

**Early childhood educators' training and their preparedness and ability to
support the language learning of infants and toddlers**

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List of abbreviations

ACECQA	Australian Children's Education and Care Quality Authority
ASQA	Australian Skills Quality Authority
EC	Early childhood
ECEC	Early childhood education and care
ECT	Early childhood teacher
ITERS-3	Infant Toddler Environment Rating Scale (3 rd ed.)
LDC	Long day care
NQS	National Quality Standard
RTO	Registered training organisation
TEQSA	Tertiary Education Quality and Standards Agency
VET	Vocational and Educational Training

Key to educator coding

For reporting purposes, a code was assigned to each participating educator as follows:

‘E’ for educator

1st numeral represents the highest qualification achieved;

1 = master’s degree

2 = bachelor’s degree

3 = diploma

4 = certificate III

The final two numerals are the educator’s individual identifying number.

For example, E308 is educator number 8 in the qualification group of diploma as the highest qualification achieved.

Statement of originality

I certify that the work in this thesis entitled 'Early childhood educators' training and their preparedness and ability to support the language learning of infants and toddlers' has not previously been submitted for a degree or diploma in any university other than Macquarie University as part of this research project. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where the reference is made in the thesis itself.

This research project received ethics approval from Macquarie University's Faculty of Human Sciences' Human Research Ethics Committee (Reference number 5201954228735)

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Abstract

Mounting research evidence points to the significance of language learning during the first three years of life for children's later learning. Recent Australian research, however, has revealed that children under three in early childhood education and care (ECEC) settings experience limited opportunities to participate in rich language interactions. Although various studies have suggested that educators with university-level early childhood (EC) qualifications provide more effective language learning environments, little is known about the relationships between the content of educators' EC training and their sense of preparedness and ability to engage in practices that can promote language learning in infants and toddlers.

This exploratory study examined (1) the extent to which educators' formal early childhood training focused on the language learning of infants and toddlers and prepared graduates to support it, and (2) whether and how educators' self-reported practices reflected those that research has identified as effective for promoting language learning in children under three. The study participants were recruited from ECEC services in metropolitan Sydney to complete an online survey. A total of 122 participants provided ratings of the extent to which the content of their EC qualification(s) (certificate III, diploma, bachelor, master) focused on and prepared them to support the language learning of infants and toddlers. About half had undertaken two or more EC qualifications. Across all qualification levels, respondents consistently reported more focus on language-related course content for the pre-school age group than on younger children. The mean scores for ratings of course content and preparedness increased with higher level qualifications, with scores being lowest for certificate III, mid-range for diploma and highest for bachelor degrees. Statistical analyses revealed a strong correlation between ratings for coursework content and ratings for preparedness.

A subsample of participants (73 of the 122) provided responses to open-text questions about the practices through which they foster the language learning of children under three years of age. The thematic analysis of these responses revealed a variety of strategies that educators employ to support language learning in the infant-toddler years, although variation was seen in their articulation of practices informed by theory, and practices did not always correspond to the educators' ratings of their EC course content.

Chapter 1: Introduction

A large body of literature has emerged on what constitutes effective language learning interactions between early childhood educators and children under three, and on the factors that affect the language-learning opportunities infants and toddlers experience in long day care (LDC). However, few studies have sought to assess the extent to which pre-service training equips educators with the knowledge and skills needed to promote language learning in this age group. This research project aims to explore EC educators' perspectives on infant and toddler language-related course content, and the relationship between their training and their feelings of preparedness and ability to engage in practices that provide rich language-learning interactions and experiences to children under three years of age.

1.1 EC educator training in the Australian context

In Australia all educators are required to hold an EC qualification to work in an ECEC service with children from birth to five (Education and Care Services National Regulations, 2016). There are four levels of EC qualifications available: certificate III, diploma, bachelor's degree, and master's degree (see Table 1). Certificate and diploma qualifications are delivered by Registered Training Organisations (RTO) for vocational education and training (VET) courses, and degree-level qualifications by universities or higher education institutions, hereafter, referred to collectively as 'training providers'.

Table 1: Description of EC qualification levels in Australia

Qualification level	Duration (full-time)	Training provider	Entry requirements
Certificate III	20 weeks to 6 months**	RTO	Completion of year 10 schooling
Diploma	40 weeks to 2 years**	RTO	Completion of year 12 schooling <i>or</i> completion of an EC Certificate III
Bachelor's degree	Two to four years***	University or Higher Education provider	Completion of year 12 schooling <i>or</i> completion of an EC diploma
Master's degree (Master of Early Childhood)*	18 months to 2 years **	University or Higher Education provider	Bachelor's degree in early childhood or a related discipline and workplace experience (time varying with universities)
Master's degree (Master of Teaching)	18 months to 2 years **	University or Higher Education provider	Bachelor's degree from any discipline. No EC qualification or experience required

* The Master of Early Childhood is supplementary to the bachelor's degree and does not result in a teaching qualification. The Master of Teaching is an initial teacher qualification.

** Depending upon RTO or university attended

*** Depending on the University or Higher Education provider, credit of up to two years can be awarded for a completed diploma

Of significance to this study is that VET courses (certificate III and diploma level courses) are delivered using a compulsory training package that provides units of competency (subjects), including compulsory subjects that focus on infant and toddlers. The training package defines topics and essential aspects to be taught within each subject, as well as specific details of student performance required to demonstrate achievement of the learning outcomes (Australian Government Department of Employment, Skills, Small and Family Business [ESSFB], 2019). How these topics are incorporated into the course and the depth of the content delivered is at the discretion of the individual RTO. This system is nationally regulated by the Australian Skills Quality Authority (ASQA). ASQA, however, does not specify the length of courses, leaving RTOs discretion in delivering the diploma (developed to be delivered in 2 years full-time) in periods of 40 weeks to 2 years: The shorter courses are generally offered by private RTOs, who market the course duration

as a differentiating factor to encourage student enrolments. As certificate III is a shorter course, developed to be delivered in 6 months, the variation in delivery time from different RTOs of 20 weeks to 6 months is less pronounced¹.

In contrast, higher education courses (bachelor's and master's degrees) are delivered by providers (usually universities) who devise a list of subjects and an outline of the topics for each subject to be included in their course, based on the Higher Education Standards Framework (Australian Government Department of Education, 2018). Providers then submit this information with their applications to the Tertiary Education Quality and Standards Agency (Australian Government TEQSA, 2019) for accreditation and approval to deliver the course. While it has been reported that many EC degree courses did not include a birth-to-three professional experience component in the past (White, Peter, Sims, Rockel, & Kumeroa, 2016), guidelines established in 2017 provided specific requirements for infant and toddler content and professional experience placements with this age group to be mapped into all Australian EC degrees (Australian Children's Education and Care Quality Authority [ACECQA], 2014).

1.2 Educators working with infants and toddlers

Whilst all EC educators in Australia must hold at least a certificate III qualification to work in ECEC services, national regulations do not specify the level of qualification required to work with different age groups (Education and Care Services National Regulations, 2016). However, as part of a universal access agreement the Australian Government requires all children in their year before school to be provided with access to a four-year-trained (bachelor's or equivalent master's degree) educator (Commonwealth of Australia, 2016). This reflects the assumption that educators with higher qualifications provide higher-quality early childhood education (Ackerman, 2005). What has tended to be reported in Australia, is that bachelor-trained educators work with the older children, while certificate and diploma-trained educators work with children under three (Cheeseman & Torr, 2009; Ireland, 2006; Jackson, 2017; Mathers, Richards & Morse, 2013; Rouse, Morrissey, & Rahimi, 2012).

1.3 The importance of early language learning for infants and toddlers

¹ Many RTOs offer a traineeship option for certificate III which increases the duration of the course to 12 to 18 months.

Recent times have seen a significant increase in the number of infants and toddlers attending out-of-home ECEC services, estimated at 58% of children under two by the Australian Bureau of Statistics (ABS) (2017). Additionally, the significance of brain development in the first three years of life for later learning and academic success has been established through neuroscience research (Ebbeck, Warriar, & Goh, 2018; Lally, 2010; Rushton, 2011; Shonkoff & Phillips, 2000). In particular, longitudinal studies such as those conducted by the National Institute of Child Health and Human Development Early Child Care Research Network (NICHD) (2000, 2003) and the National Scientific Council on the Developing Child (2007), have identified the first three years as critical for the development of foundational skills in language that are strongly associated with higher executive functions, cognition, and social-emotional development. There is also other research evidence of the strong link between early language learning and later literacy skills such as decoding written text, spelling, and reading comprehension (Mol & Bus, 2011; Pelatti, Piasta, Justice, & O'Connell, 2014), as well as mathematical ability (Honig, 2017).

These findings highlight the importance of educators having a rich understanding of early language development and the knowledge required to provide developmentally-appropriate language-learning opportunities for children under three (Davis & Degotardi, 2015b; Perren et al., 2017), particularly as access to such language-rich experiences is essential for children's development and learning (Degotardi, Torr, & Nguyen, 2016). However, research suggests that having knowledge alone does not guarantee educators will engage in effective pedagogical practices (Salamon & Harrison, 2015), prompting the question of whether or not Australian EC educators receive adequate pre-service training.

French (2010) has argued that whilst the early childhood sector has witnessed an increasing number of studies that define the nature of high-quality practices, as a whole the sector appears ill-prepared to put these understandings into practice. A possible reason for this may be the emphasis on care rather than education that has tended to dominate the provision of EC services for infants and toddlers (Cheeseman & Sumsion, 2015; Huntsman, 2008). Consequently, many writers have called for research to investigate variations in qualifications and whether or not educators are receiving adequate pre-service training (Degotardi & Gill, 2017; Jackson, 2017; Schachter, Spear, Piasta, Justice, & Logan, 2016; Thomason & LaParo, 2009; Torr & Pham, 2016).

In response to concerns about the quality of training being provided and research showing the significance of language learning in the first three years of life, this study will address two research questions about the inclusion of content related to understanding and supporting the language learning of infants and toddlers in EC educator training.

The aim is to examine EC educators' perceptions of their training and how this has shaped their knowledge about and preparedness and ability to support the language development of infants and toddlers in long day care. Specifically, the present study will address the following two research questions:

- (1) To what extent do early childhood educators report their formal early childhood training has focused on the language learning of infants and toddlers and prepared them to support it?
- (2) To what extent do educators' self-reported practices for promoting language learning in infants and toddlers reflect recommendations in the professional literature?

1.4 Organisation of the thesis

This thesis contains six chapters. Chapter 1 has introduced the study, contextualised it in relation to research showing the significance of language learning in the first three years of life and EC educators' training in Australia, and argued for the significance of the study, which will explore the relationships between the content of educators' EC training and their sense of preparedness and ability to engage in practices that can promote language learning in infants and toddlers.

Chapter 2 reviews the literature that informs this study, including research on the presence of infant and toddler content in EC courses on; qualification levels as an important factor that affects educators' ability to provide rich language-supporting experiences for infants and toddlers; EC educators' language-supporting practices in infant-toddler classrooms in Australian long day care settings; and practices that the professional, research-based literature recommends as effective for promoting language learning in infants and toddlers.

Chapter 3 describes the methodology used in this study, including participant recruitment process, participant demographics, and the questionnaire designed to collect data. Procedures for analysis are then described, followed by ethical considerations, and limitations of the study.

Chapter 4 presents the results of the questionnaire in two parts: statistical analysis of the quantitative data addressing research question 1, and thematic analysis of the qualitative data addressing research question 2.

Chapter 5 presents a discussion of the findings, interpreting the participants' ratings for their coursework content and preparedness levels and their reported language-supporting practices with children under three years of age in light of relevant literature.

Chapter 6 synthesises the key findings of the study and presents implications for educators, ECEC services, and training providers, as well as recommendations for future research.

Chapter 2: Literature review

This chapter reviews the literature that motivates and informs the project presented in this thesis. The chapter first considers studies of EC training pertaining to infants and toddlers in Australia and internationally, and research that has pointed to EC qualification levels as a significant factor that impacts on educators' ability to provide rich language interactions and environments for infants and toddlers. The review then considers research into EC educators' language-supporting practices in infant-toddler classrooms in Australian long day care settings, and outlines practices that the professional, research-based literature recommends as effective for promoting language learning in children under three years of age.

2.1 Focus on infants and toddlers in educator pre-service training

Although research has highlighted the necessity of specialised infant-and-toddler training in early childhood education courses (Dalli, White, Rockel, & Duhn, 2011; Degotardi & Davis, 2008; Recchia, Lee, & Shin, 2015; Rockel, 2009), many studies have raised concerns that such training remains limited (Chu, 2016; Dalli, White, Rockel, & Duhn, 2011; Horm, Hyson, & Winton, 2013; Torr & Pham, 2016). Garvis et al. (2013) conducted a content analysis of information available on university websites about 55 Australian four-year EC bachelor-degree programs and revealed that only 15 of these programs were described as having a focus on infants and toddlers and a professional experience component for this age group. Across all analysed programs, the study identified variation both in the types and content of subjects and "deficiencies in quality, courses and practicum experiences that support knowledge development to support the development of capabilities related to birth to three-year-old children" (p.34). Garvis and Manning's (2015) similar content analysis of the infant and toddler coverage in 18 master's programs found references to this age group difficult to locate. Garvis and Pendergast (2015) surveyed a cohort of 25 students who had just completed a bachelor's degree at the same university; the students reported that they had 'partial knowledge' on infants and toddlers on completion of their course and that it focused mostly on children over three years of age.

These findings resonate with those of White, Peter, Sims, Rockel, & Kumeroa's (2016) investigation into the practicum experiences with infants and toddlers of first-year initial teacher education (ITE) students at two Australian and three New Zealand

universities. The study included a survey of and follow-up interviews with 18 lecturers teaching courses with infant and toddler content, and analysis of documents from each course and 27 reports about first-year ITE practicum experiences involving infants and toddlers. No such reports were included from the two Australian universities, as they did not offer a practicum with infants and toddlers for first year ITE students. The survey and document analysis revealed “a confusing trend [...] in the associated treatment of course material, with very few specific courses identified as catering to infants and toddlers” (p.291).

Similar concerns have been raised by studies outside Australia and New Zealand. In the United States, Chu (2016) conducted a survey and interviews with 24 college instructors as part of evaluating whether 44 EC degree programs adequately support educators to achieve the required state and national competencies. A key finding of this evaluation was that few degrees incorporated specialised infant and toddler content. In their review of early childhood teacher education and policy issues in the United States aimed at identifying research gaps in this area, Horm, Hyson, and Winton (2013) reached conclusions consistent with those of Australian research. That is, many EC training programs in the US appear to lack focus on infants and toddlers, too, and little is known about the actual infant-toddler content they deliver.

What is consistent across these studies is that they tend to focus on the inclusion or exclusion of infant and toddler content in general, rather than content related to a specific area such as infant and toddler language learning. It has also been rare for researchers to seek data from EC educators, and to my knowledge, only university-qualified educators have participated in this type of research. Similarly, there appears a lack of studies explicitly comparing different levels of EC qualifications. This leaves a large gap and much to be learnt from certificate III and diploma-trained educators’ perspectives of their courses.

2.2 Educator qualification levels as a factor affecting the provision of rich language-learning environments for infants and toddlers

Numerous studies have sought to identify the features of high-quality language learning environments, such as noise levels that allow interactions and conversations to take place (Lally, 1995), and children having access to books and opportunities to experience and contribute to interactions with and about books (Harms, Cryer, & Clifford,

2006; Mol & Bus, 2011; Schickedanz & Collins, 2013) as well as access to other language and literacy resources (Harms et al., 2006).

Research has also pointed to factors that facilitate or hinder the capacity of ECEC settings to provide rich learning experiences and language-supporting practices. For example, adult-to-child ratios and group sizes are organisational aspects of ECEC settings that affect the provision of high-quality learning experiences in general (Burchinal, Cryer, Clifford, & Howes, 2002; Goelman et al., 2006; Thomason & La Paro, 2009) and opportunities for rich linguistic interactions in particular (Girolametto, Weitzman, van Lieshout & Duff, 2000; Honig and Hirallal, 1998; Torr & Pham, 2016).

Of particular relevance to this thesis are studies that have pointed to qualification levels as a factor that may be related to educators' pedagogic practices. While some observational studies have found the relationships between qualifications and observed practices to be negligible (Early et al., 2007; Hyson, Tomlinson, & Morris, 2009; Vermeer et al., 2008), other studies report a positive correlation between educators' EC qualification levels and the quality of care and education they provide for infants and toddlers (Burchinal et al., 2002; Dalli et al., 2011; Degotardi, 2010; Goelman et al., 2006; Honig and Hirallal, 1998; Ireland, 2006, 2007). Broader reviews of research evidence, too, leave little doubt that the level of the educators' qualifications predicts the quality of their practices with children under three (Huntsman, 2008; Mathers, Eisenstadt, Sylva, Soukakou, & Ereky-Stevens, 2014).

Recent research into the language environment ECEC settings provided for infants and toddlers has similarly drawn parallels between EC qualification levels and the observed quality of their interactions with children under three. For example, Degotardi et al.'s (2016) investigation of the language that 26 educators used with infants and toddlers during snack time found a correlation between the educators' qualification levels and their ability to engage children in rich linguistic interactions by using diverse vocabulary and fewer prohibitions. In an observational study of 56 educators, Hu, Torr, Degotardi, & Han (2017) also found that educators with a bachelor's degree used language that was less oriented to directing infants' behaviour and more likely to stimulate sustained educator-infant interactions. An analysis of educator talk directed at 57 infants under two years of age in different ECEC settings in Australia, which was captured in three-hour audio recordings per child, also showed a positive correlation between the quality of the educators' talk and their levels of qualification (Degotardi, Han, & Torr, 2018). The

findings of these Australian studies are consistent with international research findings. For example, Burchinal et al. (2002) assessed 553 infant, toddler, and pre-school classrooms using the Early Childhood Environmental Rating Scale (ECERS) (Harms & Clifford, 1980) or the Infant Toddler Environment Rating Scale (ITERS) (Harms, Cryer, & Clifford, 1990). Findings revealed an association between general classroom quality and the educators' qualification levels.

