) = 15.814$, $p < .001$, the intercept was non-significant $p < .570$, the covariate slope was near the critical value, $p = .052$, and only the main predictor slope was significant at the .001 level. This issues could have been caused by two conditions of the covariate: (a) its negative skewness, which clustered data points within values 4 and 5, and (b) the non-significant correlation between Nor and MCB. Nevertheless, it seems plausible that the severely reduced sample (managers $n = 19$) had enlarged standard errors ($b_0 = -1.42$ SE $= 2.446$) to the point that the intercept could not be considered statistically different from zero. The small sample size additionally caused restricted statistical power. All in all, application of this model to the universe of Norwegian managers is not possible.

Model 4

Improving the external validity of the model required to remove the covariate while still addressing each group individually. Hence, model 4 was represented as two simple linear models analysed separately for each category of the dichotomous variable and represented as:

- $Nor_{prof} = b_{0prof} + b_1 MLB_{1prof} + \varepsilon_{prof}$, and
- $Nor_{man} = b_{0man} + b_1 MLB_{1man} + \varepsilon_{man.}$

As previously seen, partial correlations indicated that predictor and outcome were negatively associated in both groups, but the association was stronger in managers than in professionals. Accordingly, there was more variance explanation for the former group than for the latter, as displayed by Table 3.6. The ANOVA showed that model 4 was a significantly good fit for both groups, $F_{prof} (1, 40) = 9.262$, $p < .004$; $F_{man} (1, 17) = 22.638$, $p < .001$. All coefficients had small standard errors and were significant at the .001 level, whit exception of the slope for professionals, $p = .004$.

Table 3.6

Simple Linear Regression Analyses Predicting Norwegian Prompt from Multilingual Beliefs by Type of Professional

	Model 4					
	Professional [a]			Manager [b]		
	b	(SE)	β	b	(SE)	β
(Constant)	3.86	(0.403)***		3.68	(0.358)***	
MLB	-0.43	(0.141)**	-0.43	-0.59	(0.123)***	-0.76
R^2		.188			.571	

Note. $N = 61$.
[a]. $n = 42$. [b]. $n = 19$
* $p < .05$, ** $p < .01$, *** $p < .001$

The regression equation for professionals was: $Nor_{prof} = 3.86 - 0.43MLB$, which means that for an increase of one point in multilingual beliefs, the encouragement of Norwegian will decrease by 0.43 points. Regarding assumptions, standardised residuals plots showed homoscedasticity, linearity, a distribution close to normal -with some skewness as denoted by the S-shaped P-P plot-, and one outlier. In addition, error dependence was not within ranges of concern, $d = 1.16$.

For managers, the regression equation was: $Nor_{man} = 3.68 - 0.59MLB$, meaning that for an increase of one unit in multilingual beliefs, the Norwegian prompt decreased by 0.59 units. Since variables had different scale ranges the standardised coefficient, $\beta = -0.76$, was a better indicator of the influence of X in Y. Residuals plots exhibited a fairly normal distribution, homoscedasticity and linearity. Some error dependence was observed, yet it was not of concern, $d = 2.67$.

Cross-validation of model 4 specified a smaller R-square shrinkage for managers (Wherry's $\Delta R^2 = .546$, Stein's $\Delta R^2 = .538$) than for professionals (Wherry's $\Delta R^2 = .168$, Stein's $\Delta R^2 = .127$), due to the stronger correlation between predictor and outcome in the former group.

The small sample of managers ($n = 19$) limited the statistical power of the model. According to Miles and Shevlin (as cited in Field, 2009) detecting a large effect in a SLR requires at least 30 participants. Hence, with this results there were risks of engaging in a Type II error. Regarding a Type I error, there was less than a 0.1% chance, giving the p-value of the regression coefficient and ratio of signal to noise ($p = 0.000182$).

Statistical power for the professional's group ($n = 42$) was enough to detect medium effects when testing only one predictor, diminishing the chances of a Type II error. The null hypothesis was rejected with only a 0.4% probability of engaging in a Type I error. All in all, both models offered good conditions for generalisation for both groups.

