Teacher perceptions of parent collaboration in multi-ethnic ECEC settings

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Introduction: For teachers working in multi-ethnic early childhood education and care settings, a strong collaboration with parents may be an important mechanism for supporting young children's language development. However, little research has investigated how teachers perceive their communication with parents from diverse backgrounds and what centre-level factors predict the quality of teacher-parent collaboration.

Methods: This study sought to explore teacher-parent collaboration within early childhood education and care in urban multi-ethnic areas of Norway, using survey data from 266 teachers across 56 centres and 198 classrooms. We examined whether teacher characteristics (education, experience and self-efficacy) and centre linguistic diversity were related to teacher perceived communication with parents regarding ways of supporting children's dual language development and teacher experienced challenges in parent collaboration.

Results: Results revealed that teachers with higher self-efficacy communicated more with parents and experienced less challenges in collaboration with them. Furthermore, more experienced teachers working in more linguistically diverse centres identified more challenges in parent collaboration, while these characteristics were not related to communication. Teacher education was not associated with communication nor challenges in parent collaboration.

Discussion: Our results indicate that professional development measures targeted at strengthening teacher self-efficacy might be an important mechanism to promote parent collaboration, particularly in multi-ethnic education settings.

KEYWORDS

early childhood education and care (ECEC), teacher-parent collaboration, dual language development, teacher characteristics, multi-ethnic settings

1 Introduction

Teacher–parent collaboration is considered a core feature of early childhood education and care (ECEC) quality (Siraj et al., 2003; Cadima et al., 2020) and has been shown to predict children's learning outcomes and language development (Ma et al., 2016). It involves building bridges between ECEC and home settings by sharing responsibilities and aims for learning and development, sharing information, guiding students, solving problems and celebrating success (Epstein, 2001). For dual language learners (DLLs), bridges between the different environmental systems that surround them are especially significant, as they are embedded in cultural and social contexts uniquely distinct from monolingual children (Paat, 2013). To effectively support DLLs' language development, it is essential that ECEC teachers facilitate collaboration and draw upon the linguistic resources of the families.

The number of families with immigrant and multilingual backgrounds in Norway and other European countries is growing in parallel with segregation (NOU 2020:16; European Commission, 2022). Some areas therefore have large proportions of DLLs in ECEC centres, representing many different languages (Romøren et al., 2023). Collaboration between home and ECEC settings becomes particularly important in diverse settings with heterogeneous families and staff, but to date the literature on the characteristics of such collaboration and which mechanisms strengthen or weaken it is scarce (Aghallaj et al., 2020; Norheim and Moser, 2020). For instance, while previous research has focused on child and family characteristics as predictors of teacher–parent collaboration (e.g., Murray et al., 2015), we need more knowledge of how teacher qualifications, such as education, experience and self-efficacy, relate to the quality of teacher–parent collaboration. The present study sought to explore teacher–parent collaboration in urban multi-ethnic areas of Norway. We examined teacher perceptions of communication with parents to support DLLs' language development, as well as the challenges they perceive in forming collaborative relationships with parents, and whether teacher and centre characteristics were related to these aspects of parent collaboration.

1.1 Teacher–parent collaboration to support language development

The ecological framework of Bronfenbrenner (1979) sees the child as a growing, dynamic entity embedded in a series of nested environmental systems. The multidirectional relationships between these systems influence the child's development. The environment consists of the microsystems, which the child is in immediate contact with; the mesosystem, involving the relationships between the microsystems; and the exosystem, referring to the settings not involving the child directly. These interconnected systems are part of overarching patterns of cultures, called macrosystems. In societies where most children attend ECEC, home and ECEC settings are two of the most important microsystems of young children's lives. For sound learning to take place, it is crucial to align their experiences across these systems through teacher–parent collaboration – a complex and multidimensional construct of the mesosystem (Bronfenbrenner, 1979; Lang et al., 2016). Recent studies of teacher–parent collaboration in daily exchanges in ECEC settings have emphasised the importance of open communication, where information about a variety of topics can be shared in modes that feel comfortable, as well as potential challenges, such as disagreements and linguistic and cultural differences (Lang et al., 2016; Aghallaj et al., 2020; Cadima et al., 2020; Norheim and Moser, 2020).

Communication refers to the exchange of information between teacher and parent, including their use of strategies and topics discussed (Lang et al., 2016). Information exchange has been shown to be more frequent in higher-quality classrooms in Portugal (Coelho et al., 2019), and a study across ten European countries found that ECEC professionals with a positive relationship with parents more often discussed the child's behaviour, development, home situation and parental support (Slot et al., 2018). They also found that even though teachers reported that exchanging

information with parents commonly regarded daily activities and the child's behaviour, relations and development, it was less common to discuss the child's home situation and parental support, as well as to encourage parents to play and carry out learning activities at home with their children.