Although the studies reviewed in this section demonstrate that educators with higher qualifications outperform their lower-qualified colleagues in providing rich learning and language environments for children under three, research is yet to investigate whether there is a relationship between the content of early childhood training courses at different qualification levels and the preparedness and ability of their graduates to support the language learning of infants and toddlers.

2.3 Studies of EC educators' language-supporting practices

Whilst the early childhood sector has witnessed an increasing number of studies that define the nature of high-quality practices, French (2010) has argued that as a whole the sector appears ill-prepared to put these understandings into practice. This view is supported by research into educators' ability to provide a rich language environment for infants and toddlers in ECEC settings, which is reviewed next with a focus on Australian studies, in line with the context and scope of this project. Among these studies, some have examined educators' language use during specific daily activities such as routines, mealtimes, and shared reading, while others have focused on specific language-promoting strategies, such as questioning, that educators employ throughout the day.

While routine activities such as nappy-change and snack times have the potential to provide valuable opportunities to engage infants in language-learning interactions (discussed further in 2.4), observations of these activities show that they rarely include such interactions. For example, Degotardi and Davis (2008) asked 24 educators to each interpret extracts from video footage that showed the educator engaged with infants during toy play and nappy change. They found a variation in the extent to which educators elaborated on the interactions, with some being quite short with non-specific statements, particularly in regard to the nappy change extracts. This was consistent with the findings of the early study by Degotardi (2010), using the same video-stimulus and interview method, which revealed that in routine care episodes educators frequently focused more on their

own role in the physical context rather than engaging in language interactions with infants and toddlers. In a similar study examining educators' language-supporting practices with infants and toddlers during snack times, Degotardi et al. (2016) analysed video extracts from a three-hour observation of 26 educators and found limited use of strategies for promoting language learning. In particular, self-talk – where educators describe what they are doing – was so rare that it was disregarded in the analysis. In the United States a study of 11 toddlers at mealtime was consistent with these Australian findings, reporting minimal linguistic interactions between toddlers and educators during mealtime (Hallam, Fouts, Bargreen & Perkins, 2014).

Studies of language-promoting interactions during experiences such as shared reading with children under three raise similar concerns. For example, extracting data from a naturalistic study of the interactions between infants and their educators in LDC, Torr (2018) analysed ten infants aged from 16 months to 23 months from ten different LDC centres around Sydney, and found that shared reading interactions these infants experienced were not only rare, but when they did occur, educators' focus on behaviour management significantly hindered infants' opportunity to initiate or become involved in these interactions. These findings echo Honig and Shin's (2001) earlier study involving 55 infants aged between 4 and 27 months and 24 educators, where over 60% of the infants were not involved in shared reading at all and the average duration of shared reading interactions with infants and toddlers was only 1.5 minutes.

Few studies have investigated educators' understandings of and consequent provision of language-rich play experiences. In research investigating language environments in infant classrooms, Degotardi and Gill (2017) interviewed 56 infant educators to ascertain how they believed their program supported language-learning. Infrequent mentions of play or play materials were reported, even for dramatic play. Educators more frequently expressed that the best language-supporting experiences were whole-group experiences. This was also reflected in a US study by Norris (2014), which involved observing 62 infant-and-toddler classrooms over a year and showed that language use by teachers was limited to short group story times and singing. Another interesting observation reported by Dalli et al. (2011) and Davis and Degotardi (2015a) was that infant and toddler educators frequently appear to not engage themselves in children's play but take on a more "observational role" (Davis & Degotardi, 2015a, p.72).

Other studies have focused on educators' use of specific language features and language-promoting strategies in interactions with infants and toddlers. For example, Davis and Torr (2015) videorecorded six bachelor-trained educators for 40 minutes each to assess their use of questioning as a pedagogical strategy for supporting learning. Questions were classified as *confirm* questions that required only a yes/no response; *specify* questions generally beginning with who, where, what, or when; *explain* questions, which usually start with how or why; and *management* questions, described by the authors as questions used to manage children's behaviour. Thirty-three percent of all utterances were coded as questions, and 48% of these as *management questions*. This has not been the only study to report educators using language predominantly to manage and control infant and toddler behaviour. Torr and Pham's (2016) analysis of educator language in the audio-recordings of the language environment of 10 children under 20 months of age experienced in LDC revealed that educators used language predominantly for behaviour management and to provide physical care, that is, in ways that are unlikely to encourage children to respond verbally nor engage them in sustained language interactions.

Overall the research reviewed in this section raises questions about the extent to which early childhood educators in Australia have sufficient knowledge or the skills required to provide rich language-learning opportunities for infants and toddlers.

2.4 Recommended practices for supporting the language development of infants and toddlers

This section outlines the main practices for promoting language learning in infants and toddlers that are recommended in research-based professional literature. It draws on sources such as textbooks for early childhood education students and the Infant Toddler Environment Rating Scale (ITERS-3) (Harms et al., 2017) in anticipation that the terminology used in this literature is likely be more familiar to EC educators regardless of their training and whether it required them to engage with peer-reviewed research literature in their training.

One of the most critical factors in promoting language learning in infants and toddlers is the provision of an environment where children are exposed to and encouraged to use language (Sims & Hutchins, 2011). Frequent talk by educators' models language use and is an opportunity to expose infants and toddlers to diverse vocabulary and other linguistic features (Copple & Bredekamp, 2009; Honig, 1995; Wittmer, 2014). Infant-

directed speech, commonly known as ‘baby talk’ (Wittmer, 2014) or ‘motherese’ (Fernald, 1985), is recognised as beneficial for infants’ language development. This type of speech typically uses exaggerated pitch and tone that make the speech engaging, the use of simple questions and grammatical constructions, labelling of items, much repetition, and talking about what the child can see in the immediate vicinity (Honig, 2014; Wittmer, 2014).

Talk that relates language to the immediate, perceptible activity and physical context is particularly valuable for infants and toddlers, who are still learning new words and developing their comprehension skills (Wittmer, 2014). Examples of such talk mentioned in the professional literature include ‘self-talk’, where an educator describes what he or she is doing at that moment, and ‘parallel talk’, where an educator is describing what a child is doing. These types of talk provide infants and toddlers with opportunities to attach meaning to the words (Honig, 2014; Wittmer, 2014).

In addition to modelling language use, educators need to encourage infants and toddlers’ participation in language interactions. Asking questions is a useful strategy for achieving this purpose, and as Honig (2014) points out, open-ended questions can invite toddlers to think about and use language to explain their thoughts or describe their actions. Asking children to repeat words solely for the purpose of eliciting correct pronunciation, on the other hand, is not recommended, as this does not promote authentic interactions (Sims and Hutchins, 2011).

Another strategy for encouraging even non-verbal children to participate in interactions and develop basic conversational skills is ‘serve and return’ (Centre on the Developing Child at Harvard University, 2017; National Scientific Council on the Developing Child, 2005, 2007). This is where educators (or others) engage the child in back and forth turn-taking that resembles adult conversations. This strategy provides opportunities for an infant to respond (sometimes by cooing, babbling, or other nonverbal means) and thus positions the infant as a partner in a sustained turn-taking conversation. As part of this exchange, educators can mimic infants’ babble, described by Wittmer (2014) as the “repetition of consonant-vowel sounds, such as ‘ma’ or ‘da’” (p.179) and thereby engage infants in experiencing the sounds of the language they are learning and stimulate them to produce more babble (Wittmer, 2014) .

The practices described above are those that can be used throughout the day as infants and toddlers engage in play. Other recommended practices are associated with specific activities. Routine times such as nappy-change and mealtimes have been recognised as times that provide opportunities for language learning through one-on-one or small group language interactions. Practices cited as supporting infants' and toddlers' language learning during such activities include sitting and eating with the children and encouraging conversations and peer interactions, and for younger children, holding the baby for bottle-feeding, and maintaining eye contact while talking and singing (Branscomb & Goble, 2008; Harms et al., 2017). Nappy change also provides opportunities for language-rich one-to-one interactions, such as pointing out and talking about displays in the area (Harms et al., 2017).

The activity of reading with children is well recognised for its language learning benefits. From birth children can be read to (Schickedanz & Collins, 2013; Sims & Hutchins, 2011), with the greatest benefits of this experience, such as facilitating vocabulary learning and comprehension, best achieved for infants and toddlers when educators read one-to-one or with a very small group of children (shared reading) (Harms et al., 2017). Strategies for effective shared reading include pointing to and labelling the objects shown in pictures, and, with toddlers or older children, discussing the pictures and the written text, as well as using an 'exaggerated' voice (Honig, 2014). During one-to-one reading with infants, some recommend having the child on the educator's lap (Copple & Bredekamp, 2009; Honig, 1995, 2014, 2017).

Other recommendations for supporting infant and toddler language learning concern the provision of resources. Providing access to a range of different books throughout the day is considered important (Melhuish, 2010; Schickedanz & Collins, 2013). Books recommended for infants and toddlers include cloth and heavy cardboard books that can be carried around as well as interactive and sensory books, and books that include rhyme, rhythm, and repetition (Honig, 2014; Schickedanz & Collins, 2013; Wittmer, 2014). Resources other than books have also been found to support language-learning (Gonzalez-Mena, 2013). For example, toys, displays and materials can motivate young children to 'talk' and prompt conversations (Harms et al., 2017).

Singing songs and chanting rhymes and fingerplays expands on and introduces a richer vocabulary and provides opportunities for toddlers to practise saying more difficult words (Copple & Bredekamp, 2009; Honig, 1995; Sims & Hutchins, 2011; Wittmer,

2014). These experiences also introduce the child to different patterns of speech, rhythm and repetition in an enjoyable way.

Overall, many practices have been identified in the literature as having great potential to support the language-learning of infants and toddlers. These recommendations have informed the design of the present study, as discussed further in Chapter 3.

2.5 Conclusion

This literature review identified studies that have sought to ascertain the amount of infant and toddler related content in EC training, finding that it is frequently limited. In other studies, educators' qualification levels have been positively related to the quality of the language-learning environment ECEC settings provide for infants and toddlers. Research has also revealed that the practices of educators may not adequately support the provision of rich language-learning interactions and experiences for children under the age of three years in ECEC settings in Australia. Few studies have investigated the training provided to educators studying for EC qualifications beyond the coverage of infants and toddlers appearing in courses, and none to date have looked specifically at the aspects of training addressing infant and toddler language learning. Nor have there been comparisons of the focus on infants and toddlers in general or on promoting their language learning in particular across different levels of EC training. This has exposed the need to examine whether and how early childhood educators' training across all qualification levels prepares them to support the language learning of infants and toddlers. This study takes a step towards addressing these research gaps by exploring educators' reports on the extent to which training at different qualification levels has prepared them to take on the role of supporting infant and toddlers' language learning, and the extent to which their language-supporting practices with children under three years of age reflect recommendations in the literature.

Chapter 3: Methodology

The present study aims to address the gap in the body of knowledge illustrated in previous chapters by addressing two research questions:

- (1) To what extent do early childhood educators report their formal early childhood training has focused on the language learning of infants and toddlers and prepared them to support it?
- (2) To what extent do educators' self-reported practices for promoting language learning in infants and toddlers reflect recommendations in the professional literature?

This chapter presents the study's design, including a description of the data collection tools and methods. It then presents participants recruitment, and participants' demographic data, and concludes with an overview of the ethical considerations and limitations of the study.

3.1 Data collection tools

An online web-based questionnaire was designed to collect data for this research project. This method enabled the recruitment of a large number of participants and data in a relatively short time period.

Within the questionnaire a mixed method approach was adopted. A quantitative approach (rating scales) was used to address Research Question 1 (coursework and preparedness), as it is suggested that this method provides maximum reliability (Siraj-Blatchford & Siraj-Blatchford, 2001) and provides more uniform data (Cannold, 2001). A qualitative approach (text-based examples) was used to address Research Question 2 (educator practices) to elicit in-depth responses to questions about effective language-supporting practices from current EC literature. It was anticipated that open-text questions would encourage participants to include information they believed important to share, thus providing insights into educator praxis.

The questionnaire provided an introduction and five sections as summarised in Table 2 (full questionnaire is provided in Appendix C).

Table 2: Summary of questionnaire content

Section	Data Collected/Information provided	Format used
Introduction	<ul style="list-style-type: none"> Information on the research project Informed consent (including advising participants that they had the right to opt-out at any time) Contact details of the researcher and supervisors 	
1. Experience in early childhood	<ul style="list-style-type: none"> Years of experience in ECEC Age groups worked with Age group currently working with 	Multiple choice
2. Early childhood qualifications and training	<ul style="list-style-type: none"> Number and level of qualifications held and working towards 	Multiple choice Short text entry
3. Questions about ECEC course/s	<ul style="list-style-type: none"> The focus on infant and toddler age groups Coursework content Perceptions regarding the level of preparedness and ability to support language-learning for this age group. 	Likert-scale questions
4. Practices	<ul style="list-style-type: none"> Language-supporting practices engaged in by educators on the last day they worked a full shift with infants and toddlers. 	Open text
5. General questions	<ul style="list-style-type: none"> service postcode current NQS rating space to add any overall additional comments on the study. 	Open text Multiple choice

Various strategies were implemented to encourage completion of the questionnaire. For example, filtering questions to allow respondents to skip irrelevant questions, and a progress indicator which has been shown to be successful in encouraging online questionnaire completion (Couper, Traugott, & Lamias, 2001). For quantitative data collection, several questions were presented together on the screen as one multi-part question, rather than individually, as this has been shown to minimise missing data (Couper et al., 2001). Probes such as “Please add any additional comments” were also included after each grouping of questions to provide a means for participants to share additional information they considered relevant.

To collect data on educators' language-supporting practices, five broad questions were presented in section 4 of the questionnaire, rather than at the start, as research suggests that respondents may abandon a questionnaire at the onset of a large number of open-text questions (Bryman, 2012; Crawford, Couper, & Lamias, 2001). These questions were worded in such a way as to elicit as much information on specific language-supporting practices as possible. Using broad questions was a purposely employed strategy to ensure participants' responses were not influenced by 'leading questions'. A large amount of visual space was allowed for responses to these questions, as this has been shown to motivate longer and better-quality responses (Smyth, Dillman, Christian, & McBride, 2009).

Prior to the final revision and publication of the questionnaire online using Qualtrics software (Qualtrics, 2019), pre-testing was conducted with three experienced early childhood educators, one bachelor- and two diploma-trained.

3.2 Participant recruitment

A purposive sampling strategy was adopted to recruit ECEC educators who had:

- (1) completed a formal ECEC qualification, and
- (2) were currently or recently working in a long day care service with children under three years of age.

A database of ECEC services from which participants could be recruited was created in order to distribute the questionnaire as widely as possible. ECEC service names and email addresses were collected from information available publicly on 'childcarefinder.gov.au' (formerly 'mychild.gov') (Australian Government Department of Education and Training, 2019), a government website that lists all licenced ECEC services in Australia. This enabled distribution of the survey to a diverse range of services.

Filtered searches were employed to ensure only services catering for infants and toddlers were included in the database. As befits a small-scale, exploratory study, the database was restricted to services in metropolitan Sydney and outer suburbs. From the initial list of 1791 services, 35 services without a publicly available email address were removed. Email addresses represented individual ECEC services as well as a single contact point for service providers with multiple services, from 2 to 52. Three multiple-service providers had internal ethics requirements. The final database thus included 1756 services organised into three categories:

- (1) services with an individual email address ($n = 1586$),
- (2) service providers representing multiple services ($n = 71$ providers with a total reach of 344 services),
- (3) service providers who required an internal ethics approval ($n = 3$ providers with a total reach of 99 services²).

An initial email invitation to participate that included the link to the questionnaire (see Appendix B) was sent to ECEC services in category 1 and 2, with a reminder and then final reminder sent at two-week intervals. After each mail-out, services with unresolved delivery failures were removed from the database. The recruitment process is summarised in Table 3

From category 3 above, only one provider granted ethics approval in time for their services to be invited to participate in the study.

Table 3: Invitation email mail-out summary

	No. of emails sent to individual services	No. of emails sent to providers with multiple services	Potential service reach	Unresolved delivery failure	Actual reach	No. of educator responses	Cumulative No. of educator responses
Initial mail-out	1586	71	1930	35	1844	78	78
Reminder	1518	70	1844	9	1582	62	140
Final reminder	1512	70	1838	0	1582	63	203
Sub- category 3 mail-out	30	N/A	30	0	30	3	206

A total of 206 responses to the questionnaire were received from educators meeting the eligibility criteria and employed within the geographical scope of the project. Of these, 84 completed only the initial demographic questions, leaving a sample size of 122 participants.

² Each of the 99 services in category 3 had an individual service email address.

3.3 Participants

Participants provided their ECEC service postcode³ which demonstrated a fairly even representation from all Sydney regions (with consideration to region size) shown in Figure 1. Twenty-nine participants did not provide a postcode.