Figure 3.4 displays least squares lines for each type of professional. The total fit line has been included in order to visualise how the total model would have been. An outlier in the professional's group influenced professionals' fit line and fit line at total, by pulling them upwards, which constituted underestimations of the predictor's effect on the outcome.
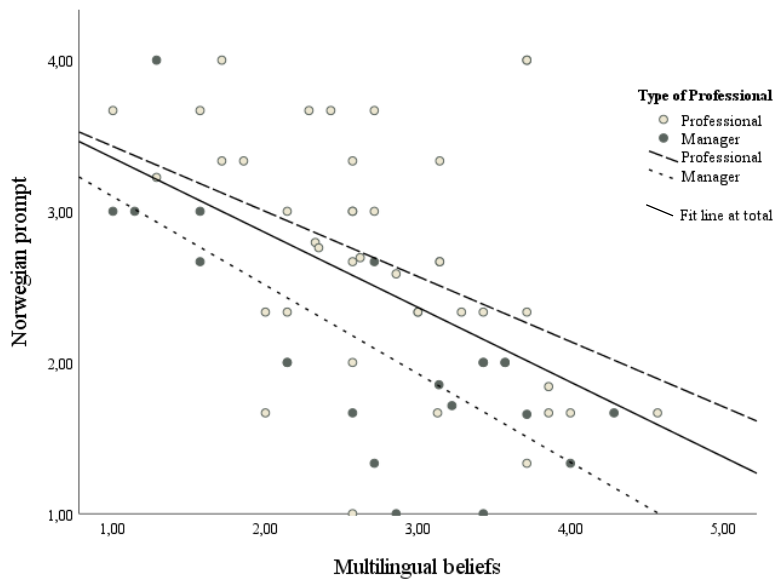
Figure 3.4. Regression plot of Norwegian prompt predicted from multilingual beliefs with fit lines by type of professional. The total fit line is included (Nor$_i$ = 3.846 - 0.494MLB, R^2 = .262)

Model 5: Comparison between types of professional

Model 4 offered significant results for professionals and managers coefficients. Nevertheless, since the SLR was applied separately to each group, coefficients significance was in comparison to zero, and did not indicate they significantly deviated from each other. In order to test if slopes were actually different; a moderation effect of the dichotomous covariate (TPro) was tested. This was expressed as:

$$\text{Nor}_i = b_0 + b_1\text{MLB}_1 + b_2\text{TPro}_2 + b_3(\text{MLB}_1 * \text{TPro}_2) + \varepsilon_i$$

Table 3.7 shows non-significance for the interaction coefficient (p = .448), which added little variance explanation (R^2_{Change} = .006) to the overall 38.4 % provided by the entire model. The overall model was a significantly good representation of the data (F = 11.86, p < .001), as well as the main predictor slope (p < .001), and the covariate slope (p = .002). This confirmed that although both predictors had an effect on the outcome, they were not interacting.

Although the *t*-test for Norwegian prompt had shown a significant difference on professionals and managers' means, and even though the covariate Type of professional significantly correlated with the outcome variable, the effects of multilingual beliefs on the encouragement of Norwegian could not be assumed to be different between professionals and managers.

Table 3.7

Moderated Regression Analyses Predicting Norwegian Prompt from
Multilingual Beliefs and Type of Professional

| | Model 5 | | |
	b	(SE)	*β*
(Constant)	2.494	(0.085)***	
MLB	-0.479	(0.103)***	a.
TProf	-0.603	(0.184)**	a.
(MLB*TPro)	-0.155	(0.203)	a.
R^2		.384	

Note. N = 61.
a. Not displayed by PROCESS
* $p < .05$, ** $p < .01$, *** $p < .001$

As it can be observed in Figure 3.5., there is an overlapping area between confidence bands, in which the lines of least squares of each group may coincide. The SE for the interaction term displayed in Table 3.7 did not seem large, yet it was greater than the ones estimated for each predictor separately. The confidence interval for the interaction term slope concretely showed the possibility of the interaction to be equal zero, 95% C.I. [-0.562, 0.251]. The reason behind it may be related to the reduction of sample sizes (i.e. when the total sample was split) and the widening of confidence bands.
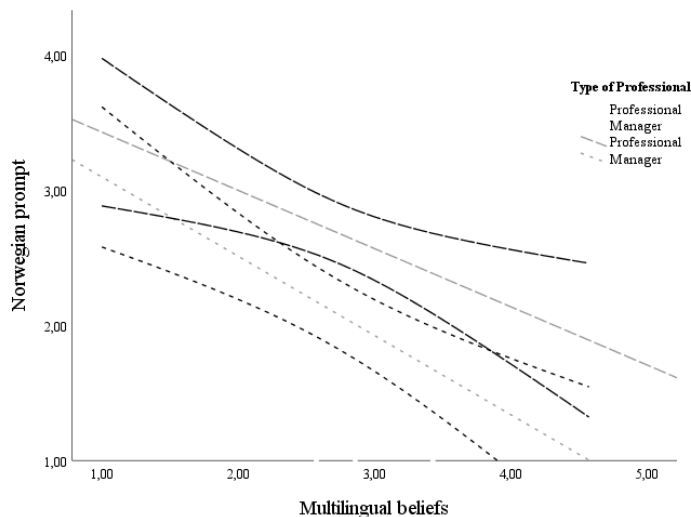

