The effects of foreign language programmes in early childhood education and care: a systematic review


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The effects of foreign language programmes in early childhood education and care: a systematic review

Anne-Mieke M.M. Thieme, Kyra Hanekamp, Sible Andringa, Josje Verhagen and Folkert Kuiken

University of Amsterdam, Amsterdam, the Netherlands

ABSTRACT
This systematic review investigates the effects of foreign language programmes in early childhood education and care (ECEC), which are increasingly popular. Foreign language ECEC centres familiarise very young children with a foreign language, and in general also expose them to the majority language. This review synthesises research on the effects of foreign language ECEC on children’s development of the foreign language, majority language, first language, and wellbeing, as well as programme-related and child-related factors that influence language development and wellbeing. The reviewed studies indicate that foreign language ECEC fosters foreign language development, without negatively impacting the majority and first language. Children can experience positive wellbeing in these programmes, but only if programmes are play-based and if the language policy is not too strict. Some studies report that programme characteristics, such as input quantity, language policy, and teacher strategies, modulate the effects of foreign language ECEC on language development and wellbeing. Few of the reviewed studies examined child characteristics, but the available findings indicate that children’s age, as well as their temperament and in-class behaviour, are related to foreign language learning. However, these findings need to be interpreted with caution, because research into foreign language ECEC is still in its infancy.

1. Introduction

Interest in foreign language learning through early childhood education and care (ECEC) has grown tremendously in many countries (Bergström et al., 2016; Ferjan Ramírez & Kuhl, 2020), perhaps because parents and policymakers think young children can quickly and easily learn a foreign language, which will later benefit them on the job market (Myles, 2017). Parents send their children to a foreign language ECEC centre for part of the week, where teachers provide exposure to a foreign language, a language that is assumedly unfamiliar to the children and not a majority or minority language in the...
larger environment (Howard et al., 2003). However, one might wonder to what extent exposure at an ECEC centre can contribute to learning a foreign language, and whether children’s wellbeing and development of other languages, such as the first and majority language, are impacted by this foreign language exposure. Moreover, a relevant theoretical and practical question is what type of foreign language ECEC programme is conducive to language learning and wellbeing. Lastly, the question arises if the outcomes of foreign language ECEC depend on children’s backgrounds, such as socio-economic status and home language. The goal of the present article is therefore to review the effects of foreign language ECEC programmes on young children’s foreign, majority and first language development and wellbeing, as well as the roles that programme-related and child-related characteristics play in programme outcomes.

There are various reasons to review language development, wellbeing, programme-related effects, and child-related effects in foreign language ECEC. The aim of foreign language ECEC is generally to enable children to develop proficiency in both the foreign language and majority language of the society through exposure to both (Wipperman et al., 2010). However, it is unclear if bilingual exposure in foreign language ECEC will result in multilingual proficiency. For example, studies in multilingual home environments show that children sometimes only develop receptive multilingualism (De Houwer, 2015a). Moreover, the often-made time-on-task argument suggests that time dedicated to learning the foreign language may come at the expense of proficiency in the other language(s) children are exposed to, such as majority or first language (Leseman et al., 2009). Indeed, there have been indications that the vocabulary sizes of multilingual children are smaller in each language separately compared to monolingual children (Bialystok, 2009). Reversely, the Linguistic Interdependence Hypothesis proposes that children’s first and second languages positively influence each other’s development, such that learning a foreign language in ECEC might improve native language skills (Cummins, 1979).

It is unclear which effects exposure to an unfamiliar language has on young children’s wellbeing, the degree to which they ‘feel at ease, act spontaneously, show vitality and self-confidence’ (Laevers, 2015, p. 2). On the one hand, research in the primary school context indicates that children tend to be enthusiastic about learning a new language (Myles, 2017). On the other hand, studies in multilingual home settings suggest that children’s wellbeing may be compromised if they do not achieve balanced multilingual development (De Houwer, 2015a). There are preliminary indications that children who do not understand or speak the ECEC language(s) well may experience lower wellbeing (Cekaite & Evaldsson, 2017; De Houwer, 2015b). Wellbeing, in turn, influences children’s ability to learn (Marbina et al., 2015), and can therefore have an impact on children’s language development in foreign language ECEC.

The effects of foreign language ECEC on language development and wellbeing might depend on the type of programme and the children attending it. Programme here refers to the ways in which the foreign language input is organised at the ECEC centre, for example in terms of activities, times of the day, and speakers. We could hypothesise that input quantity and quality in a foreign language ECEC programme are positively associated with foreign language development, as in the home setting (Hoff & Core, 2013; Unsworth, 2016). Input quantity in this context denotes the amount of input in a language provided by teachers in years, months, days, or hours. This is a very rough measure, while intensity considers the amount of input each individual child has access
to, based on factors such as the actual time a child is present at preschool, and the amount of time a child spends interacting with a teacher (Bergström et al., 2016). Input quality in this context has been defined as the way in which input is presented to the child, for example in terms of vocabulary sophistication, the use of teacher strategies and practices such as routines and feedback, the use of the first language, and the context in which input is embedded (Weitz et al., 2010). Moreover, we know from primary school research that the same bilingual programme can result in different outcomes for different children, for example because of differences in language background, socioeconomic status, and parental involvement (Genesee, 2004).