Communication between teachers and parents may be particularly important for DLLs who are simultaneously developing their first language (L1) and their second language (L2) (Gutiérrez et al., 2010), and whose families often face barriers to engaging in ECEC settings (Li et al., 2023). Forming collaborative relationships between teachers and parents of DLLs can link parents' linguistic and cultural expertise with teachers' needs for instructional supports, and teachers can share instructional strategies that in turn support children's school readiness (Sawyer et al., 2017). Furthermore, minimising interaction differences between home and educational settings by including families' linguistic recourses in the classroom can make the educational setting more familiar and comfortable, which may promote higher levels of literacy attainment (Goldenberg et al., 2006). However, Choi et al. (2021) reported that communication with DLLs and their families is a major challenge for teachers and that there is a need for systematic training for teachers working with the growing population and diversity of DLLs and families. In addition, ECEC teachers have tended to hold the development of social-emotional skills as being of primary importance for DLLs (Jacoby and Lesaux, 2019), while communication between parents and teachers regarding DLLs' language development has been uncommon (van der Wildt et al., 2023). Still, there are indications of a need for parental support regarding dual language development. For instance, Luo et al. (2021) reported that parents tended to misperceive characteristics of dual language development, such as code-switching, as indicators of problem or disadvantage. Similar misperceptions of languages as fixed entities which should not intermingle in practice were also found in kindergarten and primary school teachers (Strobbe et al., 2017). Professional support on topics related to multilingualism can contribute to higher levels of dialogue with multilingual parents on multilingual upbringing (Peleman et al., 2022).

1.2 Challenges in teacher–parent collaboration

Challenges in the collaboration between teachers and parents can include childrearing disagreements and undermining (Lang et al., 2016), as well as linguistic and cultural differences and asymmetrical power relations (Aghallaj et al., 2020; Norheim and Moser, 2020; Li et al., 2023), as expressed by both parents and ECEC professionals. International studies have indicated that even though ECEC professionals expressed positive attitudes towards parent collaboration and cultural diversity, they reported less support for promoting multilingualism, which might not correspond with the language beliefs of many multilingual families (Slot et al., 2018; Aghallaj et al., 2020; Norheim and Moser, 2020). Similarly, van der Wildt et al. (2023) found that multilingual parents perceived the relationship with ECEC staff as promising but responded less favourably about issues regarding children's multilingualism. For instance, few parents reported having received or requested

language advice or discussed any linguistic upbringing with ECEC staff. In addition, families with multilingual and immigrant backgrounds tended to communicate less with teachers (Murray et al., 2015), be less involved in their children's education and experience more barriers in creating collaborative relationships with teachers than non-immigrant parents (Norheim and Moser, 2020). It is essential that teachers can identify, acknowledge and address challenges in order to facilitate collaboration with parents. Nevertheless, a Norwegian qualitative study demonstrated that for staff to sufficiently recognise multilingual parents, the parents had to interact in the confines of the majority's discourse (Sønsthagen, 2020).

1.3 Teacher and centre characteristics associated with teacher–parent collaboration

Teacher–parent collaboration can either be strengthened or weakened by time, characteristics, philosophies or practises of the family or the ECEC centre (Epstein, 2001). As teachers are responsible for forming a collaborative relationship with parents, teacher characteristics such as education, experience and self-efficacy may influence the degree of communication and challenges between teachers and parents. Teacher education is widely accepted as critical for high-quality ECEC (Manning et al., 2019). Nevertheless, the results in studies investigating the relationship between teacher education and parent collaboration vary. Swartz and Easterbrooks (2014) reported that U.S. teachers with more education and more knowledge of child development had less positive views of their relationship with parents than other groups of teachers. The authors hypothesised that this pattern could reflect a lack of focus in teacher preparation programmes on working with families. Other studies indicate that teachers' education is not related to teacher–parent collaboration (Perlman and Fletcher, 2012), which might be due to little variation in teacher education in national contexts where it is regulated by law.

The importance of the teacher's professional experience when creating collaborative relationships with parents has also been investigated. For instance, more teacher experience has been associated with parental reports of closer teacher–parent relationships in Canada (Cantin et al., 2012) and more frequent parent participation in the U.S. (Castro et al., 2004). However, teacher experience has been found to be unrelated to observed communication with parents in Canadian ECEC classrooms (Perlman and Fletcher, 2012) and parents' views of their relationship or communication with teachers in the U.S. (Swartz and Easterbrooks, 2014).

In addition, teacher self-efficacy has been shown to be significant for both child outcomes, such as gains in print awareness (Guo et al., 2010), and the quality of teacher–parent collaboration. Self-efficacy is individuals' perceptions of and beliefs in their capacity to plan, organise, and execute specific behaviours (Bandura, 1997), while teacher self-efficacy is the confidence teachers hold in their capability to influence student learning (Klassen et al., 2010). It is a motivational construct based on self-perception of competence rather than actual level of competence (Tschannen-Moran and Hoy, 2007) and includes

both domain-general and domain-specific self-efficacy (Klassen et al., 2010). Studies conducted in Norway found that higher general teacher self-efficacy in elementary and middle school teachers was associated with positive relations (Skaalvik and Skaalvik, 2010) and less perceived conflict with parents (Skaalvik and Skaalvik, 2007). A U.S.-based survey with elementary school teachers in an urban multi-ethnic district reported that teacher self-efficacy, both general and related to family involvement, predicted family involvement practices (Garcia, 2004). Similarly, a survey with ECEC professionals in four European countries found that professionals with higher teacher self-efficacy, both general and diversity-related, reported higher levels of intercultural classroom practices (Romijn et al., 2020).