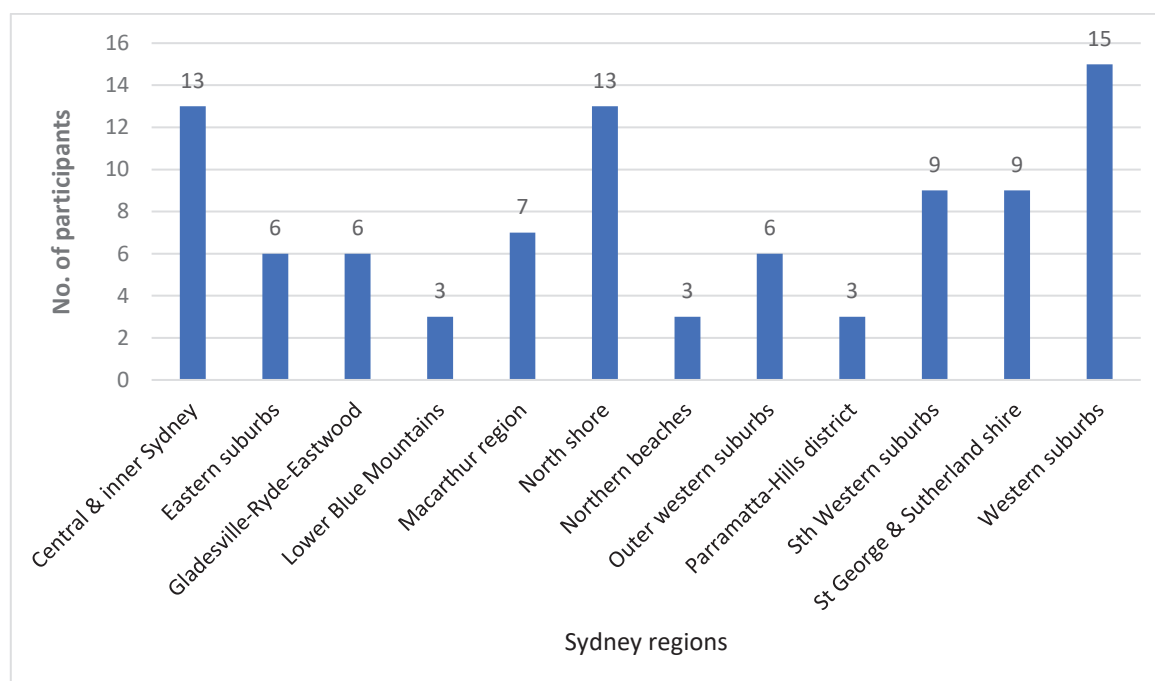


Figure 1. Participant representation from Sydney regions

Further detailed participant data are presented in the following sections.

3.3.1 Participants' qualifications

Of the 122 educators, 70 educators held one qualification only and 52 held two or three ECEC qualifications at different levels (see Figure 2). For the purpose of analysis of each qualification level, participants who were working towards a higher qualification and who had completed a language-related subject in that course were allocated to that higher qualification. This accounted for five certificate III educators working towards a diploma, and 12 diploma-trained educators working towards a bachelor's degree.

³ Sydney regions were identified using information from NSW Government: Training Services NSW (2017).

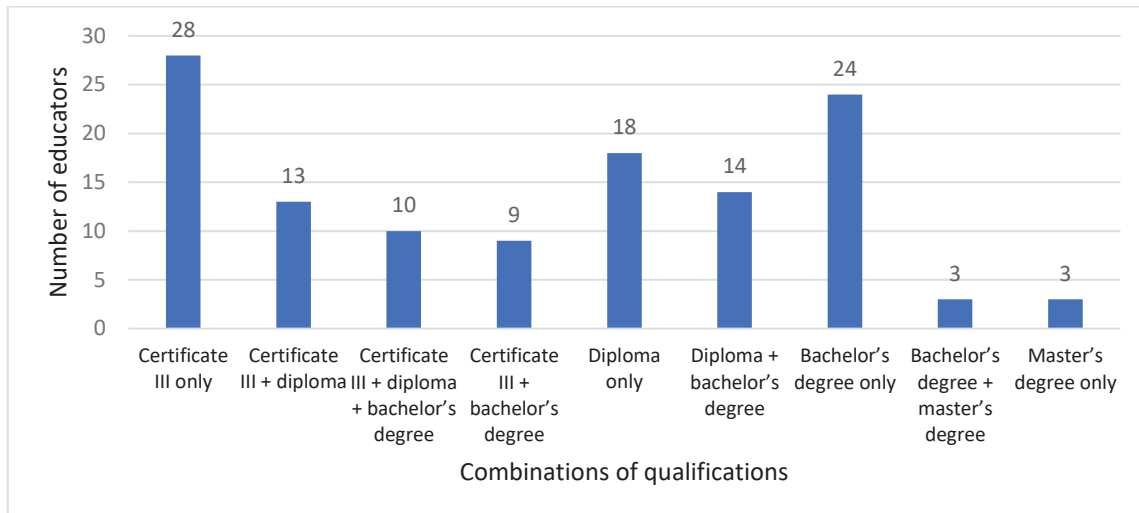


Figure 2. Number of, and qualification level combinations held by participants

Note 1. Total number of qualifications held by 122 educators, $N = 181$

The sample was considered to be a reasonably representative of EC educators, in that there was an almost equal distribution of educators reporting on each of the three main qualification levels: 60 certificate III, 55 diploma, 60 bachelor, and 6 master's. As statistics are not available for the number of, or qualification levels of ECEC educators currently working in and around Sydney, the representativeness of these survey responses could not be determined accurately. As expected, there were few respondents with a master's degree ($n = 6$), which is a less common pathway for EC educators.

3.3.2 Participants' experience in ECEC

Participants' responses to the question on years of experience are presented in Figure 3. The majority of educators (42%; $n = 51$) had been employed in the ECEC sector for over ten years, a third had been employed for 6-10 years (32%; $n = 32$), and 20% ($n = 21$) for 2-5 years. Only 5% ($n = 6$) had been employed for one year or less.

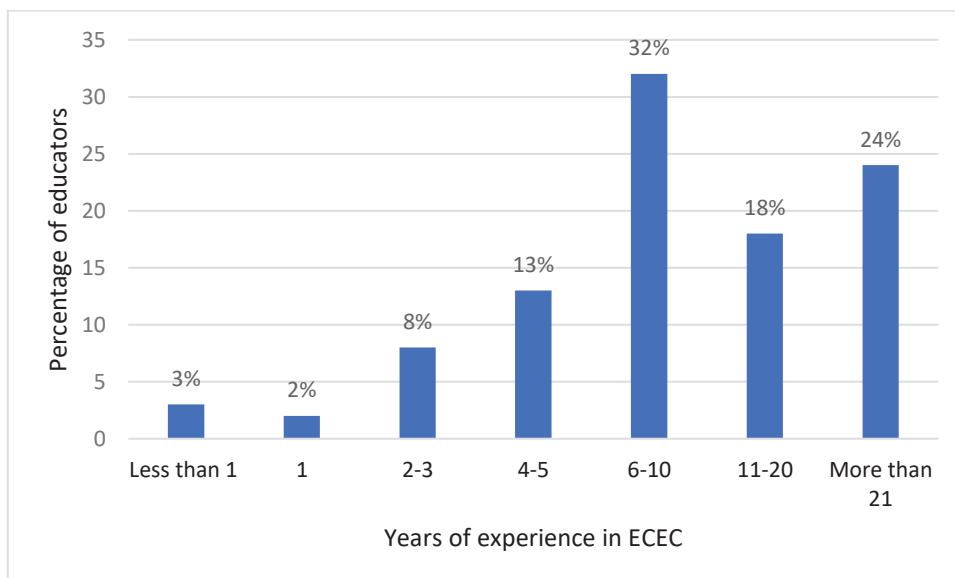


Figure 3. Participants' experience in ECEC services (in years)

3.3.3 Employment status of participants

When classified by the highest-achieved qualification, 28 educators held a certificate III; 31 a diploma; 44 a bachelor's degree; and 6, a master's degree (4 Master of Teaching, Birth to 12 Years, and 2 Master of Early Childhood).

The majority of educators across all qualification levels were employed by their service full-time. Figure 4 shows educators employment status classified by the highest qualification held. One certificate III educator did not respond to this question.

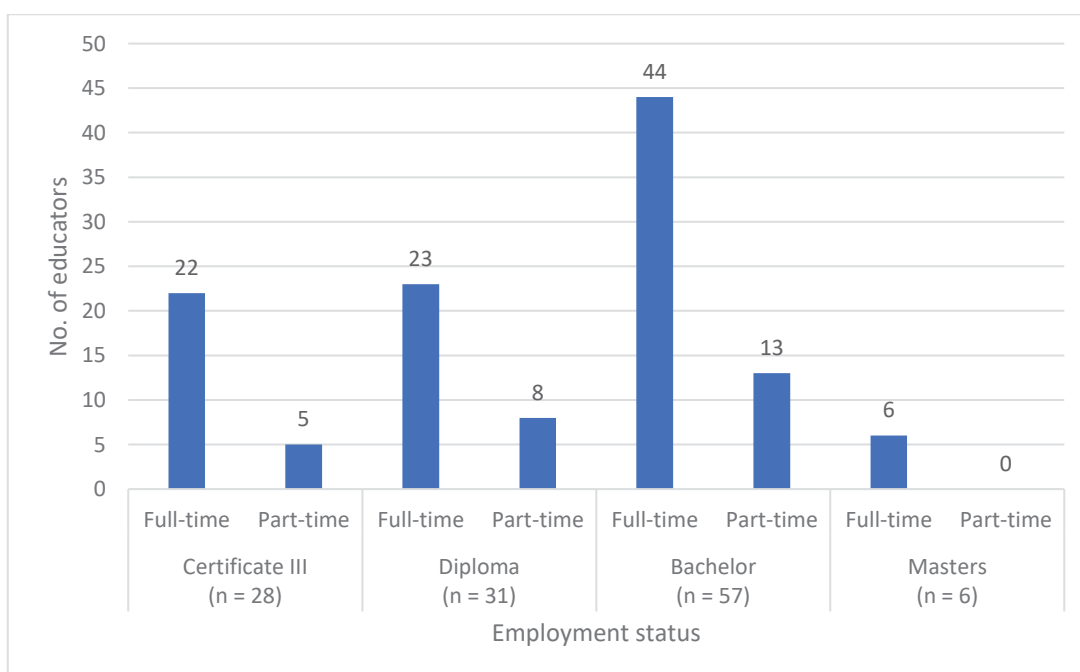


Figure 4. Participants' employment status

3.3.4 Role designation of participants currently working with infants and toddlers

Sixty-nine of the 122 participants were currently working in a classroom with infants and toddlers. The remaining 53 participants had worked with this age group recently. However, the questionnaire did not define ‘recently’, relying instead on respondents’ interpretation.

By highest completed qualification, 12 out of the 28 certificate III-trained educators, 17 of the 26 diploma-trained, 19 of the 23 bachelor’s-trained, and 1 of the 3 master’s-trained educators were designated room leaders.

3.4 Data analysis

3.4.1 Quantitative data analysis

Data analysis proceeded in two stages. Spreadsheets were created for the sample as a whole and for each level of qualification (certificate III, diploma, bachelor’s, and master’s). These data were transferred to SPSS 25 for analysis (IBM Corp, 2017).

Statistical tests included descriptive analysis of frequencies, mean scores, and standard deviation (SD) for ratings for all participant groups. Due to the small number of participants with a master’s degree, more complex tests for internal reliability using Cronbach’s alpha, and correlation analyses were only conducted for the certificate, diploma and bachelor’s groups. Additional comments made by educators after each grouping of questions were captured and used to gain further insight into educators’ views of their training experiences.

3.4.2 Qualitative data analysis

Participants’ responses to open-ended questions were subjected to thematic analysis. Data were imported and coded using NVivo qualitative data analysis software, Version 11.4.0 (QSR International, 2016).

Repetitive reading of all responses in the data set helped identify ideas and patterns and create *codes*. This inductive approach allowed the data to be analysed directly rather than attempting to “fit it into an existing coding frame” (as described by Braun & Clarke, 2006, p.83) and was well suited to the broad questions used to collect data on educators’ practices supporting the language learning of infants and toddlers. Each response was then classified into one or more relevant codes. No response could be allocated to a given code more than once. However, a single response could include words or phrases that could be

assigned to more than one code. Related codes were then grouped into larger categories, or *themes*, which were informed by the literature on educator practices that support the language learning of infants and toddlers (see Section 2.4). The analysis also considered both the overall dominance of each theme across the collected responses about practices, as well as whether educators within each highest-qualification group (certificate III, diploma, bachelor's and master's) contributed to particular themes.

As a reliability measure and using the codes already created, a second coder received training to code 144 responses comprising 52% of the full dataset, with a 96% match. Mismatches were discussed until agreement was reached.

3.5 Ethical considerations

This project received ethics approval from Macquarie University's Faculty of Human Sciences' Human Research Ethics Committee (Reference number 5201954228735) (See Appendix A) prior to the commencement of data collection.

Ethical considerations regarding informed consent were addressed and the purpose of the study fully disclosed both in the email invitation sent to potential participants' ECEC services, and also on the first page of the online questionnaire. Consent was required to commence the questionnaire, and participants were advised of their right to discontinue the questionnaire at any time, without fear of consequences for themselves or the relationship of their service with Macquarie University.

Participants' privacy was upheld by designating an educator code to all respondents upon completion of the questionnaire (see Key to educator coding, p. x). No training providers have been named, and no service details have been disclosed. All data is securely stored on a password-protected hard drive.

3.6 Limitations

This study is based on participants' reports about their training, which may not be completely reliable, particularly if a qualification was completed many years ago.

In line with the small scale and time constraints of this study, recruitment and participation were limited to the Sydney area only. Although statistical analysis can be conducted with 30 participants (Siraj-Blatchford & Siraj-Blatchford, 2001; Somekh & Lewin, 2011) and the sample size of 122 participants was considered adequate for this study, its findings cannot be generalised to the wider ECEC community.

Additionally, as invitation emails were sent to ECEC services rather than individual participants, there was also no means of ensuring the invitation to participate was forwarded to all educators eligible to participate in the study, which may have limited the number of survey responses.

Online questionnaires also present limitations. Firstly, respondents find it difficult to believe that an online questionnaire is anonymous (Bryman, 2012), but more importantly, warning about phishing and scamming make people are hesitant to click on a link in an unsolicited email (Arachchilage, Love, & Beznosov, 2016).

Using a questionnaire involves the risk of errors or less detailed responses resulting from ‘survey response fatigue’ (Egleston, Miller, & Meropol, 2011). Additionally, participants were not given explicit instructions about the length of response expected in the qualitative section and did not have the advantage of a researcher present to provide probes and prompts to elicit more detailed responses (Bryman, 2012).

Finally, as participation was voluntary it can be assumed that educators completing the questionnaire were highly motivated and interested in the topic. Thus, the present findings must be interpreted with caution and may have limited generalisability.

3.7 Chapter summary

This chapter has presented the design of the present study and described its participant recruitment, data collection and analysis methods as well as the participants. Using a mixed methods approach, a questionnaire was designed for EC educators working with infants and toddlers in Sydney and surrounding areas to explore the research questions. One hundred and twenty-two educators completed the questionnaire, of which 52 held two or three ECEC qualifications at different levels. Statistical analysis will be used to analyse and report quantitative aspects of the questionnaire, with thematic analysis to be used for the open-ended qualitative questions.

Chapter 4: Results

This chapter first presents the results of the present study. Sections 4.1-4.4 focus on findings from the quantitative analyses addressing Research Question 1, and consider participants' response to survey questions about:

- (1) focus given to infant and toddler age groups in certificate, diploma, bachelor's and master's courses;
- (2) focus given to specific subject or topics related to infant and toddler language-learning in certificate, diploma, bachelor's and master's course content;
- (3) educators' perceived level of preparedness to understand and support language learning of infants and toddlers.

Descriptive statistics are then reported for each question, specifically, mean scores (M), standard deviations (SD), and frequencies, followed by examination of the measures of course content and preparedness using correlations and tests of internal reliability. Finally, correlation is used to examine the relationship between ratings of course content and educators' perceived preparedness to support infant and toddler language-learning.

Sections 4.5-4.6 present the findings of the qualitative analysis addressing Research Question 2. They report on the themes identified in participants' responses to open-ended questions about the practices through which they support the language learning of infants and toddlers during routine times (e.g. nappy change and mealtimes); play; engagement with books; and other activities.

4.1 Age group focus of coursework

Educators were asked to rate the focus given in their course to different age groups from 1 = *not covered*, through 2 = *little focus*, and 3 = *some focus* to 4 = *significant focus*.

Results presented in Table 4 show that educators holding a certificate III, diploma, bachelor's degree and master's degree all reported the highest focus in their coursework to be on the pre-school age group, ranging from 3.15 ($SD = .75$) for certificate III, 3.17 ($SD = .40$) for master's degree, 3.42 ($SD = .71$) for diploma, to 3.58 ($SD = .56$) for bachelor. In contrast, ratings for the degree of focus on infants in coursework ranged from 2.33 ($SD = .81$) for masters to 2.85 ($SD = .90$) for certificate III, 3.11 ($SD = .83$) for diploma, through to 3.27 ($SD = .78$) for bachelor. The degree of focus on toddlers followed a similar pattern of lower ratings for lower qualification levels, increasing from diploma to bachelor: 3.02 ($SD = .73$) for certificate III, 3.25 ($SD = .70$) for diploma, to 3.42 ($SD = .62$) for bachelor,

indicating that in general educators felt there was *some focus* given to these younger age groups. The highest ratings for coursework relating to infants and toddlers came from educators who had completed a bachelor's degree, 3.27 ($SD = .78$) and 3.42 ($SD = .62$) respectively. Several educators made remarks in the comments section reflecting this including, "I believe the focus was geared towards the older age groups..." (E253).

The foundation-stage age group received less focus, rating lowest for all qualifications except for the master's degree where it rated second and equal to toddlers.

Table 4: Descriptive results: Summary of coursework focus on age groups by qualification level

Qualification level	Certificate III ($n = 60$)		Diploma ($n = 55$)		Bachelor ($n = 60$)		Masters ($n = 6$)	
Age group	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Infants	2.85	.90	3.11	.83	3.27	.78	2.33	.81
Toddlers	3.02	.73	3.25	.70	3.42	.62	2.83	.40
Pre-Schoolers	3.15	.76	3.42	.71	3.58	.56	3.17	.40
Foundation stage	2.00	1.16	2.25	1.22	2.93	1.13	2.83	1.17

Due to educator comments claiming that earlier-dated courses provided more focus on the younger age groups (reported in 4.3), the analysis was extended to explore frequencies of responses according to the year of course completion. This resulted in sample sizes too small to provide reliable findings (see Appendix D) but did suggest that there was a higher level of focus on infants and toddlers in earlier certificate III and diploma courses, with the bachelor's degree demonstrating consistency across the years.