To the best of our knowledge, this is the first review on foreign language programmes with preschoolers in ECEC settings. The current review differs from earlier reviews in that it focuses on foreign language ECEC programmes rather than bilingual ECEC programmes in which children’s home languages are spoken (Bialystok, 2018; Buysse et al., 2014) and looks at children of preschool age rather than primary school age (Butler, 2015; Nikolov & Mihaljević Djigunović, 2011). In foreign language ECEC, the ECEC centre is often the only source of foreign language input, and children are still very young, requiring different approaches to teaching. Furthermore, earlier reviews have not devoted much attention to wellbeing, programme characteristics (such as input quantity and teacher strategies), and child characteristics (such as home language background and socioeconomic status). Therefore, the present review is guided by the following questions:

(1) What are the effects of a foreign language ECEC programme on young children’s development of the foreign language, other languages such as the majority and first language, and on their wellbeing?
(2) Which programme-related factors influence the outcomes of foreign language ECEC?
(3) Which child-related factors influence the outcomes of foreign language ECEC?

2. Methodology

To find eligible studies for this review, we used the Core Collection of Web of Science (Web of Science Group, 2021). We opted for Web of Science because it is a worldwide collection of the most important research output forms (articles, conference proceedings, books), and all included publications are peer-reviewed and impactful in the field (based on various criteria, including a citation analysis, Web of Science Group, 2021). We entered the following search term in the Core Collection of Web of Science:

TS = ([(bilingual OR multilingual OR immersion OR “second language” OR L2 OR “foreign language”) AND (preschool* OR childcare OR “child care” OR daycare OR “day care” OR kindergarten* OR “early childhood education and care” OR “infant education” OR pre-primary)])

Our selection criteria were as follows: articles should (i) investigate foreign language ECEC (Howard et al., 2003), (ii) examine very young children, meaning that the study included children aged 0–4 years old (and sometimes, additional children aged 5–7 years old), and (iii) focus on language development or wellbeing, or how these relate to characteristics of the programme or the children. We read the titles and abstracts of studies, and in case of doubt, also the methodology, to determine whether studies met
the inclusion criteria. Articles in other languages were also examined: they all contained titles and abstracts in English, and we translated the methodology if necessary.

Our initial search yielded 1812 unique results, featuring records up until 10 December 2020. Most articles did not meet the inclusion criteria, predominantly because they featured older children; focused on the primary school context; examined ECEC programmes with a home or minority language, instead of a foreign language; did not contain original research; or did not involve an ECEC programme. For seven articles, we were unsure whether they met the inclusion criteria based on the abstract, but the full article was inaccessible through the university library or other means, so they were excluded. Thirty-seven articles met the inclusion criteria. Of these, five articles reported extremely short exposure periods to the foreign language (only a few minutes) and were excluded.

This resulted in a final set of 32 included articles which we read in detail and report on in this review article: 14 quantitative, 16 qualitative, and 2 mixed-methods studies. None of these were included in earlier reviews that focused on bilingual ECEC for very young children at preschool age (Bialystok, 2018; Buysse et al., 2014), because those reviews did not examine the foreign language context. Studies targeted the outcomes of foreign language ECEC in terms of language development and wellbeing (n=24), programme-related factors (n=19), and child-related factors (n=8). Twenty-seven studies investigated the introduction of English through foreign language ECEC, two studies examined a combination of English and Spanish as foreign languages, two studies looked at French, and one at German as a foreign language. Detailed information about each study’s focus, main aim, participants, method, and main findings can be found in the Supplemental Online Material.

The remainder of this paper will focus on our three review questions. The first part reviews the outcomes of foreign language ECEC programmes in terms of foreign language development, development of the majority and first language, and wellbeing. The second part describes which programme characteristics might influence language development and wellbeing, including input quantity, programme design qualities, and teacher strategies and interaction practices. Lastly, we consider which child-related factors have been explored in research on foreign-language ECEC, such as the role of age, socio-economic background, and language background.