Figure 3.5. Regression plot of Norwegian prompt predicted from multilingual beliefs with fit lines by type of professional. Confidence bands are highlighted in order to show their overlapping.

In conclusion, model 5 showed no evidences of moderation, meaning that the effects of multilingual beliefs on Norwegian prompt did not depend on the type of professional in this

sample. Nevertheless, we cannot assume this is the case in the population. It has been acknowledged that the limited number of participants in each group made models more prone to Type II errors. It could be that the effect of predictor on outcome truly differ between professionals and managers in the population, namely, an interaction between covariates could exist; yet, there was not enough statistical power to detect it in this analysis.

As a general point for answering research question iii, a comparison of SLRs for both outcome variables (HLlang and Nor) showed that MLB had a similar impact on the incorporation of home-languages ($\beta = 0.49$) and on Norwegian prompt ($\beta = -0.51$). The size of the effect was roughly half point change in opposite directions. This reflected the exclusive nature of outcome scales and may have important implications for practice that reviewed in chapter four.

3.3. Additional findings

Apart from the described results which were fully linked to my research questions, other findings arose from correlational analyses. They were unexpected associations, which sometimes revealed possible threats to validity or even flaws in previous procedures. On the bright side, some findings may be meaningful for future research. In the following lines they will be reported, but no further interpretations are provided since the theory behind them is out of the scope of this research.

One interesting finding was that educators' perceptions of the level of students' diversity (PSDiv) had a significantly negative correlation with their multilingual beliefs (MLB) in both Pearson's, $r(59) = -.41$, $p = .001$; and Kendall's tau coefficients, $\tau(59) = -.32$, $p = .001$. This means that educators with weak multilingual beliefs perceived a higher level of cultural diversity among students than educators who hold strong multilingual beliefs, which perceived lower cultural diversity. It is wort to mention, that both scales had good reliabilities, PSDiv $\alpha = .93$, MLB $\alpha = .78$.

Another stimulating result was a significant positive relation between the exclusive stimulation of the Norwegian language and the support to the maintenance of cultural roots, ($r(59) = .34$, $p = .007$, $\tau(59) = .26$, $p = .006$). Hence, educators who strongly promoted the Norwegian language at school language gave more support to the maintenance of cultural roots in minority children. Conversely, educators who highly supported ethnic identities encouraged the use of Norwegian more.

Other encounters are less fertile for future analyses, but were crucial for the design of regression models in this research. For instance, a positive association was found between

managers' value of multicultural policies (MCPol) and their multicultural beliefs (MCB). This correlation was significant for Kendall's tau only, and was significant near the critical value, $\tau(17) = .41$, $p = .042$. Similarly, MCPol had a significant correlation with educators' multilingual beliefs (MLB), $r(17) = .51$, $p = .025$, $\tau(17) = .46$, $p = .013$. It is worth to note that these associations could indicate that scales were measuring the same construct, which could have caused issues of multicollinearity if included as predictors in a regression model. Additionally, MCPol scale was built upon a question addressed to managers only ($n = 19$), the reliability was not very high ($\alpha = .65$), and the statistical power for regression was low. All this contributed to my decision of not including this variable in the analyses.

CHAPTER 4 DISCUSSION

In this chapter, a discussion of the results of this research is presented. Firstly, a review and interpretation of overall trends found by descriptive analyses is offered. Secondly, results from inferential analysis are summarised, interpreted and explained in light of the theoretical and empirical backgrounds, providing answers to the research questions. Thirdly, limitations of study are outlined through an assessment of strengths and weaknesses. Finally, implications for future research and educational practice are specified.

4.1. Tendencies in multicultural and multilingual beliefs

Preliminary analyses showed that Norwegian educators had strong multicultural beliefs, and endorsed statements about the importance of educators' sensitivity towards students' cultural diversity (intercultural competence), and the relevance of fostering children's intercultural awareness, and the values of equality, democracy, and pluralism, as well as the relevance of social inclusion of CLD learners. This result was consistent with the high importance managers gave to multicultural policies, such as, provision of intercultural activities, and reflection of diversity in materials and staff. Items represented the MCE dimensions (Banks, 2009) of *content integration*, *prejudice reduction*, and *empowering school culture*.