It is plausible that teacher–parent collaboration is also related to centre characteristics, such as the linguistic diversity of the parent population served by the centre. Social inequalities between neighbourhoods, including linguistic, ethnic and economic differences, are shown to be related to variability in early childhood development (Minh et al., 2017), and can shape families' access to high-quality ECEC (McCoy et al., 2015). Families in disadvantaged areas often face complex challenges caused by unemployment, low income, low education, low levels of societal language competence, cramped housing and poor health (NOU 2020:16), which can impact their need for support from the ECEC centre.

In sum, studies investigating the connexion between teacher–parent collaboration and teacher characteristics such as education, experience and self-efficacy report mixed findings. In addition, these characteristics have not been investigated together. Furthermore, few quantitative studies have investigated teacher–parent collaboration in relation to the broader context of ECEC centres, such as the linguistic diversity in the population they serve (for an exception, see Murray et al., 2015).

1.4 Norwegian ECEC settings

In Norway, 93% of all children aged 1–5 attend ECEC centres (Statistics Norway, 2023). To ensure equal opportunities for all children, families with low incomes are offered reduced fees when attending ECEC (UDIR, 2023). ECEC centres are not required to follow any national curriculum, but they are obliged to adhere to the National Framework Plan for Kindergartens (Ministry of Education and Research, 2017) and the Kindergarten Act (2005) to ensure quality. This includes guidelines for the content and tasks, as well as regulations of teacher education (an ECEC degree of minimum 3 years) and staff–child ratio (1:3 for children under 3 years and 1:6 for children over 3 years). In these documents it is clearly articulated that staff shall work in close agreement with parents, facilitating collaboration and good dialogue. However, support for children's dual language development is only mentioned once in the National Framework Plan for Kindergartens (Ministry of Education and Research, 2017), where it is stated that staff shall 'encourage multilingual children to use their mother tongue' (p. 24). It is not clear what is meant by these general claims, and how to monitor, assess and strengthen quality concerning parent collaboration or support for dual language development. ECEC centre managers in Norway have reported that very few staff members possess

formal competence from higher education related to multicultural pedagogy or dual language development and that there is a need for increased competence in these areas (Lødding et al., 2018).

In certain districts of the capital, Oslo, up to 75% of the children in ECEC centres are DLLs (Oslo Municipality, 2020), while the national average is 20% (Statistics Norway, 2023). The number of shared languages between staff and children in centres is rather limited (Romøren et al., 2023), and with many languages represented in one setting, it is difficult to develop measures that support all languages equally. In fact, using and learning Norwegian is generally prioritised above supporting children's L1 (NOU 2010:7), and reports from multi-ethnic districts of Oslo indicate a lack of systematic efforts to support children's language learning across centres (Borgersen, 2018; Oxford Research, 2019). For ECEC teachers to succeed in supporting DLLs' language development in a highly heterogeneous educational setting, parent collaboration becomes essential. There is a lack of research investigating teacher–parent collaboration as a mechanism to support DLLs' language development in urban multi-ethnic ECEC settings. Since teachers increasingly work in multi-ethnic settings and are responsible for establishing a collaborative relationship with parents, we need to know more about teachers' own perceptions related to this.

1.5   The present study

This study aimed to explore teacher perceptions of communication with parents about DLLs' language development as well as their perceived challenges in forming collaborative relationships with parents with the following research questions:

RQ1: Do teacher characteristics (education, experience and self-efficacy) and centre linguistic diversity predict teacher-perceived communication with parents about DLLs' language development?

RQ2: Do teacher characteristics (education, experience and self-efficacy) and centre linguistic diversity predict teacher-perceived challenges in parent collaboration?

The research questions were answered by using data from a teacher survey, consisting of scale questions that were analysed quantitatively as well as open questions that were analysed thematically to better understand the content and nuances of the communication about DLLs' language development and challenges in parent collaboration.

2   Methods

2.1   Participants

The survey was sent to 324 lead teachers in 214 classrooms and 56 ECEC centres, who were recruited out of a total of 336 teachers employed in these classrooms. To participate, the centres had to be in multi-ethnic city districts and serve families with a L1 different from the majority language of Norwegian. In the participating centres, 62% of the children were DLLs. The response rate was 82%, which included 266 teachers in 198 classrooms across 56 ECEC centres. In 34% of the classrooms, two teachers sharing the pedagogical responsibility answered the survey. Of the teacher

respondents, 41% worked with children aged 1–3 years, 52% with children aged 3–6 years and the rest in mixed-age classrooms. Furthermore, 85% were female, 37% spoke another L1 in addition to Norwegian, 37% had 10 or more years of teacher experience and 87% had an ECEC teacher degree. As 13% of the lead teachers did not have an ECEC teacher degree, we can assume that they were granted dispensation from the education requirement for lead teachers, as this is the case for on average 16% of the teachers in Oslo (Oslo Municipality, 2020).

2.2   Procedures

The current study was part of the Oslo Early Education Study, a large-scale study investigating how ECEC centres in five multi-ethnic city districts of Oslo could support children's language development. The measures were part of a larger researcher-developed survey measuring various aspects of teacher characteristics and perspectives. The survey was sent to the teachers' cell phones and conducted online at the beginning of the academic year. It had an introductory part with questions about the teachers and the centres they worked in, including the teachers' gender, L1, education and experience. The main part was organised by different aspects of teacher perceptions, including questions about self-efficacy and teacher–parent collaboration. The teachers were instructed to think about ordinary situations in their classrooms and parents as a group when answering the questions about parent collaboration. The survey included two rating scale questions for each aspect of collaboration: communication and challenges. In order to gain deeper insight into the perceptions and experiences of teachers, and a better understanding of the content and nuances of the two aspects, we also included one follow-up question for each aspect where the teachers could elaborate on their answers regarding communication with parents about DLLs' language development and challenges in parent collaboration.