4.2 Content focus of coursework

Four areas of subject content were rated on a 1 to 4 scale, where 1 = *not covered*, 2 = *little focus*, 3 = *some focus*, and 4 = *significant focus*:

- (1) Theories of language development (theories)
- (2) Providing interactions that support language learning (interactions)
- (3) Using resources that support language learning (resources)
- (4) Providing a language-rich environment (environment)

The proportion of participants who rated these aspects of course content for certificate III, diploma, bachelor and master's degree courses is shown in Figure 5. Results indicated that the responses covered all ratings options (1-4), with most educators selecting

the higher option, but differences were seen in the distribution of ratings across the types of courses.

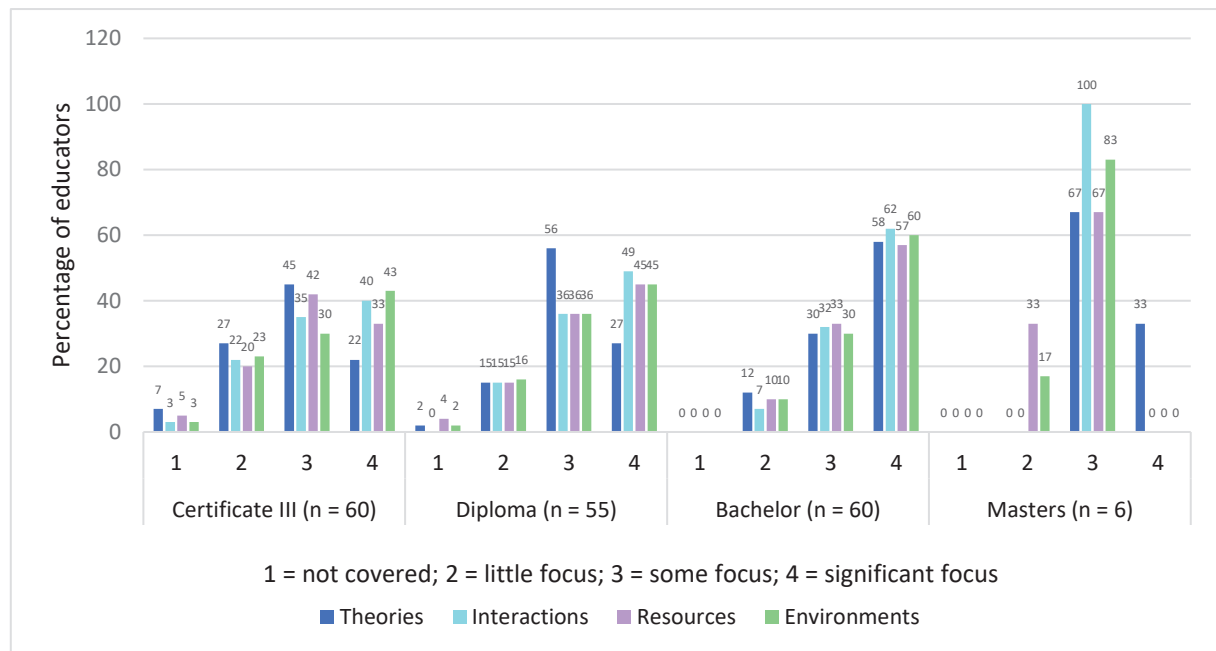


Figure 5. Educators' ratings for aspects of language-related coursework content

Theories received a *significant focus* rating from 22% of certificate III educators, 27% of diploma educators, and 58% of bachelor-trained educators, with certificate III and diploma educators more frequently rating this as *some focus*. In contrast, *theories* was the only item to receive a *significant focus* from master's-trained educators. Resources received ratings of 4 (*significant focus*) by 45% of participants who held a diploma, 43% for certificate III, and 57% who held a bachelor's degree. Across all qualification levels, bachelor educators less frequently chose *little focus* for each topic subgroup than diploma or certificate III educators.

Mean scores were calculated for each of these four aspects of coursework content. Results are presented in Table 5. As suggested by the distributions of ratings depicted in Figure 6, mean scores for theories, interactions, resources and environments showed an increased focus on infant and toddler-related language-supporting content with increasing qualification levels. For example, *theories* received ratings of 2.82 ($SD = .85$) for certificate III, 3.09 ($SD = .70$) for diploma, and 3.47 ($SD = .70$) for bachelor-level training. E313 (holding a certificate III and diploma) supported the upward trend when commenting, "I felt that the Diploma provided more training in language than the Cert III".

Table 5: Descriptive results: Focus of language-related coursework content for children birth to three

	Qualification level							
	Certificate III		Diploma		Bachelor		Masters	
	<i>(n = 60)</i>		<i>(n = 55)</i>		<i>(n = 60)</i>		<i>(n = 6)</i>	
Subscale items:	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Theories of language development	2.82	.85	3.09	.70	3.47	.70	3.33	.57
Language supporting interactions	3.12	.87	3.35	.73	3.55	.62	3.00	.00
Using resources	3.03	.86	3.24	.84	3.47	.68	2.67	.52
Providing language-rich environment	3.13	.89	3.25	.80	3.50	.68	2.83	.41

The ratings for the master's degree were similar to the other courses for theories ($M = 3.33$, $SD = .52$) but lower for the other three areas of content. However due to the small sample size ($n = 6$) these results cannot be generalised.

The next step in the analysis of these data was to examine the coherence of these four items as an overall measure of course content. Bivariate correlations were calculated between educators' responses to the four questions, using Pearson's r . Due to the low sample size representing the master's degree ($n = 6$) correlation analyses were not conducted. Results presented in Table 6a-c show consistent results from each qualification. There were moderate to high correlations between ratings for theory, interactions, resources and environments (ranging from $r = .49$ to $r = .86$ for certificate III, $r = .47$ to $r = .85$ for diploma, and $r = .54$ to $r = .78$ for bachelor). All correlations were significant at $p < .01$.

Table 6a: Correlation of coursework content items for certificate III

	Theory	Interactions	Resources	Environment
Theory		.58**	.49**	.66**
Interactions			.86**	.81**
Resources				.74**

.** $p < .01$

Table 6b: Correlation of coursework content items for diploma

	Theory	Interactions	Resources	Environment
Theory		.59**	.47**	.52**
Interactions			.89**	.84**
Resources				.85**

.** $p < .01$

Table 6c: Correlation of coursework content items for bachelor

	Theory	Interactions	Resources	Environment
Theory		.68**	.54**	.57**
Interactions			.79**	.75**
Resources				.78**

.** $p < .01$

Cronbach's alpha was then used as a further test of the internal validity of the overall measures of course content. The four course content items were analysed for each qualification level. Results presented in Table 7 confirmed high internal reliability.

Table 7: Cronbach's alpha coefficients for coursework content

Qualification and subscale item	Cronbach's alpha
Certificate III	.900
Diploma	.898
Bachelor	.894

As Cronbach alpha coefficients were above 0.65, a mean score was created by averaging the ratings for theories, interactions, resources, and environments to create an overall score for course content for each level of qualification. Results presented in Table 8 confirmed the trend seen in the item-level analyses of a greater focus on infant and toddler language-supporting content in higher level qualifications.

Table 8: Descriptive results: Mean score and SD for overall coursework content

	Certificate III (<i>n</i> = 60)		Diploma (<i>n</i> = 55)		Bachelor (<i>n</i> = 60)	
	Mean	SD	Mean	SD	Mean	SD
Combined coursework content items	3.03	.761	3.23	.672	3.50	.583

A series of paired *T*-tests were used to test the expectation that language-supporting content for infants and toddlers would receive a stronger focus in higher level qualifications. Results demonstrated that each of these paired tests showed a significant difference between the mean scores (see Table 9). As expected, bachelor degrees were rated higher than diploma and certificate III courses on language-related content ($p < .05$ and $p < .001$, respectively), and diploma higher than certificate ($p = .01$).

Table 9: *T*-test results for comparison of means for course content

Qualifications compared	<i>T</i> -test value (<i>p</i>)
Certificate III vs diploma	.013*
Diploma vs bachelor	.027*
Certificate III vs bachelor	<0.001**

4.3 Educators' perceptions of their preparedness and ability to understand and support language learning of infants and toddlers

Educators rated four subscale items; 1 = *strongly disagree*, 2 = *slightly disagree*, 3 = *neither agree nor disagree*, 4 = *slightly agree*, and 5 = *strongly agree* for the following statements:

- (1) I believe my coursework supported me to understand typical language development of children under three (development);
- (2) I believe my coursework helped me develop the ability to engage in developmentally appropriate, language-rich interactions with children under three (interactions);
- (3) I believe my coursework helped me develop the ability to select language-supporting resources for children under three (resources);
- (4) I believe my coursework helped me develop the ability to choose developmentally appropriate books for children aged 0-3 (books).

Results shown in Figure 6 of the proportion of educators rating these aspects indicated that responses covered all ratings options (1-5) with the exception of masters-trained educators whose highest rating was *somewhat agree*. For certificate III, diploma, and bachelor-trained educators, the frequency of ratings increased from options *strongly disagree* to *strongly agree*.

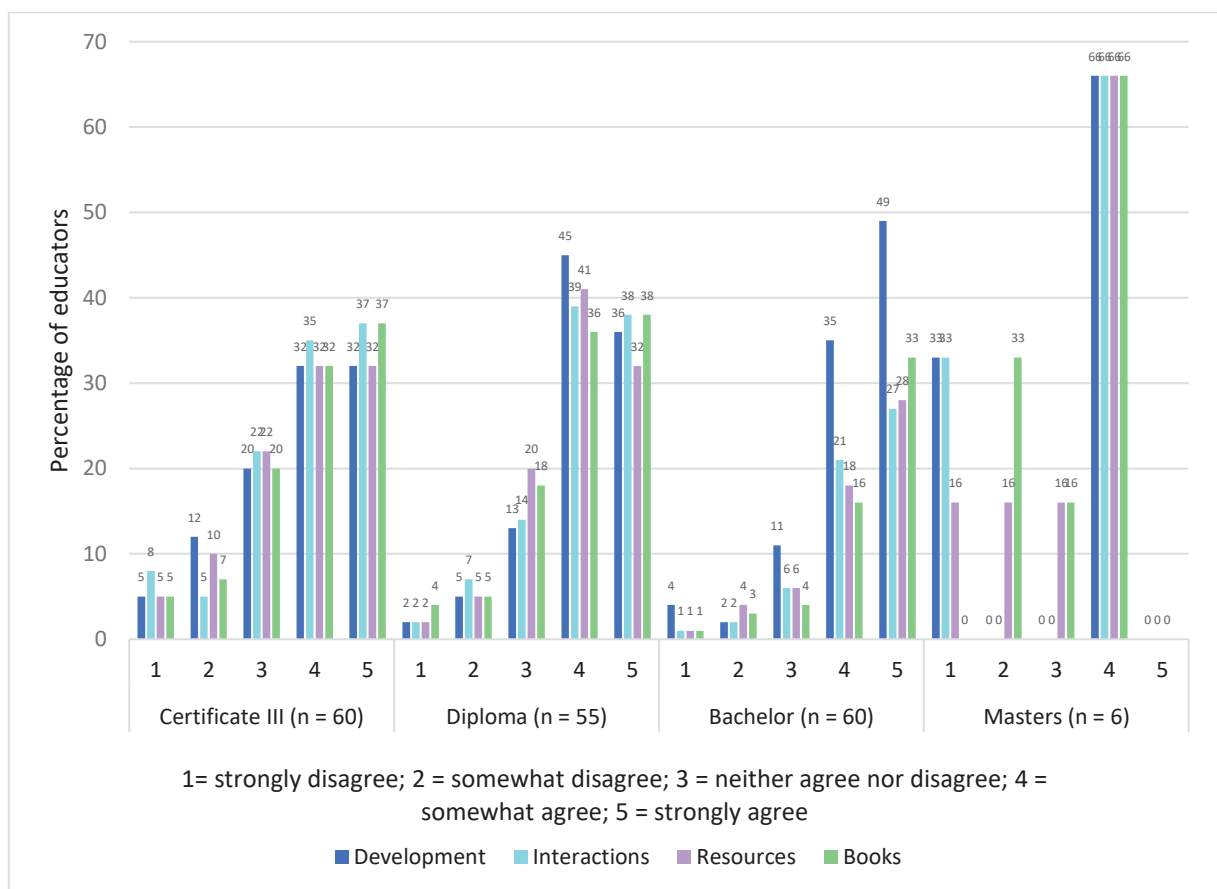


Figure 6. Educators' ratings for their preparedness

While the distribution of ratings for each item for certificate III and diploma-trained educators was very similar, bachelor-trained educators rated being prepared to understand typical *development* more positively than other areas. However, their ratings for engaging in *interactions*, selecting *resources*, and choosing *books*, were consistently lower than ratings given by certificate III and diploma-trained educators. Master's-trained educators were the most varied in their ratings, although the small number of participants made this group difficult to compare.

Both certificate III and diploma educators reported the strengths of their courses best preparing them to support language-learning of infants and toddlers to be in the areas of *interactions* and *books*.

To simplify and summarise the results, individual educators' preparedness ratings were re-coded to create three categories: unprepared (sum of *strongly disagree* and *disagree*), neutral (*neither agree nor disagree*), and prepared (*agree* and *strongly agree*), presented in Figure 7.

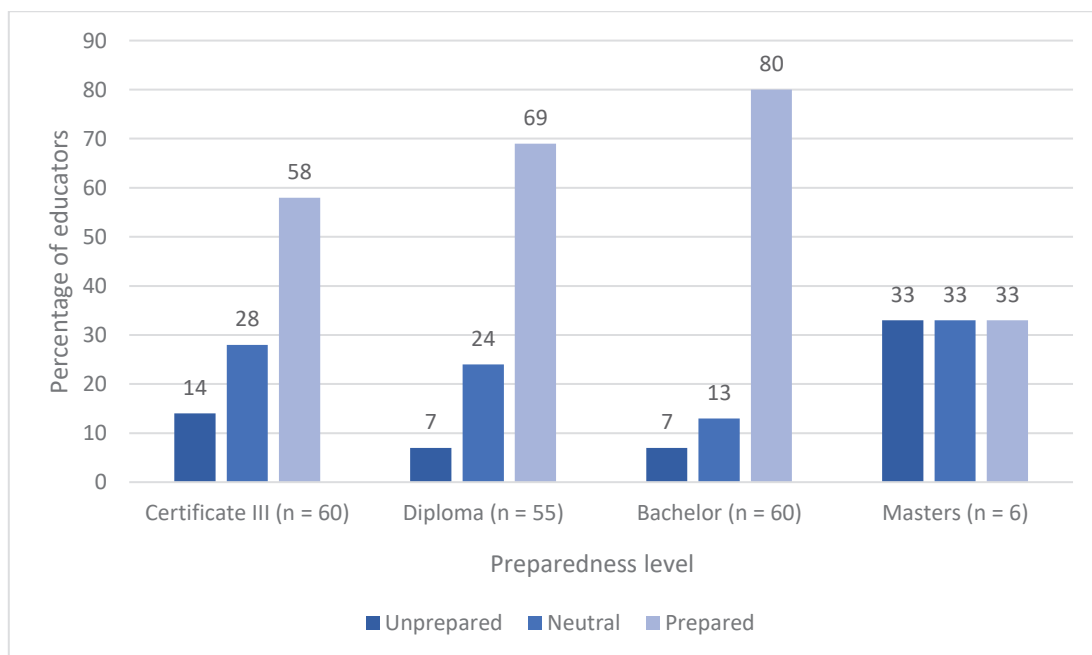


Figure 7. Reported preparedness level of individual educators

As confirmed through other analyses, bachelor-trained educators reported the highest levels of preparedness (80%, $n = 48$), with figures decreasing through diploma-trained (69%, $n = 38$) to certificate III-trained educators (58%, $n = 35$), and lastly, master's-trained

educators (33%, $n = 2$). Educators reporting feeling unprepared included master's (33%, $n = 2$), followed by certificate III (14%, $n = 8$), with diploma and bachelor each reporting only 7% of educators who felt unprepared ($n = 4$ for each).

Mean scores were then calculated using the original ratings of 1 to 5 for preparedness. Results are presented in Table 10. Educators with higher qualifications felt better prepared to support the language-learning of infants and toddlers. For example, for understanding typical language development of children under three, ratings were received of 3.73 ($SD = 1.18$) for certificate III, 4.09 ($SD = .93$) for diploma, and 4.25 ($SD = .97$) for bachelor. In contrast educators with a master's degree rated their preparedness lower, with the highest mean score of 3.00 ($SD = 1.549$) reported for three of the four items, falling below even the lowest certificate III rating for any item. In commenting on preparedness, one master's-qualified educator who had scored this area poorly stated:

I gained most of my knowledge about language development in young children through my own reading and practice in the classroom. The language and literacy course that I undertook as part of my qualification did not adequately prepare me for language and literacy teaching in early childhood. (E106)

Table 10: Descriptive results: Preparedness of educators to support language-learning of children birth to three

	Qualification level							
	Certificate III ($n = 60$)		Diploma ($n = 55$)		Bachelor ($n = 60$)		Masters ($n = 6$)	
Subscale items:	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Understand language development	3.73	1.18	4.09	.93	4.25	.97	3.00	1.55
Engage in language-rich interactions	4.00	.98	4.05	.99	4.23	.91	3.00	1.55
Provide language supporting resources	3.75	1.16	3.98	.95	4.18	1.00	3.00	1.55
Choose appropriate books	3.88	1.14	4.00	1.05	4.33	.95	2.83	1.55

The coherence of the four items as an overall measure of preparedness was examined using bivariate correlation (Pearson's r). Results presented in Tables 11a-11c show consistently high correlations for development, interactions, resources, and books, ranging from $r = .72$ to $r = .86$ for certificate III, $r = .74$ to $r = .90$ for diploma, and $r = .74$ to $r = .94$ for bachelor. All correlations were significant at $p < .01$.