Regarding educators' multilingual beliefs, support to the incorporation of students' home languages was not very high. The mean fell between the categories "undecided" and "slightly agree". The high dispersion in this variable may indicate that educators are divided in their beliefs about how to better accommodate linguistic diversity. In light of acculturation strategies it can be said that strong support for an integrationist approach was not found. Regarding Cummins' postulates (1979, 2001) these results may indicate that beliefs based upon interdependence hypothesis is not strong and that educators' beliefs may be based upon a variety of assumptions.

4.2. Multicultural beliefs and multicultural practices

The non-significant correlation was not consistent with the expectation of a positive association between Multicultural beliefs and Multicultural practices. Since both scales were reliable, the only validity issue was the reduction of the sample size because multicultural practices was addressed to professionals only. Therefore, inferences to the population cannot be made without acknowledging the risk of a Type II error. So far, it can only be said that *for*

this sample the null hypothesis could not be rejected and no association was found and. Stating implications about this lack of association can only be conjectural. It could be that although Norwegian educators hold strong multicultural beliefs, their practical efforts are not as frequent (as measured by the Likert scale) as they should to be linked to their agreement with multicultural statements. It could also be that items in the multicultural beliefs scale were not covering the full range of the construct. Furthermore, there may be other factors moderating or mediating this association, thus, further research is needed.

4.3. Multicultural beliefs and acculturation support

Results on research question ii were consistent with the expectation that Multicultural beliefs was positively associated with Multicultural identity support, while it was not in line with the predicted negative association between Multicultural beliefs and Cultural roots maintenance. The latter was in the expected direction, yet non-significant.

4.3.1. Multicultural identity support

In light of Berry's (1997) acculturation strategies this association suggests that educators who held strong multicultural beliefs in this sample were inclined to encourage the development of multicultural identities among CLD learners by showing acceptance of students' simultaneous identification with the mainstream culture and with their own ethnic heritage. This was consistent with previous research that demonstrated the association between teachers' multicultural beliefs and integrative views on acculturation.

The scale Multicultural identity support included items that referred to the implementation of students' group discussions on the complexity of multicultural identities. In light of Banks' (2009) MCE model, this suggests that educators with strong multicultural beliefs implemented practices aiming at prejudice reduction. This may also indicate that multicultural views on cultural diversity promote the construction of inclusive learning environments that stimulate respect, pluralism, and democracy. Bearing in mind empirical evidence that biculturalism is more related to psychological and sociocultural adjustment than monoculturalism, supporting the development of multicultural (or bicultural) identities among CLD learners seems highly appropriate. Nevertheless, it is important to remember that the high level of uncertainty and violation of regression assumptions in this model were a barrier for drawing inferences to the population.

4.3.2. Cultural roots maintenance

Regarding the expected negative association between Multicultural beliefs and Cultural roots maintenance, none significant correlations were found. It is worth remembering that variables measuring types of acculturation support were not conceptually exclusive, therefore, the tendencies in either one direction or another (i.e. multicultural identity or cultural roots) were a matter of emphasis and not of category.

In sum, it can be affirmed that participants of this study who had strong multicultural beliefs were inclined to support the development of multicultural identities, and that multiculturalism was not associated with an emphasis on supporting ethnic identities.

4.4. Multilingual beliefs and type of language support

Results for research question iii showed that both hypothesised associations were found significant in the expected direction. Multilingual beliefs was positively associated with Home-language incorporation, while negatively related to Norwegian prompt.

4.4.1. Home-language incorporation

A simple regression model indicated that educators' multilingual beliefs have a large effect on the incorporation of children's home-languages. Since there were appropriate conditions for generalisation of results, it could be affirmed that Norwegian educators who hold strong convictions that linguistic diversity is valuable tend to incorporate minority student's home languages in the educational context. Yet, it should be bear in mind that multilingual beliefs did not have a strong tendency, which suggest that educators have different beliefs regarding linguistic diversity at school.