3. Outcomes of foreign language ECEC

3.1 Foreign language development

In total, 21 studies looked at children’s development of the foreign language. Five longitudinal studies with high foreign language exposure provide the most compelling evidence for lasting foreign language development in foreign language ECEC (Bergström et al., 2016; Buyl & Housen, 2014; Cheour et al., 2002; Ferjan Ramírez & Kuhl, 2017, 2020). These studies showed that children developed receptive and/or productive vocabulary and grammar skills in the foreign language, alongside foreign phoneme discrimination abilities, over the course of several months or years, and there were indications that these learning gains were maintained for months after the end of the foreign language programme (Ferjan Ramírez & Kuhl, 2017, 2020). Most of the ECEC centres in these longitudinal studies offered English as a foreign language, alongside the majority
The exact approaches differed: some used a one-teacher-one-language policy (Bergström et al., 2016; also some centres in Buyl & Housen, 2014, see Wipperman et al., 2010), while others had set English moments during the week (e.g. four to five hours a week, Ferjan Ramírez & Kuhl, 2017, 2020). Children in these studies spanned different age ranges: 0–3 years (Ferjan Ramírez & Kuhl, 2017, 2020), 2–6 years (Bergström et al., 2016), and 3–6 years (Buyl & Housen, 2014; Cheour et al., 2002). In several ECEC centres, children did not have a monolingual majority language background (Buyl & Housen, 2014). In the ELIAS project, receptive vocabulary (n=217) and grammar (n=168) development of children in nine bilingual preschools in Germany, Belgium and Sweden were tested at least twice with 6–12 months apart (Buyl & Housen, 2014). Bergström and colleagues (2016) assessed productive vocabulary and grammar development at four points over the course of two and a half years in an English-German centre in Germany. Ferjan Ramírez and Kuhl (2017, 2020) followed more than 250 children in total in Spanish-English infant education centres in Spain after 18 and 36 weeks of the intervention. All studies found significant foreign language learning gains, and Ferjan Ramírez and Kuhl (2017, 2020) showed that learning effects were retained for an additional 18 weeks after the end of the programme.

That said, several studies reported a large gap between receptive and productive skills, with productive skills lagging behind (Lockiewicz et al., 2018, also see Rohde, 2010). Moreover, some studies found more moderate learning gains than the longitudinal studies above, which seemed to be related to programme characteristics. For example, Lugossy (2018) examined two English-Hungarian preschools in Hungary with daily English sessions and occasional use of English during the day. She related the small learning gains of the 36 children in the study (1–7 years old) to the low need to communicate in English in the preschool, because of the frequent use of Hungarian and the low use of scaffolding techniques, such as elicitation and feedback. Overall, however, foreign language ECEC seemed to lead to lasting foreign language development in the reviewed studies, especially in case of prolonged and frequent exposure.

### 3.2 Development of other languages

In total, nine studies examined the development of other languages in foreign language ECEC, to assess whether exposure to a foreign language comes at the expense of the other language(s), often the first or majority language. Four quantitative studies compared the results of an experimental foreign language ECEC group to those of a control group, and generally did not find negative effects on first language development (Bergström et al., 2016; Ferjan Ramírez & Kuhl, 2017, 2020; Takahashi et al., 2011). For example, Ferjan Ramírez and Kuhl (2017, 2020) randomly assigned Spanish-speaking children (n=250 in their 2017 study; n=252 in their 2020 study) to either a foreign language intervention group or a control group in infant education centres in Madrid. In the intervention group, children were exposed to four to five hours of English per week, whereas the control group was exposed to two hours of English per week. Spanish receptive vocabulary development did not differ between children in the foreign language intervention group and the control group, and there was no interaction between time and group.

Several qualitative studies in various settings underscore these results (Alstad & Tkachenko, 2018; Boyd & Ottesjö, 2016; Elvin et al., 2007; Lucas et al., 2020). They suggest
that exposure to a foreign language could lead to positive transfer in the first language (Lucas et al., 2020), increased majority and first language use of children with a migration background (Alstad & Tkachenko, 2018), and awareness of distinctive linguistic features of the majority and foreign language (Boyd & Ottesjö, 2016; Elvin et al., 2007). The only study that reported slower development of other languages, in this case the first language, was conducted at an English-only centre (Lin & Johnson, 2016). In this study, 25 Mandarin-speaking 2-to-6-year-olds in the foreign language programme scored significantly lower on Mandarin receptive and expressive vocabulary tests than 24 monolingual peers receiving no English input (matched on gender, nonverbal intelligence, and parental education). A possible explanation for this finding, also acknowledged by the authors, is that children were not exposed to Mandarin at preschool, and thus lacked school vocabulary in Mandarin. In the other studies with control groups that were described earlier, this was not the case, which might explain why foreign language ECEC generally did not negatively affect children’s development of the other language(s), often the first or majority language.