Table 11a: Correlation of preparedness ratings for certificate III

	Language	Interactions	Resources	Books
Language		.81**	.86**	.72**
Interactions			.81**	.72**
Resources				.83**

Table 11b: Correlation of preparedness ratings for diploma

	Language	Interactions	Resources	Books
Language		.90**	.84**	.74**
Interactions			.81**	.75**
Resources				.78

Table 11c: Correlation of preparedness ratings for bachelor's degree

	Language	Interactions	Resources	Books
Language		.94**	.86**	.74**
Interactions			.92**	.81**
Resources				.88**

A further test of the internal validity of the overall measure of preparedness was then run using Cronbach's alpha. The four preparedness items were analysed for each qualification level, with results presented in Table 12 confirming high internal reliability.

Table 12: Cronbach's alpha coefficients for educators' preparedness to support language-learning

Qualification and subscale item	Cronbach's alpha
Certificate III	.94
Diploma	.94
Bachelor	.96

As Cronbach alpha coefficients were above 0.65, a mean score was created by averaging the ratings for development, interactions, resources, and books to create an overall score for course content. Results for each level of qualification presented in Table 13 confirm the trend seen in the item-level analyses of a greater degree of preparedness in higher level qualifications.

Table 13: Descriptive results: Mean score and SD for combined preparedness subscale items

	Qualification level					
	Certificate III (<i>n</i> = 60)		Diploma (<i>n</i> = 55)		Bachelor (<i>n</i> = 60)	
Subscale items:	Mean	SD	Mean	SD	Mean	SD
Combined preparedness items	3.84	1.02	4.03	.90	4.25	.90

Paired *T*-tests were used to test the expectation that preparedness levels would be higher for educators with higher qualifications. Results showed that only one of the *t*-tests demonstrated a significant difference between the mean scores (see Table 14). Participants who had completed a bachelor's degree rated their preparedness to support the language-learning of infants and toddlers higher than participants who had completed a certificate III ($p < .05$).

Table 14: *T*-test results for comparison of means for preparedness

Qualifications compared	<i>T</i> -test value (<i>p</i>)
Certificate III vs diploma	.291
Diploma vs bachelor	.193
Certificate III vs bachelor	.021

Finally, whilst an analysis was not possible by the year of completion of the qualifications due to the small sample sizes, several educators who had upgraded from the earlier-dated associate diploma to the equivalent but current ‘Diploma of Early Childhood Education and Care’ provided information in the *additional comments* section of the questionnaire. These comments included:

The Ass. Dip at [training provider] as it was planned when I studied ... provided with ample information across child development, planning and implementing language experiences, music and literature, a subject called Play, and language development with a component of theories. (E317)

The original course that I completed (the Associate Diploma) was full of language information and encouragement for children of all ages. When upgrading to the Diploma the focus on language experiences was reduced. In my upgrade to the Diploma I did hardly any language in my studies. (E225)

The Diploma for me only had small amounts of language. The associate diploma was full of language experiences for all aged children including lots of information on language with 0-3-year olds. (E229)

Additionally, E317 stated, “The students we get at our centre don’t seem to do as much on language compared to what I remember doing”.

4.4 Associations between course content and educators’ preparedness

To ascertain the extent to which EC educators training predicted their preparedness to support the language-learning of children under three years of age, Pearson correlation analysis was used to test the association between ratings for participants’ coursework content and ratings for preparedness for each qualification level. Results are presented in Table 15.

Table 15: Correlations between ratings for coursework content and preparedness for each EC qualification level

	Certificate III (n = 60)	Diploma (n = 55)	Bachelor (n = 60)
Pearson correlation (<i>r</i>)	.668*	.476*	.655*

* Correlation is significant at the 0.01 level (2-tailed).

Bivariate associations between course content and educators' preparedness were highly correlated. Results showed a strong correlation for participants with a certificate III ($r = .668$) and bachelor's degree ($r = .655$). These results confirm the relationship between participants' perceptions of coursework content and preparedness, with a higher coursework focus on infant and toddler language being associated with a higher preparedness level. The finding that the associations for certificate III and bachelor's degrees were stronger than for the diploma raises questions as to why such a difference exists, with a possible explanation being the variation in course duration between different RTOs. For example, the intensive delivery mode of a 40-week course would not have the same rigour as a 2-year course, whereas the smaller variation in the certificate III course duration (20 to 26-weeks) was less likely to have such variation in the outcomes.

4.5 Educator practices

To collect data on educators' practices, the questionnaire asked the following questions about the last day the educator had worked a full shift with children under three:

- (1) How did you support infants' and toddlers' language learning during routine times (nappy change, mealtimes, etc.)?
- (2) How did you support infants' and toddlers' language learning during play?
- (3) How did you use books with infants and toddlers?
- (4) Is there anything else you did on this day to promote children's language learning?

Of the 122 educators who responded to the questionnaire, 73 (60%) answered the questions addressing practices. This number included 16 (27%) of certificate III-qualified educators, and 21 (38%) holding or working towards a diploma, 33 (55%) with or working towards a bachelor's degree, and 3 (50%) with or working towards a master's qualification in EC. For this section, each educator's highest-level qualification was used to classify participants for comparison purposes, as described in 3.4.2. The first numeral in each educator's individual code indicates their highest-level qualification: 1 = masters, 2 = bachelor, 3 = diploma, and 4 = certificate III.

In general, for each question responses varied widely in regard to the depth of understanding demonstrated across all qualification levels. For example, some responses were extremely brief (e.g. 'talk', 'songs') and many used everyday language, such as "Talk to them directly" (E318), or "Singing songs. Talking" (E404). Other responses were quite

elaborate and provided deeper insight into and explanations for educators' language-supporting practices:

During routines, I explain to the children using age and skill appropriate what we are doing. During nappy change I chant nursery rhymes that is that particular child's favourite and insert their names into the nursery rhyme i.e. old MacLeo (Child's name is Leo) had a farm. Or Incy Wincy Alex climbed up the waterspout. During transitioning times and washing hands I verbalize short instructions... Let's wash our hands! Demonstrate the procedure and assist the child IF they require help... During mealtimes I sit with the child at the table and I serve from the table, I name each food ingredient and ask the child what they want on their plate. This encourages discussions, extends vocabulary and provides children with choices and allow the child the power over their own bodies. (E313)

For each of the four survey questions about practices through which educators support language learning in infants and toddlers, this section will present the major themes and codes identified across all participants' responses, highlight any noteworthy distribution patterns between qualification levels, and finally examine the detail provided in individual responses.

4.5.1 Language-supporting practices during routine times.

The first question in the *practices* section of the questionnaire asked educators how they had supported infants' and toddlers' language learning during routine times (nappy change, mealtimes, etc.). From responses to this question, 55 codes were developed and then classified into eight themes (see Appendix F for description of themes and codes and Appendix G for breakdown of results by qualification group).

Songs and rhymes

In response to this question, the vast majority of educators (n = 61) mentioned using *songs and rhymes* (see Figure 9). This theme included any reference to *singing* (single word), *singing during particular routine times* such as nappy change or transitions, *saying nursery rhymes* and *playing 'peek-a-boo' type games*. The theme was most prevalent in responses by diploma-level educators, followed by certificate III and then bachelor. Certificate III educators more frequently specified when they sang (during nappy change, handwashing, or transitions), followed by diploma. However, the majority of educators,

including almost a third of the bachelor-trained respondents, stated only “singing”, “songs”, or “sometimes singing”.

Role model language

The *role model language* theme was created with codes demonstrating various strategies for exposing infants and toddlers to language. The most frequently mentioned codes from all qualification levels were *describe what is happening*, and *discussion about lunch*.

Of the 60 codes classified into this theme, most were identified in the responses from nine bachelor-trained educators who reported self-talk (describing what they were doing) and parallel talk (describing what the child was doing).

Examples from all qualification levels ranged from a few words to more elaborate responses, but only diploma-trained educators offered explanations of how the practice supports language-learning. For example, responses coded as *discussion about lunch* ranged from “Discussion about lunch during lunch time” (E408), and “We discussed what we were eating” (E214), to more elaborate responses demonstrating an awareness of the benefits of the practice reported such as the following:

During mealtimes I sit with the child at the table and I serve from the table, I name each food ingredient and ask the child what they want on their plate. This encourages discussions, extends vocabulary and provides children with choices and allow the child the power over their own bodies. (E313)

Another example demonstrating practice consistent with recommendations in the research-based professional literature was:

Making sure there was not excessive noise around, having meals in small groups where the communication was possible among children (verbal and non-verbal) and between each child and me. (E317)

The next most frequent type of response was coded as *labelling*, reported by three diploma- and three bachelor-trained educators, where one specifically used the term ‘labelling’. Three educators gave examples such as, “naming body parts, e.g. leg, finger” (E307), “naming body parts” (E242) and “I name each food” (E313).

Within the *role model language* theme, one (diploma) educator (E315) explicitly mentioned pointing out and talking about *items of interest* to a child, and one (E313) stated

that they sat at the table with the children for lunch. One certificate III- and one diploma-level educators stated that they *announce transitions*.

Talk

Whilst a considerable number of responses included the *talk* theme, many were too brief to interpret. For example, 35 educators mentioned *talking to children*, but just four of them (one certificate III and three bachelor) provided further details such as “talk during nappy change”. Many educators simply stated ‘conversations’ or ‘talked’ without indicating when or about what they talked about with the children.

Responsiveness

The responsiveness theme attracted 24 codes, with the most frequent being *mimic babble* (identified in the responses of three educators with bachelor’s and one with a master’s degree) and *allow time for response* (one each from diploma, bachelor’s and master’s). Only one certificate III educator contributed to this theme with a response coded as *interest-based talk*. Other codes tended to capture single responses, and therefore no clear distribution patterns emerged when comparing different qualification groups.

Encourage language

Among the 21 responses in the theme *encourage language*, *ask questions* was the most frequent code, included by all qualification group’s responses except for masters. Examples of questions asked were not provided, although six bachelor responses were coded as *ask open-ended questions*. One diploma-trained educator said *assist with attempted pronunciations*.

Body language

Using *body language* was mentioned by two certificate III-trained educators stating they had used eye contact, and one certificate III and two diploma educators saying they got down to the child’s level.

Books and stories

Ten coded responses in this theme group were limited in detail. Using books in *group times* was mentioned by all qualification groups and *telling stories* by one diploma and three bachelor-trained educators. One certificate III and one diploma educator stated they “read stories at mealtimes”.

4.5.2 Language-supporting practices during play.

Seventy-one educators responded to the question on how they supported infants' and toddlers' language learning during play. Forty-three codes were established based on educators' words and sentences which were classified into 10 themes (see Appendix H for description of themes and codes, and Appendix I for breakdown of results by qualification groups).

Role model language

Role-modelling language was the most frequently mentioned theme, with 36 coded responses allocated to it. A code with the label *model language* was created to capture responses that used these words only. More detailed responses were classified into codes such as *describe what child is doing* and *use descriptive language*. While almost a quarter of all responses provided little more than "role modelling language" (E312) or "role modelling" (E327), diploma-trained educators most frequently provided more detail when referring to practices within this theme, followed by bachelor-trained educators. Similarly, within *descriptive language*, several responses simply stated "descriptive language". Educators infrequently used terms such as *labelling*, and instead tended to rely on lay descriptions, as exemplified in the response "give name for everything" (E319).

More insightful responses coded as *describe what child is doing*, *use descriptive language*, and *labelling* provided examples of the educator's role modelling practices:

Labelling the toys they were playing with and talking with them about what they were doing, e.g. I can see that you have a truck, I wonder what sound the truck makes brrrrmmm etc. (E314)

Talking through what they are doing. For example, look at you pushing the walker with your arms... That's a big blue shovel, let's do some digging. (E315)

Others emphasised the contribution of these practices to aspects of infants' and toddlers' language learning:

I described what they are doing, extending their emerging vocabulary, using language to scaffold their attempts... (E317)

Bachelor-trained educators offered fewer detailed responses than other groups, with one of the more elaborate ones being "...voicing what is occurring etc. to support language immersion" (E233). The responses of certificate III educators classified into this theme

tended to be very brief with the most detailed stating: “We talked about senses, things they can hear or see” (E416).

Encourage language

The theme *encourage language* included well-informed responses from all qualification groups. Many educators provided significant detail of how they encourage language during play. For example, a bachelor-trained educator said: “... giving them words to describe what is going on helps them to add on to their vocabulary. Giving them words to express their ideas and feelings” (E242). Examples from certificate III and diploma-trained educators included respectively “Use words to expand vocabulary e.g. colours, directions (up, down, back, front)” (E417) and “Language learning during play is supported through demonstrating verbally and physically, repeating and encouraging the children to respond and mentor their own peers” (E322).

The most commonly mentioned practice for encouraging language during play was *questioning*, with more bachelor-trained educators reporting asking *open-ended questions* - “extending language with open ended questions” (E221). Most certificate III respondents reported just *question* or *questioning*. One educator reported encouraging language by telling the children to “use their language instead of crying” (E328).

Responsiveness

The *responsiveness* theme received 28 codes and was identified in over half of the responses from the diploma group, a third from the bachelor and quarter from the certificate III groups. The most frequently reported code was *repeating children’s words* with eight responses allocated to it by diploma and bachelor educators. Two responses in this code group providing a little more information were, “Repeating their utterances and sentences” (E316), and “Repeating what they are saying or attempting to say” (E227).

A response coded as *respond to body language* came from a diploma-trained educator:

I watch their expressions, gestures and body language. Some children are nonverbal, but this doesn't mean they don't communicate. I tune in to them and I know each child's capability and I extend on their learning. (E313)

Another coded as *mouthed games* was received from a bachelor-trained educator:

... babble back to them, engage with them as they attempt to make conversation. play mouthing games like making popping sounds with your lips and clicking your tongue. (E214)

Certificate III educators' responses coded as respond consistently included "Always making them feel comfortable, safe and secure" (E402), "Showing love and support to the child at all times" (E417), and "... always having [the] contact with them consistently" (E416).

Talk

Responses featuring the *talk* theme were generally extremely short, such as "talk" or "talk to them", providing no descriptive evidence of the type of talk engaged in. Therefore, no clear differences emerged among responses from educators with different qualification levels. Of more descriptive responses, two diploma-trained educators mentioned using 2-3-word sentences.

Other themes

Whilst *songs and rhymes* and *books and stories* received numerous mentions, responses were too brief to subclassify. For example, E418 stated "songs and books". The theme *body language* was infrequently mentioned and included similarly brief responses, such as "verbal and nonverbal" (E257).

Resources and experiences was a less frequent theme. One educator (E327) spoke of cooking and gardening, and another reported "using flash cards" (E232).

The *environment* theme received only two mentions. One, a bachelor-trained educator simply reported "physical environment" (E228) without further detail, whilst a diploma-trained educator (E317) referred to being aware of noise levels in the room.

Overall, the most detailed responses for this question came from diploma-trained educators, with bachelor-trained educators only better articulating that they engaged in children's play. For example, "We need to be involved in play to extend the existing learning" (E248). Nevertheless, the language benefits of engaging in the children's play was not reported.

4.5.3 The use of books with infants and toddlers.

From 71 educators' responses about how they had used books with infants and toddlers, 30 codes were established, and then classified into six themes. For descriptions of

themes and the codes that comprise them see Appendix J and for breakdown by qualification group Appendix K.

Reading

The *reading* theme attracted the most responses (51) with codes being created to describe the context of the reading experience. For example, opportunities to read throughout the day, whether educators read to an individual child or group, and the group sizes involved in the experience. Of these, the *reading (single or few words)* code was the most prevalent, accounting for 13 coded responses. Statements such as “Read [to] them during group time” (E303), or “Read the book to them” (E318) provided very little information.

Fewer responses specified that educators *read throughout the day*, and included:

We read a lot of books throughout the day. The children enjoy an educator reading to them. They also enjoy independently exploring the books as well. (E422)

We read constantly. We have books available inside and outside. We do countless small group readings, 1;1 times, larger puppet and story group times as well. (E248)

These responses demonstrated an awareness of creating opportunities for children’s engagement with books, although did not articulate how reading supports language-learning.

When referring to group size the most frequent response was *reading to small groups* and *reading to groups*, decreasing in frequency in both cases from bachelor- to certificate III-trained educators. No further explanation was offered as to the number of children in the groups within the *reading to groups* code, as demonstrated by the statement: “group time stories” (E410). Nine educators (three from each level) reported reading one-on-one with children. One educator specified the physical context of the activity and indirectly acknowledged children’s interests: “Sitting with the children to read their choice of book or sitting them on lap for individual attention of a story” (E314).

Book reading practices

The *book reading practices* theme captured responses from all qualification levels with a total of 43 codes allocated. Responses coded for this theme provided quite specific information on the *book-reading strategies* employed by educators. These strategies

included using illustrations to encourage language, and using an animated voice, as described by the following examples:

We make story time interesting and ventured away from the words in the story and focus on what we can see, inviting the children [toddlers] to engage in meaningful conversations. (E305)

Educators sit and read stories with the children and use the images within these books to engage and facilitate their interpretations and encourage them to convey meanings to these images to each other and their educators. (E322)

E211 stated “read out loud and very animated”.

Specifying the type of prop used with books was limited to bachelor-trained educators. For example, “Added puppets, songs, music...” (E223). Respondents from lower qualification levels merely reported using props. One example, although not specifically naming props, illustrated thoughtful practice in stating “Outside during free play [we use] spontaneous stories from books and props the children could choose from a story box” (E225).

Types of books

The theme *types of books* generally included brief responses that nevertheless highlighted educators’ understanding that infants’ and toddlers’ language learning can be promoted through exposure to books that differ in format, media, and genre. Responses included, “books provided; Small word books, picture books” (E226), “big picture books and musical books with sounds” (E232), and “soft, and/or big picture books” (E257). Providing *sensory* and *interactive* books were suggested rarely.

Within the *variety of media provided* code came a particularly mindful response:

... vary from interactive books to braille books, sign language, multilingual books and resources to accompany them, you-tube, audio, music, various media, magazines (which yes they rip) which is an experience in itself, magazines, pamphlets, old catalogues etc. (E233)

Environment and book access

Environment and book access were infrequently mentioned with only 16 responses falling within this theme. Twelve educators, with similar numbers from each qualification level reported *books available all day*. One educator provided more detail: “We have a

cosy area with child sized lounges with a variety of books for the children to explore with educators and family members” (E220).