The association between educators' beliefs and practices on linguistic support seems to be consistent with Cummins' (1979, 2001) propositions on second-language acquisition. Although there were no statements explicitly asserting that development of L1 was interconnected with acquisition of L2, multilingual beliefs' scale included *reversed* items stating the negative impact of home-language inclusion on the development of Norwegian. Those utterances seem to be based upon the *mismatch* or the *insufficient exposure* hypotheses, and when reversed would express that including students' home-languages is beneficial for second-language acquisition, thus, referring to the *interdependence hypothesis*.

Additionally, it could be further discussed how home-languages are being included. This variables did not target the implementation of school-programmes on second-language

acquisition, rather, they were measuring *informal* ways of incorporating students' languages in daily social exchanges at school. This encounters are important since attitudes convey unspoken messages of affirmation or disregard that could motivate or discourage students to use their home-languages at school. Furthermore, this finding could be interpreted complementary to results on acculturation support, since minority students' mother tongues are an important aspect of their ethnic heritage and their acknowledgement would support students' cultural identities, fostering the development of biculturalism, and facilitation psychological adjustment, as found in previous research. Regarding the MCE framework the incorporation of home-languages would be related to the dimension of equity pedagogy since educators adapt their practices to accommodate diverse learners. Yet, it cannot be said that this implies an empowering school culture since policies of the organisation and second-language programmes were not included these variables.

All in all, the incorporation of home-languages should be considered a valuable strategy for fostering minority students' integration, social and psychological adjustment, and second-language acquisition; a highly desirable educational practice for Norway's culturally and linguistically diverse context.

4.4.2. Norwegian prompt

The negative correlation found between multilingual beliefs and Norwegian prompt was consistent with hypothesis 3. Indeed, educators who value language diversity do not encourage the Norwegian language *exclusively*. Conversely, educators who held weak multilingual beliefs are more prone to encourage children to speak Norwegian over their home-languages. The exclusion of home-languages from the school context could hinder the acquisition of the second-language as stated by Cummins' interdependence hypothesis. Moreover, identity affirmation and integration of CLD learners, would also be jeopardised as suggested by previous studies.

In Norway, proficiency in the mainstream language is highly valued for social and economic participation, and thus, policies aim at its attainment through bilingual support and mother tongue instruction, in agreement with the interdependence hypothesis. Yet, implicit messages of disregard towards students' home-languages may negatively impact on their academic outcomes. This does not mean that educators are trying to segregate minority students. In fact, professionals who exclusively encourage Norwegian may hold solid multicultural beliefs but have strong convictions that poor academic attainment is caused by lack of exposure to the Norwegian language. Consequently, they will stimulate children to use

it as much as possible, neglecting the benefits of mother tongue inclusion for psychological wellbeing, identity affirmation, and cognitive development.

In addition to all this, there was evidence (*t*-test) that professionals (i.e. teachers, specialists, and social workers) had a stronger tendency than managers to encourage Norwegian. Yet, when an interaction was tested there was no evidence that the relation between multilingual beliefs and Norwegian prompt was moderated by Type of professional and, in fact, professionals and managers did not significantly differ. However, the reduced sample size added uncertainty and increased the risk of a Type II error. Thus, it can only be asserted that *in this sample* moderation was not found, but future research is needed in order to draw conclusions for the universe of Norwegian primary educators.

A comparison of effect sizes showed a similar high impact of multilingualism on both outcome variables, enhancing the incorporation of home-language and decreasing Norwegian prompt in roughly half point each, which reflects the exclusive nature of this variables, since engaging in one practice decreases the other. This have important implications for educational practices that are reviewed in section 5.8.

4.5.   General discussion

The main goal of this study was to analyse the relations between educators' beliefs on cultural diversity and their educational practices with CLD learners. Using a sample of Norwegian primary educators, I investigated whether positive beliefs on cultural diversity were associated with the implementation of multicultural practices, and with support to students' acculturation strategies. Additionally, I examined if the conviction that multilingualism was valuable was related to the actual incorporation of students' home-languages, and if it had a negative relation with backing the mainstream language.

In answering my two initial questions, first, a strong multiculturalism was found, but this was unrelated to multicultural practices and to an acculturation approach that emphasised cultural maintenance. Differently, multiculturalism was related to integration via emphasis on multicultural identity. Regarding my third research question, multilingualism, which was not as strong as multiculturalism, was found positively related to the incorporation of home-languages and, negatively associated with the exclusive encouragement of Norwegian.