### 3.3 Wellbeing

Five studies in our set discuss how foreign language ECEC impacts on children’s wellbeing. Three of these studies reported that the foreign language programme contributed to children’s wellbeing (Alemi et al., 2017; Alstad & Tkachenko, 2018; Elvin et al., 2007). Positive wellbeing seemed to be related to the pedagogical approach in these studies: teachers were careful when introducing the foreign language to the children, devoting attention to reducing anxiety and developing positive feelings, and the programmes were informal and play-based (Alemi et al., 2017; Elvin et al., 2007). The programme that Elvin et al. (2007) describe, for example, was based on games, songs, and stories, and the focus was on enjoyment and play; there was no instruction. Roughly 40 children (ages 3–6) participated, and observations showed that they enjoyed learning a new language. Alstad and Tkachenko (2018) also observed positive effects of foreign language ECEC on the wellbeing of minority language children in Norwegian ECEC centres, as they no longer felt alone in their multilingualism and language learning experiences.

However, not all studies reported positive results, and this seems to be related to programme design (Caporal-Ebersold & Young, 2016; Lugossy, 2018). In the study by Lugossy (2018), English sessions took place in an unfamiliar room, with unfamiliar teachers, in an unfamiliar language, and were very lesson-like. Observations showed that children wanted to leave, barely spoke the foreign language, and were crying and even kicking the teacher. When one teacher decided to break with institutional policy and offer more naturalistic English sessions, children’s wellbeing seemed to increase. The same tension between institutional language policy and children’s wellbeing also surfaced in another ethnographic study, which investigated an English-French parental creche in Strasbourg with a strict one-teacher-one-language policy (Caporal-Ebersold & Young, 2016). Specifically, teachers expressed in interviews that they could not always abide by this policy, and for example considered it necessary to switch languages if children’s wellbeing was at risk. In sum, earlier studies show that play-based programme with a flexible language policy seemed to be most conducive to wellbeing, with teachers playing an important role in promoting wellbeing.
4. Programme-related factors

4.1 Input quantity

As already became evident above, the reviewed studies varied widely in programme characteristics of the foreign language ECEC centres investigated. Importantly, there were clear differences in input quantity, both across studies, and within studies. Some ECEC centres used 50–50 (for example, one-teacher-one-language) approaches (Bergström et al., 2016), while others mostly used the foreign language, for example for all instructional activities (Boyd & Ottesjö, 2016). Again others mostly used the majority language and provided exposure to the foreign language at short and set points in time (Takahashi et al., 2011). A few studies indicated that the foreign language was used less in practice than on paper (Benz, 2017; Lugossy, 2018). Only a few reviewed studies discussed the role of input quantity and intensity in foreign language ECEC (Bergström et al., 2016; Buyl & Housen, 2014), and they all looked at foreign language input and development only.

Bergström and colleagues (2016) examined input intensity in a German-English preschool, and calculated the total number of hours that each child (n=27) spent interacting with the foreign language teacher, as well as the elaborateness of these contact moments. The authors found that input intensity was significantly related to receptive vocabulary and grammar knowledge in English at the last two (of four) time points over two and a half years. Similar findings on input intensity were obtained in the aforementioned ELIAS project (see Rohde, 2010; Steinlen et al., 2010). However, even in cases of intensive exposure to the foreign language for several years, children sometimes only developed receptive skills (see Rohde, 2010). Moreover, input quantity did not seem to be the only determinant of learning in some studies, as lower input quantity groups sometimes did not score lower than higher input groups (Alemi & Haeri, 2017, 2020; Buyl & Housen, 2014). Taken together, the results of these studies suggest that input quantity and intensity are important factors, but that other factors, like input quality, also play an important role in foreign language learning in ECEC.

4.2 Programme design qualities

Eight qualitative studies looking into programme design qualities in terms of staff and language policy suggest that a flexible language policy is vital to the success of foreign language ECEC (Caporal-Ebersold & Young, 2016; Lugossy, 2018; Sun et al., 2015). These studies observed adverse effects of strict language policies in which teachers may only use the foreign language. For example, Sun and colleagues (2015) conducted observations of four Chinese-speaking 3-year-old children during a 20-week-long English programme in China. These authors showed that an English-only policy could lower children’s participation and motivation. Alstad and Tkachenko (2018), in their examination of teacher practices in Norwegian-English ECEC centres in Norway, noted that teachers often abandoned the one-teacher-one-language policy, because they found it unnatural and noticed that it hampered mutual understanding and teacher–child relationships.