Encouraging reading

Three certificate III and one diploma-trained educator reporting *encouraging reading*. To illustrate:

Encourage children to borrow their own books and take them home. Encourage reading activities such as alphabet room display, numeracy display. (E428)

Reading for a specific purpose

This theme received few mentions, other than to use books for settling children, settling at rest time, and to support numeral and alphabet learning. However, the responses did not explicitly relate these practices to language-learning.

Overall for this question, educators revealed many practices that provided insight into their use of books with infants and toddlers. A particular response by an educator with more than 21 years’ experience revealed thoughtful practice that reflects recommendations in the professional literature:

Usually families provide necessary information for me to build on and to extend what they do at home (if that is the case). I choose a variety of books according to ages, interests, likes. How do I use them? in a way that promotes their joy for looking and interacting with books, understanding individual children. Repeating books that are of children's interest, choose quality pictures and stories, let children explore the books and express themselves about them. (E317)

4.5.4 Other practices used to support infant and toddler language-learning.

Educators were asked what other practices they had engaged in to support infants’ and toddlers’ language learning. This question received 24 responses (5 certificate III, 7 diploma, and 12 bachelor) from which 13 codes were created and classified into four themes. For descriptions of themes and the codes that comprise them see Appendix L and Appendix M for breakdown by qualification group.

Experiences

Just over half of the educators provided information on specific *experiences* they had engaged in or provided to support infants’ and toddlers’ language learning, including art and craft experiences, dramatic play, and specific projects. A total of 14 responses were

coded from educators from each qualification group reporting on experiences that provided language-learning opportunities for their infants and toddlers. For example, “expressive craft such as painting, playdoh and pasting” (E409). One specified labelling as a strategy used in the experience to promote language with the response, “Free choice of pictures from magazines for collage activity. We describe or name objects in the picture” (E417), while another expressed the language-learning potential (E428) when discussing the project of making a recipe book with the children from which they would “learn new words”. Diploma-trained educators mentioned using certain experiences as stimuli for language use, including “touching materials, feeling different objects” (E329) and “role playing in the kitchen areas and with baby dolls, sensory play with playdough and creative experiences, and during transitions and tidying up areas” (E322). One example demonstrated a clear commitment to promoting toddlers’ language-learning by focusing on vocabulary and language associated with a particular project experience:

During the last six months of last year I worked in the toddler's room. I went to the garden daily to watch the lavender and the bees, talked about what we saw and carried a basket of books about bees, flowers and other insects we could see in the garden. We spent a good block of the mornings reading the books on topics that were fascinating them. (E317)

Home corner and dramatic play were used by E250 to encourage language, who described a project based on children’s interests that encouraged toddlers to share language with their families:

The children are interested in animals, so after reading the book we took the characters from the story and displayed them on the floor in real size ... the children have revisited this throughout the day and showed their parents, sharing information from the story. (E220)

Two diploma- and two bachelor-trained educators reported using *flashcards* and *show and tell* but provided no other details. A bachelor-trained educator reported using a *video*.

Literacy

Ten responses were coded into the *literacy* theme, where educators reported practices articulating a focus on literacy awareness and learning. That fewer educators introduced aspects of *literacy* into their responses possibly acknowledged the language focus of the

study, while suggesting an understanding of the interdependence of language and literacy development. The most frequent code with seven responses allocated were the use of *symbols and signs*. Details were limited, but E214 specified using environmental symbols such as traffic signs to teach children about crossing the road and holding hands. E250 reported using props in home corner with signs and signals on them but did not give examples. Two bachelor-trained educators referenced providing *displays* in their rooms to promote conversation, one of which stated:

When we display documentation or children's work, we put their names or simple, large wording for them to look at, touch, carry around. (E253)

The same educator also mentioned providing pencils for children to use.

Behaviour guidance

One diploma-trained educator contributed twice to this theme by reporting “asking [children] to use their language instead of crying” and “encourage them to talk and ask for their need instead of pointing” (E319).

Miscellaneous

Five responses that introduced new ideas were included in the *miscellaneous* theme. These included on diploma and two bachelor-trained educators teaching the children *sign language*. One educator explained how “letting younger children play with the older children also helps them to support their language and social skills” (E242). The code, *staff training* was created for the response, “Train my staff to plan and implement / improve group time” (E242).

4.6 Factors outside of training that have assisted educators in supporting language learning

Finally, educators reported that sources of information and professional development outside their training also contributed to their ability to support the language learning of infants and toddlers. Thirty-six educators responded to this question (8 certificate III, 14 diploma, 14 bachelor) and 17 codes were assigned and classified into six themes. See Appendix N for the description of themes and the codes that comprise them, and Appendix O for breakdown by qualification group.

Personal professional development

This theme received the most mentions with 19 codes allocated, and was identified in the responses of educators from all qualification levels. For example: “I believe doing my own research, reading, reflecting and being naturally curious about children’s development in all areas has assisted my knowledge” (E422).

Reading articles was mentioned by six educators, and two educators reported relying on subscriptions from peak Australian EC bodies, for example, “I do a lot of my own research and look closely at resources provided by ACEQA, ECA, Gowrie, ACA & so on” (E205).

Personal reflection was mentioned by one diploma and two bachelor-trained educators. For example, “Our team reflects on our pedagogical practices regularly together & independently, and we challenge each other to be better educators, supporting our knowledge and supporting the growth & development of the children in our care” (E220). The lack of *personal reflection* cited by certificate III educators may reflect more limited instruction on reflective practice in their relatively short course.

Commercial PD

Educators most frequently cited attending or engaging in commercial PD experiences such as in-service courses, although responses were restricted to diploma and bachelor-trained educators. No certificate III educators mentioned participating in *commercial PD*.

Learning from others

The *learning from others* theme accounted for 13 coded responses, of which eight bachelor-trained educators reported *mentoring* as an influential factor. For example: “On the job learning from amazing role models in the industry!” (E223) and a detailed response:

Our organisation also runs monthly educational leader meetings where they have recently had a focus on children's literacy. Our educational leader has brought this knowledge back to the centre and mentored us all on developing our abilities to support child's language development. (E253)

Three diploma and only one certificate III educators mentioned mentoring, even though the code allowed for statements that reported colleague support without the explicit term *mentoring*. The code for *networking with other professionals* gained two responses, with an example provided of networking with speech pathologists (E214), and a more

general comment of drawing on the “perspective from ... relevant experts in the profession”.

“Learning from prac students attending the service on latest research” (E238) acknowledged the benefits of *learning from WP students*. Certificate III educators were the only ones to state they learnt from *EC social media groups*, citing, “I [also] take part in educator forums such as Facebook groups...” (E422), and “Reading blogs/Instagram from other early childhood teachers” (E410).

Experience in EC

Only one code was included in the theme *experience in EC* as the responses did not provide enough detail to distinguish how or why these experiences had benefitted language-supporting practice with infants and toddlers. Of eight responses allocated to this theme, it accounted for half of the certificate III educators’ responses, with less from other qualifications, where all had simply stated “experience in EC”.

Non-EC experience

The *non-EC experience* allowed for codes for ideas that educators felt had influenced their work but were not specifically infant and toddler language related, such as “life experience”, programs including ‘inclusion support’ (E321), and ‘teaching languages’ (E327), and a ‘Ready for life’ program (E222). One educator held ‘teachers’ aide certification’ (E409). Educators did not elaborate on how these experiences benefitted their work.

Parenthood

The final theme of *parenthood* was created as a separate theme with only one code as six educators believed that being a parent had supported their infant and toddler language practices although none specified how. No bachelor-trained educators cited being a parent as an influential factor.

4.7 Chapter summary

This chapter has presented the findings of the present study. Addressing Research Question 1, it has been found that educators’ reported coursework content related to supporting the language-learning of infants and toddlers increased with the higher qualification levels. While variations existed between qualification levels for specific aspects of preparedness, overall preparedness levels to support the language-learning of infants and toddlers also increased with higher level qualifications. It has also been

established that the focus on content in training experienced by educators was significantly associated with their level of preparedness to engage in effective practices, but this association was stronger for certificate III and bachelor compared to diploma, possibly due to the variation in course duration depending on which RTO provided educators' diploma training.

In addressing Research Question 2, educators across all qualification levels expressed a variety of practices they had engaged in that reflected effective practice as suggested in the literature. However, the length and detail of responses varied greatly in the educators' articulation of how or why the practices benefitted the language-learning of infants and toddlers in their group. In particular, many responses reported quite general practices that could be applied throughout the day, rather than contextualising practices to the specific activities (routines, play, and books). Ratings educators had provided for course content were also not always supported through their reporting of practices.

Chapter 5: Discussion

The present study investigated EC educators' perceptions of the infant and toddler language-learning focus of their courses and whether their training prepared them to engage in meaningful language practices with children under three. It also considered the practices that educators report they use to promote language learning in their work with infants and toddlers. This chapter presents a discussion of the key findings of this study with reference to relevant research.

5.1 RQ1: EC course content and educator's preparedness

5.1.1 Early childhood courses provide a stronger language focus on pre-school aged children over infants and toddlers

The present study included participants grouped into four qualification categories: certificate III, diploma, bachelor's, and master's degree. Consistent with Garvis et al.'s (2013) investigation of the presence of general infant and toddler content in bachelor-level EC courses, all bachelor-trained educators participating in this study reported more focus on the pre-school age group. Expanding on previous research, the present study found that regardless of qualification level, all educators rated their course(s) as having a stronger focus on language learning in the pre-school age group, which decreased through toddlers down to infants. Training providers' emphasis on the pre-school age group may reflect the influence of policies that require bachelor's degree-trained educators for children in the year prior to school (Commonwealth of Australia, 2016) and the high expectations such policies create for pre-school compared to infant and toddler programs.

Variations in the level of focus on language for infants and toddlers also existed between qualifications, with bachelor-trained educators reporting a somewhat higher focus on infants and toddlers than diploma-trained educators. Similarly, diploma-trained educators reported a higher focus on this age group than certificate III-trained educators. These differences could be reasonably explained with the difference in the typical length of the three courses - six-months for certificate III, two years for diploma, and four years for bachelor's degree.

5.1.2 Higher qualification courses provide more content on infant and toddler language learning

The need for a strong knowledge base to underpin all practices for infant and toddler educators has been stressed by many researchers, including Davis and Degotardi (2015),

Perren et al. (2017), and Recchia et al. (2015). The measures used in the present study to assess the degree of focus on four areas of course content promoting infants' and toddlers' language learning underwent vigorous statistical procedures to test internal reliability before comparing results for each qualification.

A high degree of internal consistency was found for educators' ratings of the four areas of content about infant and toddler language learning – theories of language development, supportive interactions, using resources, and providing a language-rich environment – in the bachelor's degree, certificate III and diploma courses. Whilst this was expected for certificate III and diploma courses, as both are based on a compulsory training package, it provided a novel insight into bachelor's degree courses, as previous Australian research has shown that subjects and content may differ considerably across bachelor's degree courses (Garvis et al, 2013).

The results for participants' overall ratings on course content revealed that the bachelors' degree was rated higher than diploma and certificate III courses on language-related content, and the diploma higher than certificate III. A simple explanation for these findings could be the differences in course durations. For example, comments by two educators with diplomas obtained from private RTOs provided some confirmation:

The diploma in my opinion was rushed. I learnt [the] majority on the job. (E231)

I feel that the coursework did not give me adequate, realistic knowledge surrounding children's language development. (E312)

Examination of each of the four aspects of course content suggested further distinctions. Over half of the bachelor-trained educators reported a significant focus on developmental theory, compared to about one-quarter of certificate III and one-quarter of diploma educators. For example:

A lot of it [coursework] focused on the developmental theoretical perspective side of language acquisition, and not an intentional focus on language rich environments to foster early language skills which is sad 😞. (E210)

Some educators drew comparisons between the diploma and bachelor courses:

Uni courses and pracs were very theory focused - although the theory is most significant, I feel that there was more focus on resources and environments in the

Diploma course than the uni course. I believe that Uni courses could focus a little more on teaching techniques to support interactions and physical environments & resources. (E220)

Bachelor covered the theory and practices. Not really resources which may also be helpful for full time employment. (E225)

Whilst ratings for the other three content areas related to language learning in infants and toddlers (interactions, resources, and environments) were somewhat higher than ratings for theory for certificate and diploma courses, less than half were rated as having significant focus. The majority of educators believed their certificate or diploma course had provided only some or little focus. A response from an educator holding a certificate III and a bachelor's qualification exemplifies this:

I feel that if we want to call ourselves professionals, certificate III needs to go beyond the 'basics' of the industry... a thorough understanding of the holistic development of children including language acquisition - needs to be a part of a more in-depth knowledge building structure. (E203)

In contrast, over half of the bachelor-trained educators agreed that there had been significant focus on these three areas of coursework.

5.1.3 Higher qualifications are related to educator preparedness to support infant and toddler language learning

The measure of educators' preparedness to understand language development, engage in language-rich interactions, select language-supporting resources, and choose appropriate books was also assessed using statistical procedures to test internal reliability and compare results for each qualification. Educators with a bachelor's level qualification reported feeling well prepared to support the language-learning of infants and toddlers. They rated their overall level of preparedness higher than did educators with a certificate III. Diploma educators' ratings of preparedness were midway between the certificate III and bachelor but were not significantly different from educators with a bachelor's degree or certificate III.

Individual educators' preparedness ratings were also examined according to the number of educators stating they were unprepared (sum of strongly disagree and disagree), neutral (neither agree nor disagree), and prepared (agree and strongly agree). However,

whilst individual ratings show a relatively high level of preparedness for diploma and bachelor-trained educators (69% and 80% respectively), only 58% of certificate III trained educators report the same confidence in their preparedness.

Findings also revealed a high number of educators who did not feel prepared, including almost half of the certificate III educators and a third of diploma educators rating themselves at this level. Since these are the educators who typically work with infants and toddlers in Australia (Cheeseman & Torr, 2009; Jackson, 2017; Mathers et al., 2013; Rouse et al., 2012), this raises concerns. One fifth of bachelor-trained educators did not rate themselves as prepared to take on their language-supporting role with infants and toddlers on completion of their course. This finding resonates with earlier work by Garvis and Pendergast (2015) who surveyed a cohort of 25 graduates, the majority of whom reported limited confidence in their infant and toddler knowledge. However, caution must be taken when drawing parallels between the two studies: whilst both studies used the same methodology, Garvis and Pendergast (2015) investigated infant and toddler content in general, and the current study focussed specifically on course content related to infant and toddler language learning.

Although the questionnaire did not ask about the reasons why educators may have felt unprepared to support the language learning of children under three years of age on completion of their studies, one educator with a diploma completed through a traineeship believed that working with infants and toddlers whilst studying had increased her preparedness levels. She wrote, “I think already being in the childcare industry [with] on the job training was more significant” (E223). In future studies a question regarding whether educators completed their training before or during entering the EC sector, and if their VET course was part of a traineeship, could provide further insight into factors other than course content that affect their feelings of preparedness.

5.1.4 There is a direct correlation between course content and educators’ preparedness to support the language learning of infants and toddlers

The associations between educators’ reported coursework content and their ratings for preparedness were tested using Pearson correlation analysis. Results confirm that higher ratings of infant/toddler language-related coursework were linked to higher levels of preparedness. Strong associations were found for participants with a certificate III or a bachelor’s degree (correlation coefficients over $r = .65$). In comparison, however, only a

moderate correlation ($r = .47$) was found for participants with a diploma. This weaker relationship may reflect greater variation in coursework that is possible in the diploma course due to inconsistencies in course duration between providers. Longer-duration courses may be more robust in their coverage of infant/toddler topics compared to condensed courses.

5.1.5 Conclusion

The strength of the findings from the present study lie in the methodology used. That is, seeking the self-reported perception of educators from all qualification levels as opposed to previous studies that focused only on degree-level course material (Garvis et al., 2013) or participants from a single university (Garvis & Manning, 2015).

By exploring a specific aspect of content about infants and toddlers within EC courses and making comparisons across different qualification levels, this study has made a novel contribution to existing research. This study is also the first to examine the relationships between course content and preparedness, or educators' self-reported preparedness at the end of their training to engage in rich language-learning interactions and experiences with infants and toddlers. In these ways, the present study represents a step towards filling a gap in the existing body of knowledge.

5.2 RQ2: Educators reported practices

5.2.1 Educators report various practices they use to support the language-learning of infants and toddlers and most of their responses reflect recommendations, but vary in the extent to which they articulate the nature and benefits of these practices

Educators provided examples of practices they had engaged in across three main types of activities: routine times, play, and use of books. They also had the opportunity to provide additional examples of practices that could support the language learning of infants and toddlers outside those activities.

Routine times

Regarding routine times, many language-supporting practices were reported, with the majority of educators stating that they regularly sang and recited rhymes and chants during routine times and play. Even though few responses articulated the benefits of these practices for the language learning of infants and toddlers, these practices are known to be effective (Sims & Hutchins, 2011). To a lesser extent, role modelling language was reported with many educators reporting self-talk and parallel talk and some providing

detailed examples (reported in 4.5.1). Fewer mentioned labelling, but examples included labelling different items from body parts during nappy change, to food being eaten at mealtimes, demonstrating that some educators are taking advantage of the opportunities provided in routine activities for relating language to the immediate physical and observable context. Talking to children also featured predominantly, although details on the type of talk were extremely limited, therefore failing to acknowledge different types of talk or how it may have differed in different activity contexts (such as nappy change vs mealtimes).

As discussed in 2.5, ‘serve and return’ is a powerful strategy for encouraging language and verbalisation (CDCHU, 2017) that can be used throughout the day; however, in the context of routine times ‘allowing time for a response’ was only referenced by one educator from each qualification group. Similarly, responding to and mimicking cooing and babbling were very rarely mentioned.