This last point reflects that although the need of enhancing second-language acquisition among CLD learners is widely acknowledge in Norway, some educators may believe that the way of achieving it is through more exposure to the mainstream language,

ignoring the positive effects of bilingualism on cognitive development, the relevance of mother tongue inclusion on identity affirmation, and the interdependence between first- and second-language developments. The similarly strong impact of multilingualism on both outcome variables (in opposite directions) is meaningful. It suggests that multilingual beliefs enhancement would stimulate the incorporation of first-languages and discourage its exclusion. This reflected the subtractive relation between types of support: when L1 is encouraged, L2 becomes less prevalent and vice versa. This have important implications for practice that are reviewed in section 5.8 of this chapter.

As a final comment, the fact that no associations between multilingualism and multiculturalism were found suggest that, although cultural background is highly connected with linguistic background, educators' beliefs about them are independent, and could be based on distinct assumptions, thus, they must be measured separately.

4.6. Limitations of the study

"Generalization is an act of reasoning that involves drawing broad conclusions from particular instances—that is, making an inference about the unobserved based on the observed." (Polit & Beck, 2010, p.1452). Therefore, *generalisability* –or *external validity*- is highly related to the sample characteristics and size. According to Polit and Beck (2010), although random sampling has been recognised as the means for the statistical model of generalisation, in studies involving human beings this is rarely achieved.

As previously described in chapter two, the data collection process was challenging, and the multistage structure of the sample was not achieved. Additionally, a cluster of professionals from one school may have hampered the representativeness of an already limited sample. It is a well-known fact that small samples are more prone to error, and that effect sizes are overestimated when data is limited (Field, 2009). Although, issues of representativeness and power affected the external validity of this study, efforts for addressing them were undertaken whenever possible. For instance, multiple regression models were simplified to one predictor, and interpretations were drawn with a focus on the overall model (Green, 1991, as cited in Field, 2009).

The quantitative nature of the study conveys both benefits and shortcomings. It adequately addressed the need of measurement and representation of associations between variables. Yet, a mixed methods approach could have supplemented relevant features of educators' beliefs. Another limitation of this study stemmed from its design. Surveys have the strength of observing "naturally occurring variations" (De Vaus, 2002). Yet, unlike

experiments, observational studies do not control independent variables and, consequently, causal explanations are not possible. Likewise, since "cross-sectional data can misrepresent the mediation of longitudinal processes" (O'Laughlin, Martin, & Ferrer, 2018), in this research I could not employed analytical models for explaining underlying mechanisms of relations between variables, such as mediation models. Additionally, self-report data conveys the risks of collecting socially desirable responses, yet, some scholars argue that this has little impact on the assessment of multicultural beliefs (van de Vijver, Breugelmans, & Schalk-Soekar, 2007).

There were some limitations in the reliability of the research instrument as well. For instance, PCA assumes that the sample is the population for the identification of components, therefore, the patterns found within scales cannot be extrapolated or generalized to a population, meaning that the instrument constructed in this study would most probably not be adequate to be used to measure the same constructs in a different sample (Field, 2009). In other words, the scale construction process ensured reliability but not replicability.

Another issue related to scales construction was the ratio of participants per item. By each selected item within a scale, there should have been at least five participants (John & Benet-Martinez, 2000). This was not always achieved due to the sample size. In addition, as coefficient alpha is determined by interitem correlations and number of items, test length is assumed to compensate for low level of correlations and vice versa (John & Benet-Martinez, 2000). In this study, the reliability of some scales was restricted by both the small number of items, and low interitem correlations. Yet, they hold the strength of have been built as a reflection of found components and constructs drawn from theory.

The methodological considerations taken at each stage of the study are certainly a strong point of the study. Whenever possible, methods for enhancing the quality of this research were undertaken, such as the use of non-parametric analyses, data imputation, and analyses of biases. This allowed to make informed decisions throughout analyses, appropriately address issues, and evaluate the external validity of fitted models.

One salient feature of this study was that it drew on evidences and theories from different fields. It combined knowledge from philosophical thinking, social-psychological research, and educational research. I see this as a strength since it is consistent with the complex nature of multiculturalism, the intertwined relations between beliefs, attitudes, and behaviours, and the practical implications for inclusive education. Moreover, the production of new evidence on multicultural education in Norway today is highly valuable given its

heterogeneous social composition and the big proportion of population growth estimated to be caused by immigration in the next decade.

4.7. Implications for future research

The limitations of this study revealed the need of replication with a larger and more representative sample. This would enhance scales reliability and external validity of findings. For instance, the association between multicultural beliefs and support of multicultural identity could be generalised for the population, and the difference in Norwegian support between professionals and managers could be clearly determined. Additionally, a bigger sample could yield other findings not detected with the statistical power of this sample, while diminishing the risks of Type II errors.