Another programme design topic for foreign language ECEC is teacher competence. In several studies, teachers had not received specific training for teaching foreign
languages to young children, or had little experience with foreign language teaching (Andúgar & Cortina-Pérez, 2018; Kaščák et al., 2012; Lugossy, 2018). Based on interviews with 32 English teachers in an English-Spanish preschool in Spain, Andúgar and Cortina-Pérez (2018) noted that there appeared to be a shortage of teachers who were specialised in the ECEC age group and were able to provide high-quality input and keep children engaged. Moreover, in Lin’s (2012) study at a Chinese-English ECEC centre in China, teachers sometimes had to rely on the first language, because their proficiency in the foreign language was not high enough. This low proficiency in the foreign language and reliance on the first language could result in less (naturalistic) exposure to the foreign language. Taken together, the results of these studies suggest that an effective foreign language ECEC programme requires well-educated, experienced, and professional teachers who can provide age-appropriate activities, are proficient enough in the foreign language, and do not stick rigidly to a language policy.

4.3 Teacher strategies and interaction practices

Thirteen mostly qualitative studies discussed a wide array of teacher strategies and interaction practices and showed that these contributed to high quality input in foreign language ECEC. Scaffolding techniques (repetition, elicitation, feedback, etc.) appeared to promote foreign language learning in various studies (Björk-Willén, 2008; Fleta Guillén, 2018; Lin, 2010; Lin, 2012; Lugossy, 2018). Lin (2012), in an observation study, compared three scaffolding methods while children (n=93, aged 3–4) were playing a language game in a Mandarin-English bilingual ECEC centre in China. The author describes the advantages of scaffolding that used both the foreign language and first language: it combined foreign language exposure with comprehensible input, children’s noticing, and use of prior knowledge.

Besides the use of interactional techniques, meaningful language input is also highlighted as an important gateway to learning in various studies, and this can take the form of, for example, games, songs, and stories (Albaladejo Albaladejo et al., 2018; Elvin et al., 2007; Fleta Guillén, 2018; Lugossy, 2018; Pino Juste & Rodríguez López, 2010). Albaladejo Albaladejo and colleagues (2018) compared the effectiveness of songs and stories in vocabulary acquisition at a Spanish-English preschool in Spain. The 17 Spanish-speaking children, aged 2–3 years old, took part in one intervention each week: in the first week stories, in the second week songs, and in the third week a combination of songs and stories. Stories were most effective in teaching vocabulary. The authors noted that the effectiveness of stories over songs for foreign language learning in this age group echoed earlier findings (Leśniewska & Pichette, 2016). However, song selection is also important: as Pino Juste and Rodríguez López (2010) remarked, many traditional children’s songs use quite advanced and archaic language, and might therefore not be a source of meaningful language input.

Another type of activity that could be useful in developing the foreign language is the use of routines, as mentioned in several studies (Björk-Willén, 2008; Fleta Guillén, 2018; Lugossy, 2018). These are recurring activities with rather fixed forms and content, such as greeting rituals or lunch routines (Björk-Willén, 2008). Routines might not only be a useful tool for developing language competence in the second language, but also aid understanding and predictability. This became apparent when teachers did not stick to
their routines (Björk-Willén, 2008; Kaščák et al., 2012), for example in a study in a multilingual preschool in Sweden, where Swedish was the main language, and English and Spanish language groups met four times a week (Björk-Willén, 2008). The children who participated (n=24) were aged 3–5 years and came from diverse different home language backgrounds. Qualitative analyses of teacher–child conversations showed that the children got confused when the teacher deviated from the routines in the foreign language and did not understand what was expected of them. Routines might also prove beneficial to language learning in another way: by providing opportunities for children to re-enact these sequences in peer play. In another study in the same multilingual preschool in Sweden, children enjoyed repeating routines during peer interactions, which leads to the question whether promoting these interactions could help children consolidate what they have learned (Björk-Willén & Cromdal, 2009).

More generally, peer interactions in foreign language ECEC might foster foreign language development (Wang & Hyun, 2009). Participant observations in a Mandarin-English preschool in Taiwan showed that children (n=44, 3–5 years old) assisted each other in language learning during peer interactions using scaffolding techniques (Wang & Hyun, 2009). Alstad and Tkachenko (2018) in their aforementioned study, showed that it might be helpful to introduce the foreign language through a puppet, as children might then also start talking to the puppet in the foreign language during free play. High-quality peer play among children themselves could therefore also create opportunities for foreign language learning. Besides these peer interactions, the studies in this review showed the importance of various teacher strategies and practices, such as scaffolding, routines, and stories, songs, and games.

5. Child-related factors

Much of the evidence about foreign language ECEC is based on children living in western countries, mainly in Western Europe (e.g. Germany, Belgium, Spain, Sweden). The foreign language that children were learning was generally English, while their home language was often another Germanic or Indo-European language (Bergström et al., 2016; Buyl & Housen, 2014; Ferjan Ramírez & Kuhl, 2017, 2020). Several researchers noted that foreign language ECEC programmes were generally attended by children from high socioeconomic backgrounds (Benz, 2017; Lin & Johnson, 2016; Lugossy, 2018). It is important to investigate if foreign language ECEC programmes are beneficial for diverse groups of children, but only eight of the reviewed studies investigated this issue. These studies looked at socioeconomic status, language background, child behaviour in class, and age. It is hard to draw conclusions on the basis of these studies, as there were not many and their results were sometimes contradictory.