2.3   Measures

2.3.1   Communication with parents about DLLs' language development

Teacher–parent collaboration can take many different forms. More recent studies have included the aspect of informal communication in teacher–parent collaboration in addition to parental involvement (Fantuzzo et al., 2000), focusing on the overall quality of communication (Li et al., 2023) or the frequency of communication (Perlman and Fletcher, 2012; Swartz and Easterbrooks, 2014; Coelho et al., 2019). In the current study, we wished to know more about how teachers communicate with parents about the topic of dual language development. We developed two items scored on a six-point rating scale, from 'To a small extent' (1 point) to 'To a large extent' (6 points): 'To what extent do multilingual parents tell you about their child's use of the L1 at home?' (Communication 1) and 'To what extent do multilingual parents ask you for advice regarding how to support their child's language development?' (Communication 2). We expected that teachers would report a higher degree of

communication with parents who feel more comfortable in their collaboration with teachers.

2.3.2 Challenges with parent collaboration

Building on the broad literature on how different barriers may weaken teacher–parent collaboration (Aghallaj et al., 2020; Norheim and Moser, 2020; Li et al., 2023), we asked the teachers to rate the extent of challenges they perceive in parent collaboration. We used the term challenge to capture the experience of a variety of potential issues, including negative aspects of the collaboration. Two items were measured on a six-point rating scale, from 'To a small extent' (1 point) to 'To a large extent' (6 points): 'To what extent do you perceive challenges related to parent collaboration?' (Challenges 1) and 'To what extent do you perceive challenges related to parent collaboration due to language barriers?' (Challenges 2). The former asked about challenges in relation to the whole parent population, while the latter specifically asked about language barriers, which we expected would be easier for teachers to identify.

2.3.3 Teacher education

Teacher education was originally measured with eight categories, which included secondary education, ECEC teacher degree and other pedagogical as well as non-pedagogical degrees. The measure was recoded because most of the teachers had an ECEC teacher degree and the other categories of education were heterogeneous and included few teachers. This resulted in two categories: ECEC teacher degree including further education (scored as 1) and non-ECEC teacher degree (scored as 0).

2.3.4 Teacher experience

Years of experience as lead teacher was originally measured on a scale from 0 to 10, where 0–9 equalled 0–9 years and 10 equalled 10 or more years of experience. The measure was recoded, which resulted in more evenly distributed categories: 0–3 years (scored as 1), 4–9 years (scored as 2) and ≥ 10 years (scored as 3).

2.3.5 Teacher self-efficacy

We measured teacher self-efficacy by asking the teachers about their knowledge in specific aspects of child development emphasised in the National Framework Plan (Ministry of Education and Research, 2017), keeping in mind the children in their classroom when they responded. They were asked to evaluate four statements on a six-point rating scale, from 'I know little about this' (1 point) to 'I know a lot about this' (6 points): 'I know how to support children's language development' (Efficacy 1), 'I know how to make children feel secure' (Efficacy 2), 'I know how to support children's social development' (Efficacy 3) and 'I know how to support children's understanding of natural science' (Efficacy 4).

2.3.6 Centre linguistic diversity

Centre linguistic diversity was measured by gathering registry data about the proportion of DLLs at centre level in percent (1–100) from the participating city districts.

2.4 Analysis

To answer the research questions, we ran statistical analyses in Mplus Version 8.10. In preliminary analyses, we investigated the bivariate correlations for all variables. We then used structural equation modelling (SEM) techniques to examine relationships among the variables while simultaneously accounting for measurement error using latent variables. The final fitted structural model included communication and challenges as latent outcome variables, teacher self-efficacy as a latent predictor variable and teacher experience and centre linguistic diversity as observed predictor variables, as these latter two only included one item each. Teacher education was excluded as a predictor in the final fitted model because of low variation and diverse subgroups of other types of education. Preliminary analyses indicated that it had no statistically significant relations in the model, nor did it affect other relationships when included. We included covariances between communication and challenges, as well as between self-efficacy and experience, and self-efficacy and centre linguistic diversity. In preliminary analyses we also ran the model controlling for whether the teachers had Norwegian or another language as their L1. However, as this resulted in poorer model fit and almost identical estimates, we excluded it from the final model. Missing data on each item ranged from 0 to 8.6% and were handled by using full information maximum likelihood procedures. We also used maximum likelihood estimators with scaled corrections to account for non-normality. Furthermore, we calculated intraclass correlation coefficient estimates between ECEC centres for the outcome variables to check for nesting, as classrooms were nested within ECEC centres. The coefficients ranged from 0.03 to 0.23, indicating that some of the variance stemmed from differences between the centres. We therefore calculated the model estimates using maximum likelihood with robust standard errors controlling for dependency at centre level. As fit indices for the model, we used the root mean square error of approximation (RMSEA), the standardised root mean square residual (SRMR) and the comparative fit index (CFI). The RMSEA is an estimation of the model fit in the population, and the SRMR is a measure of the difference between the observed and the predicted correlations, both with values of < 0.10 indicating acceptable fit. CFI compares the model against the null hypothesis, with a value of ≥ 0.90 indicating acceptable fit (Kline, 2016).