It was interesting to note that very few educators described their practices in relation to a specific routine-time activity. For example, few explicitly stated “singing during nappy change” or “talking during nappy change”, but rather, “sing” or “talk” which could be applicable to practices at any time of the day.

It must be emphasised that practices that educators did not report due to limitations discussed previously, including the inability of the researcher to prompt or probe to gain more elaborate and informative responses (Bryman, 2012), cannot be construed to mean educators did not engage in these practices. However, there were unexpected omissions or extremely few comments regarding some practices that appear noteworthy, particularly as previous questions in the questionnaire had the potential to act as cues for the open-text responses: Only observation could verify the inclusion or exclusion of these practices.

One omission noticed was that only one educator (diploma-trained) mentioned sitting with the toddlers during mealtimes. Previous studies have shown concern over low levels of interaction during mealtimes (Degotardi & Davis, 2008; Hallam et al., 2014), but it did appear that in these studies the educators were sitting with the children. Also, no mention was made of talking or singing while bottle- or spoon-feeding infants. As pointed out by Branscomb and Goble (2008) and others, this is a time that is full of opportunity for one-on-one conversation and language-learning.

Play times

The most frequent theme in responses to the question about language-supporting practices during play was ‘encouraging language’, which included codes for asking questions, asking open-ended questions, and encouraging words. These responses, however, tended to be brief (e.g. “ask questions”) and could not reveal whether and how educators made use of specific affordances of the play context to encourage language.

Only three responses, all from bachelor-qualified educators, reported participating in children’s play. Overall, then, responses to this question did not reflect the critical significance of this recommended language-supporting practice (Harms et al. 2017; Mathers et al. 2014). These three responses also raise the question of whether educators interact with the children during their play or simply act as bystanders, as previously suggested by Dalli et al. (2011) and Davis and Degotardi (2015).

Very few educators mentioned providing play-oriented resources or experiences (such as craft or dramatic play) that may support language learning, as promoted as valuable practices by Gonzalez-Mena (2013) and Harms et al., (2017). In fact, few educators contextualised responses but rather, stated general practices that could be applied throughout the day, for example, “interact with them” and “descriptive language”.

Some practices reported are difficult to comment on due to lack of detail and context but appear out-dated and are not endorsed in the research or professional literature, which emphasises the need for educators to scaffold and build on children’s language learning instead. For example, asking children to use their language instead of crying (reported by two diploma-trained educators as ‘other practices’ they had engaged in).

Use of books

Whilst use of books was reported by the majority of educators, engagement with books was primarily reported as just ‘reading’. Strategies reported during book reading revealed more detail, although still reported by few. For example, labelling illustration, suggested by Honig (2014) and Schickedanz and Collings (2013) as a language-supporting practice, and using an animated voice were reported. Few educators provided detailed information on the types of books they used (e.g. big books, interactive books, sensory books), and others just reported providing “appropriate books” or a “variety of books”. This revealed very little about educators’ understandings of the potential language-learning benefits of books.

Shared reading (one-on-one) was stated by three educators from each of the certificate III, diploma, and bachelor qualification groups which may reflect the findings of Honig and Shin (2001) and Torr (2018) in that many infants and toddlers may not be experiencing shared reading in ECEC settings.

5.2.2 Educators' self-reported practices do not always correspond to their ratings of the content of their training

Research has been inconsistent on whether or not a higher qualification translates to higher quality educator practices (e.g. Early et al., 2007). More recent Australian studies are suggesting that the qualification held is a point of difference in the provision of language-supporting practices (e.g. Degotardi et al., 2018).

The findings reveal that while a higher qualification level is associated with higher ratings for course content and preparedness, this is not always reflected in comments on practices. For example, educators reporting high levels of preparedness frequently responded to questions with single words or phrases and did not offer insight into their level of understanding. On the other hand, responses demonstrating supportive language-learning practices underpinned by theory were received from educators who had reported a lower preparedness level. For example:

During nappy changes and mealtimes, we sing songs, ask questions, talk about subjects like colours, numbers or known child interests. we work on names either identifying their own name or work on recognising their peers. we talked about senses things they can hear or see. (E416)

However, caution must be exercised in interpreting these observations since the questionnaire did not specifically ask educators to explain why they engaged in certain practices.

In terms of course content areas related to language learning, despite bachelor-trained educators frequently assigning a high rating to learning about developmental theories, their reports on practices generally did not refer to theories, use of common EC terminology (e.g. labelling), or mention stages in language development (e.g. cooing and babbling). When terminology such as 'scaffolding' was used, it was mentioned without elaboration. Despite not always rating the content and preparedness of their EC training as highly as participants with bachelor's degree, diploma-trained respondents, while still infrequently, more often than bachelor-trained educators reported practices in ways that

suggested understanding why they engaged in them (e.g. “to encourage discussions”, “to extend vocabulary”). In comparison, whilst certificate III-trained educators did not provide as many detailed responses as other qualification groups, and generally rated their course content lower, some comments from this group demonstrated caring practices perhaps suggesting a focus on attachment relationships as the foundation for all learning in certificate III courses. For example, “Making them feel comfortable, safe and secure”, “Showing love and support to the child at all times”. Research reports that attachment relationships are the foundation for interactions and play that support developmental outcomes, including language skills (Degotardi & Pearson, 2009). However, no educators linked these practices to infant and toddler language learning, which was the focus of this study.

Overall, many educators reported practices that benefit infant and toddler language learning, but few articulated the benefits of the reported practice, and many failed to mention practices that literature has determined to be critical to this age groups’ language development. While this may be due to the constraints of the questionnaire, it nevertheless raises questions about how aware educators are of the importance of their practices. Whilst drawing parallels between reported practices and previous research is difficult due to different methodologies being employed, the findings of the present study appear to support studies such as that of, for example, Degotardi (2010), Degotardi and Davis (2008), Hallam et al. (2014), Honig and Shin (2001), and Torr (2018) who found limited language-supporting practices being engaged in by educators with the infant and toddler age groups.

5.2.2 Factors outside training reported to benefit educators’ language-supporting practices

In reporting practices outside their EC training that benefitted infant/toddler language learning, the most frequent response was having a mentor or benefitting from the role modelling or guidance of a supportive colleague. The potential of leadership in the ECEC sector to drive improvements in the practice of educators has been widely acknowledged (e.g. Sims, Forrest, Semann, et al., 2014). Albeit outside the focus of this study, this was an interesting finding that suggests the potential for ongoing knowledge and skill development, given the opportunity to work with other educators with the same or different level qualifications. For example, while lower-level qualified educators may benefit by working with a bachelor-trained educator who can possibly better articulate the theoretical

reasons behind different practices, certificate III and diploma educators may have different ideas to offer higher-qualified educators due to the ‘hands-on’ components of their training.

Other responses, although infrequent, included professional development, through both commercially available courses and private research. Some educators stated their EC experience had benefitted them, and others believed being a parent supports their language practices with infants and toddlers.

Chapter 6: Conclusion

Three factors indicate a critical need for appropriate and adequate training provision in the area of infant and toddler language learning for all levels of educators, and motivated this study:

- (1) the undeniable importance of language development and learning in the first three years;
- (2) the high number of infants and toddlers now attending LDC; and
- (3) the large number of certificate III and diploma educators responsible for infant and toddler classrooms.

This study focused on a little-researched topic and was necessarily exploratory in nature. The first aim of the study was to add to the current body of knowledge by exploring EC educators' perceptions and beliefs about the extent to which their training assisted their understandings of and ability to support the language learning of infants and toddlers in LDC. The second aim was to explore whether or not educator-reported practices reflected their training and effective language-supporting strategies suggested by the literature. To achieve this a questionnaire was designed to explicitly address the research questions.

This chapter will present a summary of the study's key findings, appraise its contributions to existing research, discuss implications for educators, ECEC services, EC training providers, and outline directions for future research emerging from this study.

6.1 Key findings of this study

6.1.1: Research Question 1 asked: To what extent do early childhood educators report their formal early childhood training has focused on the language learning of infants and toddlers and prepared them to support it?

Four main findings arose from investigating this research question:

- (1) There is a stronger language-learning focus on the pre-school age group than infants and toddlers in all qualification level EC courses.
- (2) Higher qualification courses offer more content on language learning for infants and toddlers than lower-level courses.
- (3) Higher qualification courses better prepare educators to engage in effective language-supporting practices with infants and toddlers than lower-level courses.
- (4) Stronger coursework focus on infant and toddler language learning significantly correlates with higher preparedness levels across all qualifications.

While the focus of content about the language learning of infants and toddlers increased with qualification levels, so too did the educators' preparedness levels, with statistical analysis finding course content to be significantly correlated with educators' preparedness to support the language learning of infants and toddlers.

6.1.2 Research question 2: To what extent do educators' self-reported practices for promoting language learning in infants and toddlers reflect recommendations in the professional literature?

Two main findings were revealed:

- (1) Educators report a range of practices they use to support the language learning of infants and toddlers that reflect recommendations in the professional literature, but their responses vary in the extent to which they articulate the nature and benefits of these practices.
- (2) Not all reported practices correspond to educators' ratings of the focus of their training.

Despite significant differences in the length of training for different qualifications, many educators from all qualification levels described practices they had engaged in that literature supports to be effective pedagogy for supporting the language learning of children under the age of three. Whilst bachelor-trained educators provided some in-depth responses suggestive of an understanding of the benefits of their practices, so too did many diploma-trained educators, and to a lesser extent, certificate III educators. However, many educators' responses did not demonstrate such understanding, and relied on common-sense descriptions of their practices rather than using specific terms (e.g. 'labelling') encountered in the EC professional literature.

Whilst direct parallels cannot be drawn between previous observational studies and the present study, findings tend to support research that has found that many educators do not always engage in proactive language-supporting interactions with infants and toddlers (for example, Degotardi, 2010; Degotardi et al., 2016; Hallam et al., 2014).

6.2. Implications for the EC sector

6.2.1 Implications for educators

The findings from this study highlight the differences that exist between different qualification level courses in their ability to provide adequate focus on infant and toddler language learning, with direct correlations with educators' level of preparedness to support

this learning. Educators must therefore ensure that they continue to engage in professional development to build on the skills and knowledge required to engage children under three in rich language-supporting interactions and experiences. Additionally, educators should advocate for EC courses that invest enough time into and are therefore better able to provide the underpinning knowledge and practical skills critical to informing educator practices, which translate into better learning outcomes for the infants and toddlers in their ECEC services.

While this study did not employ educator observations or interviews, responses suggested that educators vary in their ability to articulate why they were engaging in particular practices. Educators also reported on influences outside their training including engagement in professional development to increase their skills. Some reported being a parent or general life experience as beneficial to their language-supporting practices with infants and toddlers. This raises questions about their understanding of the value of these practices and their benefits for particular aspects of language learning for infants and toddlers. In particular, educators must be aware of the pivotal role they play in the language development of infants and toddlers attending ECEC settings. This is essential both for empowering them to not only care for young children's physical needs, but also provide the foundations for children's later learning and academic achievements. Better ability to articulate the nature and benefits of various strategies for supporting language learning in infants and toddlers will also boost educators' sense of professionalism and capacity to effectively advocate for and educate families and other stakeholders about the significance of providing rich language environments and opportunities in the first three years of life.

6.2.2 Implications for ECEC services

A factor outside educators' training that was believed to benefit many participants was the availability of a mentor or supportive colleague. ECEC services could therefore assist in the ongoing learning and development of their educators by initiating mentoring programs. As revealed in the present study, educators with different qualifications are likely to have different ideas and understandings that could benefit even educators with higher qualifications.

While research has shown that infants and toddlers benefit most from having a bachelor's degree-trained educator working with them, a barrier to many ECEC services

employing more highly qualified educators for infant and toddler rooms is the associated higher costs. To move towards compensating for lower level educators in these rooms, ongoing professional development must be valued for the contribution it can make to educators' understandings and pedagogy and made available to all levels of educators.

6.2.3 Implications for EC training providers

Reported practices and ratings of content and preparedness have revealed benefits of a focus on developmental theory typical of bachelor-level training, and the benefits of a 'hands-on' approach generally more prevalent in certificate III and diploma training. Together these provide a powerful tool for educators to engage in language-rich interactions and experiences with infants and toddlers. Training providers could therefore look to assess options for providing a more balanced approach to delivery within the constraints of the course length, as well as a better balance between content addressing language learning for the different age groups (pre-schoolers, toddlers, and infants). However, providers offering condensed courses may need to re-evaluate how these affect the knowledge and skills of their graduates, and as a consequence, the infants and toddlers they work with.

6.3 Key contributions of this study

This study has contributed to two key research directions: research about early childhood training and research about educators' practices. The study has achieved this by focusing specifically on the area of infants' and toddlers' language learning content in EC courses and EC educators' perspectives on how this has prepared them to support the language development and learning of this age group. As previous studies have not sought to investigate training experiences of educators with qualifications lower than the bachelor's degree, compared different EC qualification levels, or examined infant/toddler course content specific to language learning, the present study has made novel contributions to knowledge.

A key strength of this study is that it surveyed a large number of educators with different levels of qualification about the practices they use to support language learning in the infant/toddler age group across a range of different daily activities in ECEC settings. Observational studies by contrast have limitations in that regard and have tended to focus on a particular type of activity (e.g. mealtimes) or language-supporting strategy (e.g. questioning). The study has therefore made a contribution particularly in gaining insight

into a broad range of language-supporting practices for infants and toddlers in general, and particularly practices during play, as the literature that considers play tends not to focus specifically on the language benefits for infants and toddlers.

6.4 Key implications for future research

Findings from the present study have provided the basis for future studies to be conducted with a larger sample size and participants from a greater geographical area thereby adding breadth to the understandings gained and increase generalisability. In particular, further understanding is needed into the differences and similarities in coursework content between different course levels to assist in identifying the features that best translate to educators' provision of language-supporting practices for infants and toddlers. Researchers therefore need to probe further by asking educators to articulate their practices in more detail and consider barriers to and factors that facilitate such practices.

A follow-up survey should also delve deeper into other aspects of training that may contribute to educators' feeling of preparedness. For example, if they engaged in their course(s) face-to-face or studied online. Similarly, for the lower qualifications, entering a traineeship program allows educators the benefit of working in an ECEC service whilst studying for the qualification.

The nature of training provided in EC courses can be further explored by observation of educator practices in conjunction with semi-structured interviews to examine how their understandings of their practices support particular aspects and stages of language learning. Statistical analysis can then be conducted to ascertain if actual practices are significantly related to education levels.

Finally, this study has highlighted a need for further research into master's degrees. In particular, investigation of the content in the Master of Teaching which is an initial teaching degree: As suggested by the findings from this study, the duration of the course may not allow sufficient time to provide the knowledge and skills required by educators to engage in language-rich interactions and experiences, particularly with children under three.

Through extending research in this area, the potential exists to provide motivation for training providers to reassess course content and delivery and recommit to improving their students' knowledge about and ability to promote the language learning of infants and toddlers. This in turn translates to better learning outcomes for the infants and toddlers.

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Appendices

Appendix A: Online questionnaire

Early Childhood educators' training

Start of Block: Default Question Block

Q1 Information and consent form

“Early childhood educators' training and their knowledge about and ability to promote language learning in infants and toddlers”

You are invited to complete a survey for educators who have current or recent experience working with children under three. This survey is part of a study supported by Macquarie University. The study aims to specifically investigate the extent to which early childhood educators' formal early childhood training has shaped their knowledge about and ability to promote language learning in children under three years of age.

This study is being conducted by Tracy Redman, under the supervision of Dr. Emilia Djonov, Prof. Linda Harrison, and Dr. Sandra Cheeseman, at the Department of Educational Studies at Macquarie University, as part of the requirements of the Master of Research. Please direct any questions you may have about this study to Tracy Redman on . Alternatively, you may contact Dr Emilia Djonov (or (02), Prof. Linda Harrison (), or Dr. Sandra Cheeseman ().

We would like to invite you to complete the survey if you are currently working with or have recently been working with children under three years of age.

Data collected through this survey will be accessed only by the research team conducting this study, and respondents' names or any other personal details will not be disclosed in any research presentations, disseminated reports, or publications.

The survey should take between approximately 10-20 minutes to complete. If you are unable to finish the survey in one sitting, you may return to complete it over the next 5 days. Click on the survey link to return to the survey, but you must do this on the computer you used to start the survey. To review or revise your responses, please use the ‘BACK’ button at the bottom of each page of the survey (do not use your web browser’s ‘BACK’ button).

The survey is comprised of five short sections: Section 1: Experience in Early Childhood; Section 2: Qualifications and training; Section 3: About your course/s; Section 4: Practices; Section 5: General questions. Please note that completion of the survey indicates your consent for data to be included in this research project and resulting publications. A copy of any publication or conference paper that reports findings from the study can also be made available to you upon request.

Participation in this project is voluntary, and you can decline to participate or withdraw at any time without having to give a reason and without any adverse consequences for you or your relationship with Macquarie University.

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Director, Human Ethics and Integrity (telephone (02) 9850 7854; email: ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Thank you for your interest in this project.

When you have read and understood the requirements of this survey and are happy to proceed, please click on the 'NEXT' button.

Page Break

Q2 SECTION 1: EXPERIENCE IN EARLY CHILDHOOD

Q3 How many years in total have you worked in the early childhood sector?

☐ Less than 1

☐ 1

☐ 2-3

- ☐ 4-5
- ☐ 6-10
- ☐ 11-20
- ☐ More than 21

Q4 Which age group are you currently working with, and for how many years have you been in this specific classroom?