Ferjan Ramírez and Kuhl (2017) considered the effects of foreign language ECEC on children with varying socioeconomic status, which has often been discussed in relation to bilingual education (Genesee, 2004). The authors found no effects of neighbourhood income on foreign language learning. Of course, neighbourhood income is a crude measure of children’s socioeconomic status, and because it was measured at the ECEC centre level, it may have been confounded with other ECEC centre characteristics.

A related factor might be parental involvement, which was studied at three rural English-Spanish preschools in Spain attended by lower socioeconomic status families.
Parental questionnaires (n=244) and interviews with staff suggested that both parents and teachers valued parental participation and recognised that it could increase foreign language learning in children. However, parental involvement was low in the foreign language programmes for various reasons, including low parental English proficiency.

The languages that parents speak with their children could also influence the outcomes of a foreign language ECEC programme. For some children, both daycare languages were new, as they also did not speak the majority language at home (Björk-Willén & Cromdal, 2009; Buyl & Housen, 2014; Lugossy, 2018). For other children, the foreign language was not new, as they actually spoke it at home (Benz, 2017; Björk-Willén, 2008; Boyd & Ottesjö, 2016; Wang & Hyun, 2009). This means that the proposed theoretical categorisation (Howard et al., 2003) of foreign language programmes is not as clear-cut in practice. Javorsky and Moser (2021) found that non-majority language background was not an important predictor for French language development in an English-French preschool in the US South, but exposure to French was relatively modest, with a weekly 30–60 minute world language (French) class during 10 weeks. Moreover, the study was based on only 12 children aged 3 years old. However, these results mirror findings from the larger ELIAS project: differences in foreign language outcomes were not related to home language background, and typological distance between home language and foreign language had no clear effect on foreign language learning (Buyl & Housen, 2014, see also Rohde, 2010; Steinlen et al., 2010). The few results on home language background therefore suggested no effects of home language on foreign language learning.

Child behaviour has not been studied extensively either, and only in small samples. Albaladejo Albaladejo and colleagues (2018) indicated that child behaviour in class could be related to learning, as the two children with the highest learning had a quiet focus during the session, while the two children with the lowest learning were more active during the session. Javorsky and Moser (2021) found that children’s engagement was an important predictor of French learning in the 12 children, in contrast to age, gender, or home language background. Temperament of the four children in the aforementioned study by Sun and colleagues (2015) was assessed with a parental questionnaire and appeared to be related to their language development. Higher adaptation and activity levels, as well as positive mood and more initial reactions were related to more foreign language production during the activities. While the few studies on child behaviour therefore showed some tentative evidence for effects on learning, all of them are very small-scale studies.

Lastly, age is a complex factor to examine, because it may be confounded with many other factors, such as age of onset and cumulative exposure to the foreign language. Javorsky and Moser (2021) found that age was not significantly related to French learning, which could be due to the small sample size (n=12). In the study on English-Spanish ECEC that was described earlier, Ferjan Ramírez and Kuhl (2017) looked at differences in language outcomes in four age clusters: 7–14 months, 14–20 months, 20–27 months, and 27–33 months. The study showed that every age group (n=250) attending foreign language ECEC outperformed the control children on both vocalisations and mean length of utterance. Older children showed larger learning gains during the study than younger children in English productions, which might be related to maturational
differences in production, as the youngest children were barely 1 year old. Other studies on age were even harder to interpret, because a higher age was correlated with higher cumulative exposure (Hidaka et al., 2012; Łockiewicz et al., 2018). These studies showed higher foreign language test scores in the older groups of children, but this could be due to both age-related cognitive development or higher cumulative input, as the authors also acknowledge. Results on age, like on other child-related characteristics, are therefore not only scant, but also hard to interpret.