An interesting aspect not explored by this research was the possibility of performing between-group comparisons by type of setting (i.e. formal education and after-school care). In fact, differences between professionals and managers found in some analyses of this study could be related to the high proportion of managers who worked in after-school care, and not to the type of professional itself. This needs further exploration.

Additional findings of this study point several directions for future studies as well. For instance, a negative correlation between educators' perception of the level of students' diversity and multilingual beliefs could be interesting to explore. Why educators with weak multilingual beliefs perceived a higher level of cultural diversity among students? Or, do holding strong multilingual beliefs impact on the perception of cultural diversity? Another stimulating result was a significant positive relation between the encouragement of Norwegian and the support to cultural roots maintenance. What is the association between them? Could this be relate to a segregationist approach to minorities' acculturation, or to strong efforts for integrating ethnic heritages through second-language acquisition?

Moreover, it would be highly valuable if future studies target, for instance, an evaluation of the effects of formal linguistic support, such as, reception classes on integration, since they seem to be aiming at integration through second-language acquisition, which are not proved to work in the same direction. In addition, an investigation of underlying hypotheses supporting educators' beliefs and teaching strategies for second-language acquisition would be very useful for teacher training and professional development in general.

Finally, a mixed methods approach could bring important gains to prospect studies in this field, since they might provide a more comprehensive understanding of educators' experiences on cultural diversity, and the relations between educators' beliefs and practices in

multicultural settings. It could, additionally, incorporate direct observation of classroom interactions, which would supplement self-reported data on attitudes and practices.

4.8. Implications for practice

Results on linguistic support revealed that when multicultural beliefs are enhanced, the incorporation of home-languages increase and the exclusive encouragement of Norwegian decrease. This has implications for practices as well as for training.

The evident recommendation for educational practice is to encourage proficiency of the first-language. Previous research has largely described the benefits of first-language incorporation for maintenance of cultural heritage, psychological wellbeing, cognitive development, and second-language acquisition. Nevertheless, some educators may believe that it is important to expose minority children to the second-language as much as possible for its rapid acquisition. Therefore, it would be relevant to implement professional development programmes that explicitly inform about the impact of home-languages inclusion on pupils' socio-emotional and cognitive aspects, at the same time that they challenge obsolete notions of linguistic deprivation.

Finding the appropriate support for second-language acquisition without hampering students' social inclusion is a complex task. Policies in Norway ensure instruction in mother tongue and bilingual education until students are proficient enough to follow regular instruction, yet, this says nothing about educators' attitudes in more informal exchanges in school daily life. Therefore, it seems important to implement Pre- and in-service training for the increment of intercultural competences among professionals and educational leaders. This should address the three aspects of intercultural competence: (a) attitudes, for tackling implicit mechanisms of inequality perpetuation; (b) knowledge, for instance about the benefits of cultural affirmation, the interdependence hypothesis, and the importance of holding high expectations about minority students; and (c) skills, such as, mediation strategies for conflict solving among students from different cultural background.

Finally, it seems important to safeguard immigrant children's integration from the moment of their arrival. For instance, the implementation of reception classes (*Mottaksklasse*) should be carried out in a manner which does not prevent newly arrived students from being promptly integrated among peers. This could be accompanied with activities and group experiences to enhance social cohesion, social support, and the sense of belonging in all students.

The current increasing cultural and linguistic diversity within educational settings worldwide, urge for the development of positive attitudes among professionals and educational leaders that challenge the educational inequalities faced by culturally and linguistically diverse learners. Awareness about the impact of educators' beliefs and expectations on CLD learners' academic outcomes and psychological wellbeing is highly relevant to tackle implicit mechanisms of inequalities perpetuation.

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APPENDIX B

Selected Items for Construction of Scales of this Study [a]