We also conducted thematic analyses of the teachers' elaborated answers regarding the two aspects of parent collaboration: (A) communication with parents about DLLs' language development and (B) challenges in parent collaboration. A coding manual was developed by the first author and verified by an independent rater. The inter-rater reliability was calculated with Cohen's kappa and ranged from 0.94 to 0.97. Within both aspects, several themes could be present in one teacher answer. Examples from each theme are translated from Norwegian in the presentation below.

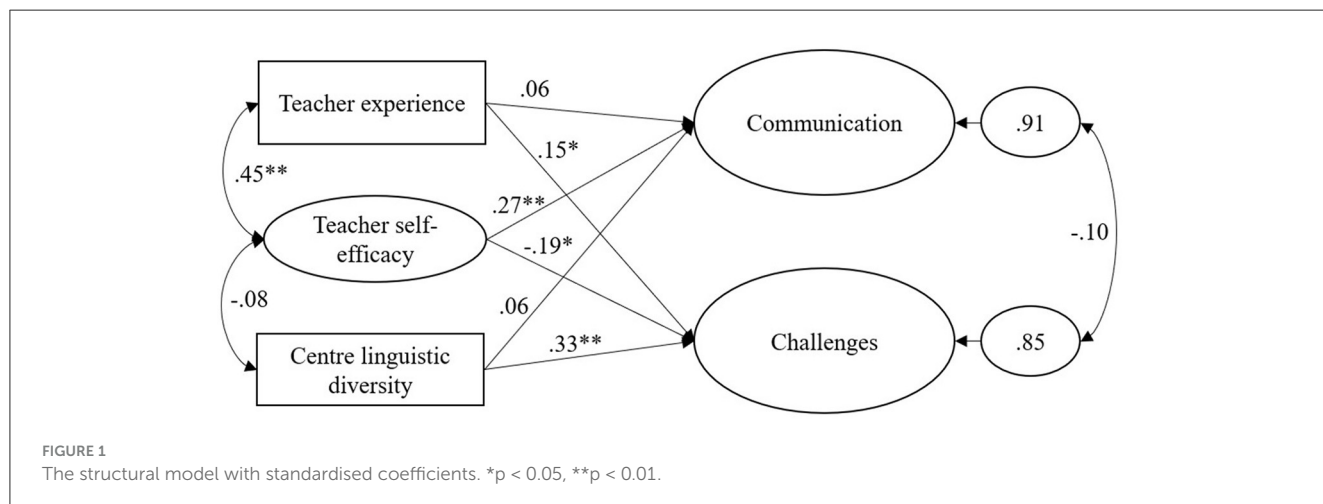TABLE 1 Descriptive statistics and correlation table.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Communication 1	3.94	1.68											
2. Communication 2	3.21	1.63	0.51**										
3. Challenges 1	2.50	1.20	−0.09	−0.06									
4. Challenges 2	2.72	1.32	−0.07	0.09	0.52**								
5. Teacher education	0.87	0.34	−0.10	0.06	0.03	−0.05							
6. Teacher experience	1.96	0.85	0.12	0.14*	0.07	0.08	0.11						
7. Efficacy 1	4.98	0.76	0.18**	0.23**	−0.09	0.05	0.09	0.40**					
8. Efficacy 2	5.56	0.67	0.20**	0.22**	−0.17**	−0.14*	−0.00	0.17**	0.38**				
9. Efficacy 3	5.27	0.69	0.13*	0.18**	−0.09	−0.06	0.05	0.40**	0.58**	0.59**			
10. Efficacy 4	4.40	0.97	0.08	0.13*	0.02	0.04	0.15*	0.21**	0.36**	0.20**	0.40**		
11. Centre linguistic diversity	54.55	24.80	0.04	0.02	0.28**	0.23**	−0.10	0.02	0.03	−0.21**	−0.05	0.07	
12. Teacher L1 (1 = Norwegian, 2 = Other)	1.37	0.48	−0.04	0.06	0.08	−0.11	−0.01	−0.21**	−0.06	−0.10	−0.05	0.11	0.15*

Communication 1 = "To what extent do multilingual parents tell you about their child's use of the L1 at home?"; Communication 2 = "To what extent do multilingual parents ask you for advice regarding how to support their child's language development?"; Challenges 1 = "To what extent do you perceive challenges related to parent collaboration?"; Challenges 2 = "To what extent do you perceive challenges related to parent collaboration due to language barriers?"; Efficacy 1 = "I know how to support children's language development"; Efficacy 2 = "I know how to make children feel secure"; Efficacy 3 = "I know how to support children's social development"; Efficacy 4 = "I know how to support children's understanding of natural science". $^*p < 0.05$. $^{**}p < 0.01$.

TABLE 2 Standardised factor loadings from the structural model.