6. Discussion

6.1 Summary of review findings

In this review, we synthesised findings on foreign language ECEC in preschoolers. The first aim of our study was to examine the effects of young children’s exposure to a foreign language in ECEC. In line with earlier reviews in different ECEC settings (Bialystok, 2018; Buyssse et al., 2014), we concluded that research showed positive effects of foreign language ECEC on children’s foreign language development (Bergström et al., 2016; Buyl & Housen, 2014; Cheour et al., 2002; Ferjan Ramírez & Kuhl, 2017, 2020; Hidaka et al., 2012). In several studies, children mostly developed receptive skills in the foreign language (Łockiewicz et al., 2018, also see Rohde, 2010), which echoes other research in different bilingual ECEC contexts (Björklund et al., 2014; Prošić-Santovac & Radović, 2018). This might be linked to the young age of children, in which they are also still developing their first language. Negative effects were generally not reported in the studies looking into children’s development of the majority and first language (Alstad & Tkachenko, 2018; Bergström et al., 2016; Boyd & Ottesjö, 2016; Ferjan Ramírez & Kuhl, 2017, 2020; Lucas et al., 2020; Takahashi et al., 2011). However, one study suggested that exposure to the first language at preschool was important for children to develop school-related vocabulary in this language (Lin & Johnson, 2016). The few studies investigating children’s wellbeing included in our study review indicated that foreign language ECEC programmes could lead to positive wellbeing in children in general, and additionally to a feeling of recognition and acceptance of children with different language backgrounds (Alemi et al., 2017; Alstad & Tkachenko, 2018; Elvin et al., 2007). However, this was only true for settings in which teachers paid attention to child wellbeing, ensured a play-based and safe environment, and did not strictly adhere to a language policy (Alemi et al., 2017; Caporal-Ebersold & Young, 2016; Elvin et al., 2007; Lugossy, 2018).

Our second aim was to assess the influence of programme characteristics on foreign language ECEC outcomes. The few studies on input quantity and intensity found that these were positively associated with foreign language grammar and vocabulary learning (Bergström et al., 2016; echoing findings from the wider ELIAS project, Rohde, 2010; Steinlen et al., 2010). It therefore seemed to be beneficial if children attended the ECEC centre and heard the foreign language frequently, but the way in which the input was presented also mattered. Studies showed adverse effects of a strict language policy (e.g. foreign language only, or strict forms of one-teacher-one-language) on language development, motivation, wellbeing, and social relations (Alstad & Tkachenko, 2018; Caporal-Ebersold & Young, 2016; Sun et al., 2015). Moreover, various studies reported that teachers in foreign language ECEC programmes were not necessarily experienced or educated for
this goal and age group, which sometimes decreased input quality and programme outcomes (Andúgar & Cortina-Pérez, 2018; Kaščák et al., 2012; Lugossy, 2018). In terms of teacher strategies and practices, the studies identified the following factors as conducive to foreign language development: employing scaffolding techniques and the home language when they can aid learning and wellbeing, and using meaningful, enjoyable, context-based activities such as games, stories, and routines (Albaladejo Albaladejo et al., 2018; Alstad & Tkachenko, 2018; Andúgar & Cortina-Pérez, 2018; Björk-Willén, 2008; Elvin et al., 2007; Fleta Guillén, 2018; Lin, 2012; Lugossy, 2018; Sun et al., 2015). Peer interactions between children themselves also fostered foreign language learning (Björk-Willén & Cromdal, 2009; Wang & Hyun, 2009). However, more research—ideally involving larger samples—is needed to enable firm conclusions about the role of these programme-related factors, as most studies in this domain were qualitative case studies.

Our third aim was to identify which child-related characteristics, such as age, socio-economic background, parental involvement, child temperament and in-class behaviour, and language background, might modulate the effects of foreign language ECEC (Albaladejo Albaladejo et al., 2018; Buyl & Housen, 2014; Ferjan Ramírez & Kuhl, 2017; Hidaka et al., 2012; Javorsky & Moser, 2021; Pino Juste & Rodríguez López, 2007; Sun et al., 2015). The main findings were that age, child temperament, and behaviour were related to foreign language development, but it was hard to formulate conclusions for several reasons. Few studies examined child-related factors, there were confounding factors, and findings were sometimes contradictory. This review has made it quite clear that these factors have been studied insufficiently in relation to foreign language ECEC to draw firm conclusions.

### 6.2 Directions for future research

If there is one point that this review makes clear, it is that most research into foreign language ECEC has been exploratory. For example, in most reviewed studies, time spans were relatively short, mostly a couple of hours a week of foreign language exposure over the course of a few weeks or months. Only two studies looked into language learning over the course of more than one year (Bergström et al., 2016; Buyl & Housen, 2014). When participants are very young and the ECEC classroom is the only source of foreign language input, the effects of bilingual ECEC on foreign and majority language development may only be visible after prolonged exposure. Future studies could examine in more detail to what extent foreign language learning effects persist in later years, well into primary school.