Original Variable	Selected Items	Constructed Variable
Q011 LEVEL OF DIVERSITY	Q011A What proportion of children in your organisation is from another cultural background than Norwegian? Q011C What proportion of children in your organisation speaks another language than Norwegian at home?	Perceived level of students' diversity
Q012 DIVERSITY POLICY IN THE ORGANISATION [b]	Q012A Ensure that the staff reflects the social and ethnic diversity in society. Q012B Take in account cultural and religious practices and desires toward nutrition if we provide food. Q012C Provision of intercultural activities in our organisation (such as celebrating different cultural holidays). Q012F Ensure that our materials take into account diversity, such as different colours for drawing or painting skin colour.	Managers value of multicultural policies
Q013 DIVERSITY BELIEFS	Q013A It is important that professionals are sensitive to differences between children based on their background. Q013B It is important for children to learn that people from other cultures can have different ideas on what is important to them. Q013C It is important that children of different countries and cultures see the ways in which they are all similar. Q013E It is important for children to learn to respect other cultures as early as possible. Q013G It is important that children with another cultural background have friends from the Norwegian culture.	Multicultural beliefs
Q014 MULTILINGUAL BELIEFS	Q014A Child care and education settings (e.g. schools, libraries, day care) should also include materials (e.g. books, videos) in the different home languages of the children. Q014B It is important that non-Norwegian speaking children develop higher level of skills in the Norwegian language than their home language (Reversed) Q014C It would be good if non-Norwegian children will use their home language often. Q014D Non-Norwegian speaking children should be allowed to speak their home language to each other at school/preschool. Q014E By speaking their home language at school, non-Norwegian children will learn to speak Norwegian less quickly (Reversed) Q014F Non-Norwegian children should be offered the opportunity to learn their home language at school. Q014G The most important cause of academic failure of non-Norwegian speaking children is their insufficient proficiency in Norwegian (Reversed)	Multilingual beliefs

Selected Items for Construction of Scales of this Study (Cont.) [a]

Original Variable	Selected Items	Constructed Variable
Q021 MULTICULTURAL PRACTICES [c]	Q021A I plan activities to celebrate diverse cultural holidays and practices. Q021B I plan activities to increase children's' knowledge about cultural experiences of different groups. Q021C I integrate different cultural values into my work. Q021E I ensure that our materials take into account diversity, such as different colours for drawing or painting skin colour. Q021F I make an effort to communicate with non-Norwegian speaking parents (e.g. use mediators and/or speak in their own language). Q021G I adapt my work according to children's cultural background. Q021H I create a warm and inclusive environment for children from different backgrounds. Q021I We take in account cultural and religious practices and desires toward nutrition if we provide food. Q021J I examine whether our materials, such as books, pictures or dolls, reflect cultural diversity. Q021K Our staff reflects the social and cultural diversity in society. Q021L We provide some information in different languages (e.g. information about the policy of the organisation).	Multicultural practices
Q022 VIGNETTE 1: This is a hypothetical situation. In the beginning of the school year two Turkish children, Emin and Enes, have just started (pre)school. During free play these four-year old children use toy animals to engage in pretend play. The children use their home language (Turkish) and the Norwegian language interchangeably while playing together. How would you respond?	Q022B I would play along in their play and encourage them to speak more Norwegian to develop higher-level proficiency of Norwegian. Q022D I would approach the children and encourage them to speak more Norwegian. Q022F I would ask why the children are using both Turkish and Norwegian.	Norwegian prompt
	Q022C I would encourage a child with another language background to join in their play and observe what happens. Q022E I would play along in their play and show interest in their home language (Turkish). Q022H I would talk to them about their play using some Turkish words to acknowledge their home language. Q022I If I could, I would talk to the children in their home language.	Home language incorporation
Q028 VIGNETTE 3. This is a hypothetical situation. Two children, Martin (Norwegian background) and Galad (Somali background) are fighting. Galad claims to be Norwegian, but Martin argues that since he was born in Somalia, Galad is Somali. Galad cries: "I'm Norwegian". Think about this situation as if you were the teacher. How would you respond?	Q028A I would accept Galad's claim to consider himself Norwegian since he now lives in Norway and I would talk with Martin inviting him to respect it as well. Q028D I would use this topic to discuss with the children what (cultural) identity is and exchange views on this topic. Q028E I would encourage the whole group to reflect on the fact that our identity is multiple and complex, built on, but not solely confined to, our cultural roots.	Multicultural identity support
	Q028B I would talk with Galad, trying to make him understand that, since he was born in Somalia, Martin was right in saying he is Somalian. Q028C I would accept Galad's claim to consider himself Norwegian, but at the same time I would develop activities to let him accept and value also his Somalian roots. Q028F I would encourage Galad and Martin to discuss together the commonalities (and differences) between the two of them.	Cultural roots maintenance

[a.] The original questionnaire was developed by ISOTIS coordination team with subsequent collaboration of partners in Norway (Slot, Romijn, Cadima, Nata, & Wysłowska, 2018)

b. Question addressed to managers only b. Question addressed to professionals only