Factor loadings		Coefficient	Standard error	P-value
Communication	Communication 1	0.68	0.11	0.00
	Communication 2	0.74	0.11	0.00
Challenges	Challenges 1	0.85	0.10	0.00
	Challenges 2	0.61	0.10	0.00
Teacher self-efficacy	Efficacy 1	0.66	0.05	0.00
	Efficacy 2	0.63	0.11	0.00
	Efficacy 3	0.90	0.03	0.00
	Efficacy 4	0.45	0.07	0.00

Communication 1 = "To what extent do multilingual parents tell you about their child's use of the L1 at home?"; Communication 2 = "To what extent do multilingual parents ask you for advice regarding how to support their child's language development?"; Challenges 1 = "To what extent do you perceive challenges related to parent collaboration?"; Challenges 2 = "To what extent do you perceive challenges related to parent collaboration due to language barriers?"; Efficacy 1 = "I know how to support children's language development"; Efficacy 2 = "I know how to make children feel secure"; Efficacy 3 = "I know how to support children's social development"; Efficacy 4 = "I know how to support children's understanding of natural science".

FIGURE 1
The structural model with standardised coefficients. *p < 0.05, **p < 0.01.

3 Results

3.1 Associations between collaboration, teacher and centre characteristics

Descriptive statistics and bivariate correlations for all variables are presented in Table 1. The teachers generally reported a relatively high degree of communication, few challenges and a high degree of self-efficacy. The coefficients indicated that all predictor variables were correlated with at least one of the outcome variables, except for teacher education. All items within the same factor (communication, challenges and self-efficacy) were significantly correlated. Factor loadings from the SEM analysis are provided in Table 2. All items had significant factor loadings ranging from 0.45–0.90. The structural model accounting for associations between communication, challenges, teacher experience, teacher self-efficacy, and centre linguistic diversity is presented in Figure 1. The model had an acceptable fit (RMSEA = 0.08, CFI = 0.90, SRMR = 0.05). The results of the main analysis identified teacher self-efficacy as significantly related to both communication and challenges, indicating that teachers with higher self-efficacy perceived more communication and less challenges in their collaboration with parents. Teacher experience was not associated with communication but had a significant relationship with challenges, suggesting that teachers with more experience perceived their collaboration with parents as more challenging than teachers with less experience. Centre linguistic diversity only had a significant relationship with challenges, indicating that teachers in centres with more DLLs perceived more challenges. Teacher self-efficacy was positively associated with experience, while it was unrelated to centre linguistic diversity. Moreover, there was no significant relationship between the two outcome variables of communication and challenges, suggesting that teachers perceived communicating with the parents of DLLs regardless of the extent to which they experienced challenges in the collaboration with parents.

3.2 Teachers' descriptions of communication with parents about DLLs' language development

Eighty-seven percent of the teachers added descriptions of their communication with parents about DLLs' language development. There were no differences in the rating of communication between the teachers who added a description and those who chose to not answer this item. The answers were organised in two themes: (1) recommendations for language use (63% of all participating teachers) and (2) recommendations for activities (61% of all participating teachers). Within the first theme, the vast majority described recommending using the L1 at home, and none recommended the parents to speak solely the L2, Norwegian. However, the answers varied on a continuum from recommending the language the parents are most proficient in to giving clear recommendations for only using the L1 at home and to keep the L1 and L2 separated. For example, one teacher answered: 'Encourage parents to use the language they know best', while another wrote:

> They should speak their L1 at home with the child and we speak Norwegian in the centre, so the child is not confused about what language to use at home, and easily mix the different languages together.

In this last example, the teacher expressed concern about children using two different languages in the same setting.

Within the second theme, recommendations for activities, the answers varied on a continuum from general to more specific activities. For example, some reported 'Reading books' and 'That the parents should talk more with the children', which are more general activities without specific instructions. On the other hand, one teacher provided a list of more specific activities:

> Reading to children, put into words everything they do and experience with the children. Watch Norwegian children's TV such as NRK Super instead of poor language use online and other children's channels. Invite children home to play and chat with. Play and do fun and meaningful activities together.

The activities also ranged from less interactive, such as watching TV and playing digital games, to more interactive activities, such as active play and asking questions. While many teachers emphasised book reading and frequent use of language, only two briefly mentioned highlighting collaboration with the ECEC centre as important for language development, for example: 'Talk the L1 at home and collaborate with the centre'.

3.3 Teachers' descriptions of challenges in parent collaboration

Twenty-eight percent of the teachers added a description of challenges in parent collaboration. It should be noted that the teachers who added a description of challenges reported significantly more challenges in parent collaboration than the teachers who chose to not answer this item. The answers were organised in two themes: (1) linguistic and cultural differences (19% of all participating teachers) and (2) possible solutions (10% of all participating teachers). Most of the answers within the first theme mentioned language barriers. For example, one teacher emphasised linguistic differences as the main issue:

> Parent collaboration can be challenging when parents do not speak Norwegian well or when it is always the parent who drops off or picks up the child who speaks little Norwegian. Then there will be very little communication during drop off and pick up.

Some also included practical issues regarding food and clothing, as well as different opinions and understandings due to cultural differences. For example, one teacher answered: 'Packed lunches and the understanding of healthy food'. A few teachers referred to characteristics and deficiencies among the parents when explaining the challenges they experienced, placing the responsibility for challenges on the parents. For example, one teacher reported: 'Lack of engagement and interest for the content

and tasks of the centre', indicating that the parents are the ones hindering productive collaboration.