Besides tracking language development longitudinally, studies could research child wellbeing in foreign language ECEC more extensively. Although many of the included studies on wellbeing were small-scale and anecdotal, they showed that wellbeing in foreign language ECEC is not self-evident (Lugossy, 2018). Since teacher practices and peer behaviour in ECEC seemed to relate to lowered wellbeing (Cekaite & Evaldsson, 2017; Lugossy, 2018), it is worth investigating teacher–child interactions and peer interactions in more detail. Another avenue to be explored further is how children’s developing multilingual proficiency relates to wellbeing, as this could be a dynamic relationship in which multilingual proficiency and wellbeing show reciprocal relationships (Marbina et al., 2015).
The precise effects of input quantity and intensity on children’s language development require further attention too. For example, various studies indicated that the amount of foreign language input in these programmes was lower in practice than on paper (Alstad & Tkachenko, 2018; Benz, 2017; Boyd & Ottesjö, 2016; Lugossy, 2018). Furthermore, there was variation in how often individual children attended the ECEC centre, and how much they were exposed to foreign language input (Bergström et al., 2016). Generally, this review showed that more foreign language input resulted in more foreign language learning (as would obviously be expected). It is not clear, however, how many hours or days exactly the foreign language should be offered, how often children should attend, and what this means for their foreign, majority, and first language development.

Studies generally did not take the home language situation into account. However, it turned out that some children did not speak either of the daycare languages at home, while others were exposed to the majority language, the foreign language, or even both daycare languages at home (Benz, 2017; Björk-Willén, 2008; Boyd & Ottesjö, 2016; Buył & Housesen, 2014; Lugossy, 2018; Wang & Hyun, 2009). In this light, it was surprising that several studies did not provide information about children’s language exposure outside the daycare (see Supplemental Online Material), making it difficult to assess whether effects in language development, and perhaps even wellbeing, could be linked to the situation at home. In such studies, any observed effects could not be attributed unequivocally to the input provided at the ECEC centre, as they might (also) be due to the input received outside the daycare centre, a question which should be examined further to determine the effects of foreign language ECEC.

Another understudied issue in foreign language ECEC relates to the characteristics of the input in the classroom. The effect of teachers’ language background and proficiency should be examined further. Bilingual teacher–child interactions also deserve more attention, as these were mostly only examined in an exploratory way. Work on this topic could adopt methodological approaches and concepts from the extant literature on early bilingual language learning in the home context. Particularly helpful in this respect is a study by Lanza (2004) who investigated how parental discourse strategies affected children’s use of the minority language. A comparable approach in the context of the foreign language ECEC centre could be used to characterise teacher strategies as well as children’s reactions to such strategies, and link these to language development, as well as wellbeing.

The current review indicates that an additional source of language input in foreign language ECEC are peer interactions, and these warrant further research. The few available studies addressing this issue showed that children re-enacted instructional activities during peer play and that this could promote foreign language development (Alstad & Tkachenko, 2018; Björk-Willén & Cromdal, 2009; Wang & Hyun, 2009). However, there are more ways in which peer interactions could influence children’s development of language and social skills and wellbeing. There is preliminary evidence that the amount of peer input differs across children in ECEC, that peers might have language preferences when talking amongst themselves, and that some children could be excluded by their peers based on language background and proficiency (Boyd et al., 2017; Cekaite & Evaldsson, 2017; Chaparro-Moreno et al., 2019), which could all impact language development. Low daycare language competence could lead to fewer peer interactions
(Dominguez & Trawick-Smith, 2018), which might negatively impact language and social skills and wellbeing (Coplan & Arbeau, 2009).

Future studies could also delve more deeply into the role of child-related characteristics in foreign language ECEC programmes. Child-related factors were hardly examined in the reviewed studies, and results remain hard to interpret. For example, only one study in the current review looked at parental involvement (Pino Juste & Rodríguez López, 2007). Earlier research on ECEC has pointed to the importance of this factor, indicating that children may benefit more from language exposure in preschool when their parents are involved in their education and perform language-oriented activities at home (Dearing et al., 2006; Duch, 2005).

Furthermore, reviewed studies showed that foreign language ECEC programmes may be more popular with families from higher socioeconomic backgrounds and with prestige languages, such as English. It would be interesting to examine what draws these parents to early foreign language programmes, and why particular languages are chosen, for example English (for a recent analysis in the Netherlands, see Keydeniers et al., 2021). Given this specific sample, it is unclear to what extent results can be generalised to other populations. Earlier research suggests that positive effects of ECEC on development could be larger for children from low socioeconomic status homes than children from high socioeconomic status homes (Leseman et al., 2017; Melhuish et al., 2015). The question therefore arises whether children from certain backgrounds benefit more from bilingual language input at ECEC than others, a question that cannot be answered on the basis of the current literature.

In conclusion, foreign language ECEC may be an interesting and promising way to meet the increasing demands for early foreign language programmes. The current review on foreign language ECEC showed that these programmes fostered foreign language learning, and did not hinder majority or first language development. However, exact effects on language development and wellbeing seemed to depend on programme and child characteristics. This review highlighted that these factors warrant further research. Notably, while interest in foreign language programmes for young children is increasing in parents, caretakers, educators, and policymakers, research on this type of bilingual education is still in its infancy.

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