Within the second theme, possible solutions, the teachers offered measures for improving parent collaboration and possible solutions to the challenges they experience. These suggestions included using an interpreter or another employee who speaks the language, gesticulation, body language, written messages and pictures, as well as encouraging L1 communication. For example, one teacher said: 'I use body language, English, and interpreter when needed. Facilitate the use of images and concretes and an opening for parents to ask questions.' None of the teachers mentioned the role of the ECEC centre or how the organisation and structuring within the centre may improve parent collaboration.

4 Discussion

This study sought to explore ECEC teachers' perceptions of communication with parents about DLLs' language development and challenges in parent collaboration in multi-ethnic city districts. The following main findings have emerged from this study: (1) teacher self-efficacy related to supporting child development predicted communication and challenges in parent collaboration; (2) teacher experience and centre linguistic diversity predicted challenges in parent collaboration and (3) communication was not related to challenges in parent collaboration. We also gained supplementary perspectives from the participating teachers related to both communication and challenges in parent collaboration based on the qualitative results.

The results suggested that teachers with higher self-efficacy reported more communication and less challenges in parent collaboration than teachers with lower self-efficacy. If teachers have stronger beliefs in their capability to influence student learning and development, it might increase their efforts to strengthen collaboration with parents by promoting communication and trust and handling potential challenges. This finding is aligned with other studies of teacher–parent collaboration using teacher surveys (Garcia, 2004; Skaalvik and Skaalvik, 2007, 2010). Similarly, teacher self-efficacy has been suggested as a mechanism for promoting teacher–child relationship quality (Yin et al., 2022), which in turn was identified as a predictor of teacher–parent communication frequency in infant ECEC centres (Coelho et al., 2019). This underlines the importance of teacher self-efficacy in building relationships with families.

An association between teacher self-efficacy and parent collaboration has been identified with varying operationalisations of self-efficacy across different groups of participants. In the current study, we measured ECEC teachers' self-efficacy with statements about supporting specific aspects of children's development emphasised in the National Framework Plan (Ministry of Education and Research, 2017), keeping in mind the children in their classrooms when they responded. This specification might have prompted a more contextualised perception of the teachers' own competence, making it possible to identify associations with other variables. Maintaining a balance between domain specificity and generality contributes to both predictive power and practical usefulness (Klassen et al., 2010). While other studies have indicated that professional support on

topics related to diversity and multilingualism can increase intercultural practises (Romijn et al., 2020) and dialogue with parents of DLLs (Peleman et al., 2022), the current study suggests that supporting self-efficacy in child development more generally may increase communication with parents of DLLs.

In addition, we found that more experienced teachers identified more challenges with parent collaboration than less experienced teachers when teacher self-efficacy was included in the model. It may be that more experienced teachers develop an understanding of the complexity of teacher–parent collaboration in multi-ethnic ECEC settings, and are able to identify, acknowledge and address challenges to a higher degree than less experienced teachers. This might be pivotal for strengthening collaboration with parents. Challenges by themselves do not necessarily hinder productive collaboration but require measures for promoting open and supportive communication, which is suggested by the qualitative results of the current study. When elaborating on challenges in parent collaboration, a number of teachers included possible solutions and measures for improvement in their answer, such as using an interpreter or another employee who speaks the language as the parents. Similarly, more teacher experience has been associated with closer teacher–parent collaboration in previous studies (Castro et al., 2004; Cantin et al., 2012).

Nonetheless, teacher experience was unrelated to perceived communication with parents, suggesting that the teachers perceived parents to approach them regardless of their years of experience. A lack of relationship between teacher experience and teacher–parent collaboration has also previously been identified (Perlman and Fletcher, 2012; Swartz and Easterbrooks, 2014). The importance of years of teacher experience in relation to parent collaboration might depend on the type of experiences teachers encounter. Enactive mastery experiences are the most influential source of efficacy information (Bandura, 1997; Tschannen-Moran and Hoy, 2007; Gale et al., 2021), and experienced teachers may vary in their success, which builds a robust belief in one's efficacy, and failures, which undermine it. Teacher self-efficacy was positively associated with experience in the present study; however, other studies have reported negative associations (Skaalvik and Skaalvik, 2007; Guo et al., 2010).

In addition to teacher characteristics, we also investigated the role of centre linguistic diversity. The results indicated that teachers in more linguistically diverse centres perceived more challenges in parent collaboration, even when teacher experience and self-efficacy were included in the model. It should be noted that this association might have been increased by explicitly referring to multilingualism in both measures. The teachers' elaborated answers regarding challenges in parent collaboration mostly included cultural and linguistic differences, which may say something about social inequalities and the complex challenges of living in disadvantaged neighbourhoods (McCoy et al., 2015; Minh et al., 2017; NOU 2020:16). However, the elaborations also revealed that a small number of the teachers expressed more negative assumptions, highlighting parent deficiencies and an understanding of parents as accountable for the challenges. Similarly, Sønsthagen (2020) reported that parents had to fulfil certain criteria, such as a certain level of Norwegian language skills,

to achieve legitimacy and be recognised as significant stakeholders. Teachers can develop negative assumptions about parents who do not approach them, which in turn can cause feelings of marginalisation and discrimination in families (Adair, 2015). Even though very few teachers expressed such views of parents, it can still be harmful for the relationship when it occurs.

The results further indicated that teachers did not experience more extensive communication with parents about DLLs' language development in more linguistically diverse centres. This finding may reflect the fact that there is a lack of structured measures for promoting communication about dual language development in classrooms with high proportions of DLLs. Similarly, van der Wildt et al. (2023) found that language advice was not frequently given by teachers to multilingual parents in Flanders, and Murray et al. (2015) suggested that minority language parents communicated less with teachers than majority language parents in Australia. A potential for improvement is also indicated by the qualitative results of the present study. When elaborating on their communication with parents of DLLs, many teachers described giving recommendations for a variety of activities that may promote language development, such as book reading and frequent use of language. However, some teachers expressed giving recommendations for language use based on the misperception that using two languages in one setting is problematic. This is similar to what has previously been demonstrated in both kindergarten and primary school teachers (Strobbe et al., 2017) and parents of DLLs (Luo et al., 2021). In addition, the qualitative results also demonstrated that no teacher mentioned the centre's role in improving parent collaboration, indicating a potential for the ECEC centre to support their teachers and parents to communicate and collaborate. ECEC teachers and other professionals are embedded in an organisation which provides the structural preconditions that shape teachers' practise and opportunities for professional development (Slot and Nata, 2019).

Furthermore, we found that teachers perceived being a source of support for the parents of DLLs (communication) regardless of the extent to which they experienced difficulties in the collaboration with parents (challenges). This finding may imply that teachers' understanding of their profession related to supporting parents is not straightforward. It is, after all, not clearly described how to support parents and strengthen the quality of teacher–parent collaboration in the Kindergarten Act (2005) or the National Framework Plan (Ministry of Education and Research, 2017). The lack of relationship can also be caused by the fact that most teachers reported few challenges, while there was more variation in the measure of communication. The fact that most teachers experienced few difficulties in their collaboration with parents may reflect that it is not perceived as very demanding for teachers in a setting with few specific requirements regarding parent collaboration. However, it might also reflect the willingness to report challenges. The aspect of challenges is negatively loaded and has normative connotations, so the teachers could feel it was expected of them as ECEC professionals to not report challenges with parent collaboration. This was also apparent in the qualitative results, where the teachers who added a description of challenges reported significantly more challenges in parent collaboration than the teachers who chose to not elaborate on the subject, while this was not the case for communication.

Nevertheless, we were still able to identify predictors of both aspects. By investigating both communication and challenges in relation to teacher and centre characteristics, and incorporating qualitative data to gain deeper insight, the findings of this study contribute to a better understanding of the mesosystem and the interconnections between the microsystems of home and ECEC settings.

4.1 Limitations and future directions

Even though teacher perceptions are essential to highlight as they are responsible for facilitating collaboration with parents, it is a limitation of this study that parent perceptions were not included. Furthermore, we investigated some important predictors of teacher-perceived parent collaboration, but a substantial part of the variance in communication and challenges was not explained by the model. It is plausible that other teacher characteristics, such as sociability or stress, could explain some of the variance. The self-reported nature of our data may also be sensitive to social desirability bias. Teachers might have answered more favourably about their own abilities as well as perceived challenges. In addition, the model fit was acceptable, but not good. A larger sample with more items, including refined measures of teacher education and experience, could give an even more nuanced and robust picture. It is also plausible that there is a two-way relationship between teacher self-efficacy and teacher-parent collaboration. For example, if teachers experience a well-functioning collaboration with parents, this might contribute to increasing their self-efficacy.

However, the findings of this study are important as it is one of few studies investigating the relationship between several teacher and centre characteristics and parent collaboration in multi-ethnic settings. Future studies should further explore the role of teacher education and whether supporting teacher self-efficacy can strengthen parent collaboration. In addition, whether self-efficacy might have a moderating effect on the relationship between other variables, such as centre linguistic diversity and challenges, should be investigated.

Lastly, the qualitative data was limited in this study as it was collected through a survey where the teachers provided relatively short answers. In addition, many teachers chose not to elaborate regarding challenges in parent collaboration. Nevertheless, we still gained valuable insight which revealed that, for example, some teachers recommended parents to keep languages separated and to solely use the L1 at home, and some teachers perceived the parents as responsible for the challenges in their collaboration. Such teacher perceptions should be further explored through qualitative interviews.

4.2 Implications

This study identified variation in teacher-perceived quality of parent collaboration in ECEC, as well as factors that may contribute to either strengthening or weakening the collaboration in a context where the structural quality is highly regulated. The relationship between teacher self-efficacy and parent collaboration suggests

that working with staff competence in professional development measures, where teachers are offered the opportunity to strengthen their knowledge and self-efficacy in child development, might be an important mechanism to promote parent collaboration. This is especially important for ECEC teachers working in multi-ethnic settings characterised by diversity in the population they serve.

Data availability statement

The datasets presented in this article are not readily available because of concerns regarding participant anonymity. Requests to access the datasets should be directed to t.s.r.ovati@iped.uio.no.

Ethics statement

The studies involving humans were approved by the Norwegian Agency for Shared Services in Education and Research (approval no. 564726). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

TO: Writing – original draft. VR: Writing – review & editing. VG: Writing – review & editing. RL: Writing – review & editing.

Conflict of interest

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

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