Infants (0-2)	<input type="checkbox"/> <1	<input type="checkbox"/> 1	<input type="checkbox"/> 2-3	<input type="checkbox"/> 4-5	<input type="checkbox"/> 6-10	<input type="checkbox"/> >10
Toddlers (2-3)	<input type="checkbox"/> <1	<input type="checkbox"/> 1	<input type="checkbox"/> 2-3	<input type="checkbox"/> 4-5	<input type="checkbox"/> 6-10	<input type="checkbox"/> >10
Combined infants & toddlers (0-3)	<input type="checkbox"/> <1	<input type="checkbox"/> 1	<input type="checkbox"/> 2-3	<input type="checkbox"/> 4-5	<input type="checkbox"/> 6-10	<input type="checkbox"/> >10
Pre- Schoolers (3-5)	<input type="checkbox"/> <1	<input type="checkbox"/> 1	<input type="checkbox"/> 2-3	<input type="checkbox"/> 4-5	<input type="checkbox"/> 6-10	<input type="checkbox"/> >10

Q5 Are you currently working at this centre full-time or part-time?

- ☐ Full-time
- ☐ Part-time

Q6 Are you the room leader?

☐ Yes

☐ No

Q7 To what extent do you participate in programming and planning for your room?

Percentage

0 10 20 30 40 50 60 70 80 90 100



Page Break

Q8 SECTION 2: EARLY CHILDHOOD QUALIFICATIONS & TRAINING

Q9 What qualifications in Early Childhood do you currently hold? (Select all that apply)

☐

Certificate III

☐

Diploma (TAFE or RTO)

☐

Bachelor's degree or equivalent (e.g. Dip. Teach)

☐

Post-graduate EC qualification

Q10 What COMPLETED early childhood qualification/s do you currently hold? (Please complete answers for all that apply)

	Year of completion (yyyy)	TRAINING INSTITUTE name. e.g. TAFE / Benchmark	TITLE OF QUALIFICATION e.g. Bachelor of Early Childhood Education & Care, Birth-Five Years
Certificate III			
Diploma (TAFE or RTO)			
Bachelor's degree or equivalent (e.g. Dip. Teach)			
Post-graduate EC qualification			

Q11 What early childhood qualification/s are you currently WORKING TOWARDS? (Please complete answers for all that apply)

	Month & year of commencement (mm/yyyy)	TRAINING INSTITUTE name. e.g. TAFE / Benchmark	TITLE OF QUALIFICATION e.g. Bachelor of Early Childhood Education & Care, Birth-Five Years
Certificate III			
Diploma (TAFE or RTO)			
Bachelor's degree or equivalent (e.g. Dip. Teach)			
Post-graduate EC qualification			

Q12 Were you granted advanced entry to any Early Childhood qualification? For example, entry into stage 2 of the Diploma due to holding a Certificate III, or entry into (for e.g.) second year, semester 2 of a bachelor's degree due to holding a Diploma.

☐ Yes

☐ No

Skip To: Q14 If Were you granted advanced entry to any Early Childhood qualification? For example, entry into sta... = No

Q13 Due to entering your course at an advanced stage, did you miss out on studying a language-related subject/topic?

☐ Yes

☐ No

☐ Don't know

Q14 Please add any comments/thoughts pertaining to this section.

Page Break

Q15

SECTION 3: QUESTIONS ABOUT YOUR COURSE/S

If you have more than one qualification please select your LOWEST qualification level first from the choices below.

☐ Certificate III

☐ Diploma (TAFE or RTO)

- ☐ Bachelor's degree or equivalent (e.g. Dip. Teach)
- ☐ Post-graduate EC qualification

Skip To: Q16 If SECTION 3: QUESTIONS ABOUT YOUR COURSE/S If you have more than one qualification please select yo... = Certificate III

Skip To: Q26 If SECTION 3: QUESTIONS ABOUT YOUR COURSE/S If you have more than one qualification please select yo... = Diploma (TAFE or RTO)

Skip To: Q36 If SECTION 3: QUESTIONS ABOUT YOUR COURSE/S If you have more than one qualification please select yo... = Bachelor's degree or equivalent (e.g. Dip. Teach)

Skip To: Q46 If SECTION 3: QUESTIONS ABOUT YOUR COURSE/S If you have more than one qualification please select yo... = Post-graduate EC qualification

Page Break

Q16 CERTIFICATE III

Q17 Early language learning in this course was a topic covered as (Select all that apply):

- ☐ A stand-alone subject/unit covering language for all age groups.
- ☐ A stand-alone subject/unit focused specifically on language for 0-3-year-olds.
- ☐ Integrated into another subject (e.g., a general child development subject with language as one of the topics).
- ☐ Divided across two or more subjects/units (e.g. a child development subject and a subject that focused specifically on language learning).
- ☐ Don't remember

Q18 During my training, the focus on language given to different age groups was:

	Not covered	Little focus	Some focus	Significant focus
Infants (0-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toddlers (2-3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pre-schoolers (3-5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foundation stage (K-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19 Subjects in my course that covered language learning **in infants and toddlers** focused on:

	Not covered	Little focus	Some focus	Significant focus
Theories of language development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing interactions that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using resources that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Providing a language-rich environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
---------------------------------------	-----------------------	-----------------------	-----------------------	-----------------------

Q20 Please add any additional comments, including other topics you remember studying relevant to the language learning of children **under three**.

Q21 My course included professional experience placement/practicum that focused on infants and toddlers:

- ☐ Yes
- ☐ No

Q22 About my coursework:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I believe my coursework supported me to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

typical language
development of
children under
3.

I believe my
coursework
helped me
develop the
ability to engage
in

developmentally
appropriate,
language-rich
interactions
with children
under three.

I believe my
coursework
helped me
develop the
ability to select
language-
supporting
resources for
children under
three.

I believe my
coursework
helped me
develop the
ability to choose
developmentally
appropriate



books for
children aged 0-
3.

Q23 Please add any comments/thoughts pertaining to questions in this section.

Q24 Have you completed or are currently working towards another early childhood qualification?

☐ Yes

☐ No

Skip To: Q25 If Have you completed or are currently working towards another early childhood qualification? = Yes

Skip To: Q54 If Have you completed or are currently working towards another early childhood qualification? = No

Q25 Please select a qualification from the choices below.

☐ Diploma (TAFE or RTO)

☐ Bachelor's degree or equivalent (e.g. Dip. Teach)

☐ Post-graduate EC qualification

Skip To: Q26 If Please select a qualification from the choices below. = Diploma (TAFE or RTO)

Skip To: Q36 If Please select a qualification from the choices below. = Bachelor's degree or equivalent (e.g. Dip. Teach)

Skip To: Q46 If Please select a qualification from the choices below. = Post-graduate EC qualification

Q26 DIPLOMA (TAFE or RTO)

Q27 Early language learning in this course was a topic covered as (Select all that apply):

- ☐ A stand-alone subject/unit covering language for all age groups.
 - ☐ A stand-alone subject/unit focused specifically on language for 0-3-year-olds.
 - ☐ Integrated into another subject (e.g., a general child development subject with language as one of the topics).
 - ☐ Divided across two or more subjects/units (e.g. a child development subject and a subject that focused specifically on language learning).
 - ☐ Don't remember
-

Q28 During my training, the focus on language given to different age groups was:

	Not covered	Little focus	Some focus	Significant focus
Infants (0-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toddlers (2-3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pre-schoolers (3-5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foundation stage (K-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29 Subjects in my course that covered language learning **in infants and toddlers** focused on:

	Not covered	Little focus	Some focus	Significant focus
Theories of language development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing interactions that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using resources that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a language-rich environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30 Please add any additional comments, including other topics you remember studying relevant to the language learning of children **under three**.

Q31 My course included professional experience placement/practicum that focused on infants and toddlers:

☐ Yes

☐ No

Q32 About my coursework:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I believe my coursework supported me to understand typical language development of children under 3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my coursework helped me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

develop the
ability to engage
in
developmentally
appropriate,
language-rich
interactions
with children
under three.

I believe my
coursework
helped me
develop the
ability to select
language-
supporting
resources for
children under
three.

☐☐☐☐☐

I believe my
coursework
helped me
develop the
ability to choose
developmentally
appropriate
books for
children aged 0-
3.

☐☐☐☐☐

Q33 Please add any comments/thoughts pertaining to questions in this section.

Q34 Have you completed or are currently working towards another early childhood qualification?

☐ Yes

☐ No

Skip To: Q35 If Have you completed or are currently working towards another early childhood qualification? = Yes

Skip To: Q54 If Have you completed or are currently working towards another early childhood qualification? = No

Q35 Please select a qualification from the choices below.

☐ Bachelor's degree or equivalent (e.g. Dip. Teach)

☐ Post-graduate EC qualification

Skip To: Q36 If Please select a qualification from the choices below. = Bachelor's degree or equivalent (e.g. Dip. Teach)

Skip To: Q46 If Please select a qualification from the choices below. = Post-graduate EC qualification

Q36 BACHELORS' DEGREE or equivalent (e.g. Dip. Teach)

Q37 Early language learning in this course was a topic covered as (Select all that apply):

- ☐ A stand-alone subject/unit covering language for all age groups.
- ☐ A stand-alone subject/unit focused specifically on language for 0-3-year-olds.
- ☐ Integrated into another subject (e.g., a general child development subject with language as one of the topics).
- ☐ Divided across two or more subjects/units (e.g. a child development subject and a subject that focused specifically on language learning).
- ☐ Don't remember
-

Q38 During my training, the focus on language given to different age groups was:

	Not covered	Little focus	Some focus	Significant focus
Infants (0-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toddlers (2-3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pre-schoolers (3-5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foundation stage (K-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q39 Subjects in my course that covered language learning **in infants and toddlers** focused on:

	Not covered	Little focus	Some focus	Significant focus
Theories of language development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing interactions that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using resources that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a language-rich environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q40 Please add any additional comments, including other topics you remember studying relevant to the language learning of children under three.

Q41 My course included professional experience placement/practicum that focused on infants and toddlers:

☐ Yes

☐ No

Q42 About my coursework:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I believe my coursework supported me to understand typical language development of children under 3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my coursework helped me develop the ability to engage in developmentally appropriate, language-rich interactions with children under three.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my coursework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

helped me
develop the
ability to select
language-
supporting
resources for
children under
three.

I believe my
coursework
helped me
develop the
ability to choose
developmentally
appropriate
books for
children aged 0-
3.



Q43 Please add any comments/thoughts pertaining to questions in this section.

Q44 Have you completed or are currently working towards an Early Childhood post-graduate qualification?

☐ Yes

☐ No

Skip To: Q46 If Have you completed or are currently working towards an Early Childhood post-graduate qualification? = Yes

Skip To: Q54 If Have you completed or are currently working towards an Early Childhood post-graduate qualification? = No

Q45 Please select a qualification from the choices below.

☐ Post-graduate EC qualification

Skip To: Q46 If Please select a qualification from the choices below. = Post-graduate EC qualification

Q46 POST-GRADUATE EC qualification

Q47 Early language learning in this course was a topic covered as (Select all that apply):

☐

A stand-alone subject/unit covering language for all age groups.

☐

A stand-alone subject/unit focused specifically on language for 0-3-year-olds.

☐

Integrated into another subject (e.g., a general child development subject with language as one of the topics).

☐ Divided across two or more subjects/units (e.g. a child development subject and a subject that focused specifically on language learning).

☐ Don't remember

Q48 During my training, the focus on language given to different age groups was:

	Not covered	Little focus	Some focus	Significant focus
Infants (0-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toddlers (2-3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pre-schoolers (3-5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foundation stage (K-2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q49 Subjects in my course that covered language learning in **infants and toddlers** focused on:

	Not covered	Little focus	Some focus	Significant focus
Theories of language development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing interactions that support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

language learning				
Using resources that support language learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing a language-rich environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q50 Please add any additional comments, including other topics you remember studying relevant to the language learning of children under three.

Q51 My course included professional experience placement/practicum that focused on infants and toddlers:

- ☐ Yes
- ☐ No

Q52 About my coursework:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I believe my coursework supported me to understand typical language development of children under 3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my coursework helped me develop the ability to engage in developmentally appropriate, language-rich interactions with children under three.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my coursework helped me develop the ability to select language-supporting resources for children under three.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I believe my
coursework
helped me
develop the
ability to choose
developmentally
appropriate
books for
children aged 0-
3.

☐ ☐ ☐ ☐ ☐

Q53 Please add any comments/thoughts pertaining to questions in this section.

Page Break

Q54 SECTION 4: PRACTICES The following questions relate to practices within your classroom on the last day you worked a full shift with **children under three**.

Q55 How many hours were you in the classroom on the last day you worked a full shift?

Q56 How many children were present in your room on the last day you worked a full shift?

Q57 How many educators (including yourself) were present in your room for the majority of the time on the last day you worked a full shift?

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

Q58 What qualifications do the educators who worked on this day in your room hold (excluding you)?

Certificate III	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
-----------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------

Diploma	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Bachelor's degree (or equivalent. E.g. Dip. Teach)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Post-graduate EC qualification	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Q59 How did you support infants' and toddlers' language learning during routine times (nappy change, mealtimes, etc.)?

Q60 How did you support infants' and toddlers' language learning during play?

Q61 How did you use books with infants and toddlers?

Q62 Is there anything else you did on this day to promote children's language learning?

Page Break

Q63 SECTION 5: GENERAL QUESTIONS

Q64 What is your centre's postcode?

Q65 What is the current National Quality Standard rating of your centre?

- ☐ Significant Improvement required
 - ☐ Working towards National Quality Standard
 - ☐ Meeting National Quality Standard
 - ☐ Exceeding National Quality Standard
 - ☐ Excellent
 - ☐ We have not yet been assessed
-

Q66 Please add anything outside your training that you believe has assisted you in developing your knowledge and ability to support language learning in children under three.

Q67 Please add anything you feel is relevant to this research that the questions have not covered, or feel free to provide any additional comments.

Page Break

Q68 If you are interested in being contacted in regard to a researcher observing you and your working environment for approximately three hours, please enter your email address below.

End of Block: Default Question Block

Appendix B: Participant email invitation

Dear Centre Director,

We would like to invite educators working with children under three in your centre to participate in a survey as part of the research project **“Early childhood educators' training and their knowledge about and ability to promote language learning in infants and toddlers”**.

The project is an exploratory study conducted by Tracy Redman under the supervision of Dr. Emilia Djonov, Prof. Linda Harrison, and Dr. Sandra Cheeseman from the Department of Educational Studies at Macquarie University as part of the requirements of the Master of Research. This research has been approved by Macquarie University's Humanities and Social Sciences (HASS) Human Research Ethics Committee (Reference number 5201954228735).

The survey is conducted online through a questionnaire that asks educators about their early childhood training and qualifications, their experience working with children under three, and their practices in supporting language learning in infants and toddlers. The questionnaire should take approximately 10-20 minutes to complete. Participation is voluntary and anonymous, and participants can withdraw at any time without consequence and without providing justification. At the end of the questionnaire, participants can choose to enter a raffle for a chance to win one of five \$50 gift cards as an expression of our appreciation. This is done through a separate link to ensure that responses to the questionnaire remain anonymous.

Participation in this project is not a test of educators' knowledge and professional abilities, nor an assessment of ECEC services. It is designed to allow us to understand how early childhood training can be improved in order to enhance educators' knowledge about and ability to support language learning in infants and toddlers. At the completion of the project, a brief summary of its findings will be available upon request. If you are interested, please use the de-identifying link at the end of the questionnaire *or* if not personally participating in the questionnaire, email Tracy Redman.

Please be assured that no individuals, early childhood services, or training providers will be identified in the summary or any other reports or publications.

We thank you in advance for supporting this research by forwarding this email to all educators working with children under three at your centre.

To participate in this research please follow this link:

https://mqedu.qualtrics.com/jfe/form/SV_bd2E13uXwZRIAYd

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Appendix C: Ethics approval letter

Human Sciences Subcommittee
Macquarie University, North Ryde
NSW 2109, Australia



17/05/2019

Dear Dr Djonov,

Reference No:

5201954228735 Project

ID: 5422

Title: Early childhood educators' training and their knowledge about and ability to promote language learning in infants and toddlers

Thank you for submitting the above application for ethical review. The Human Sciences Subcommittee has considered your application.

I am pleased to advise that ethical approval has been granted for this project to be conducted by Dr Emilia Djonov, and other personnel: Ms Tracy Redman, Dr Sandra Cheeseman, Professor Linda Harrison.

This research meets the requirements set out in the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018).

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the National Statement, available from the following website: <https://nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018>.
2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol. You will be sent an automatic reminder email one week from the due date to remind you of your reporting responsibilities.
3. All adverse events, including unforeseen events, which might affect the continued ethical acceptability of the project, must be reported to the subcommittee within 72 hours.
4. All proposed changes to the project and associated documents must be submitted to the subcommittee for review and approval before implementation. Changes can be made via the [Human Research Ethics Management System](#).

The HREC Terms of Reference and Standard Operating Procedures are available from the Research Services website: <https://www.mq.edu.au/research/ethics-integrity-and-policies/ethics/human-ethics>.

It is the responsibility of the Chief Investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the [Faculty Ethics Officer](#).

The Human Sciences Subcommittee wishes you every success in your research.

Yours sincerely,

Dr Naomi Sweller

Chair, Human Sciences Subcommittee

The Faculty Ethics Subcommittees at Macquarie University operate in accordance with the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018), [Section 5.2.22].

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Appendix D: Summary of mean scores: Age group focus by qualification completion year

Table ***.1

Certificate III

Age group	Year qualification completed				
	Before 2000 <i>M</i> *	2000 – 2004 <i>M</i> *	2005 – 2009 <i>M</i> *	2010 – 2014 <i>M</i> *	2015 – 2019 <i>M</i> *
Infants	3.25	2.6	2.8	2.76	3.0
Toddlers	3.0	2.6	2.8	3.0	2.91
Pre-schoolers	3.5	3.0	2.8	3.05	3.0
Foundation stage	1.5	1.4	1.2	2.14	1.45

* mean / 4

Table ***.2

Diploma

Age group	Year qualification completed				
	Before 2000 <i>M</i> *	2000 – 2004 <i>M</i> *	2005 – 2009 <i>M</i> *	2010 – 2014 <i>M</i> *	2015 – 2019 <i>M</i> *
Infants	3.88		3.0	2.86	2.81
Toddlers	3.75		3.5	3.0	3.06
Pre-schoolers	3.88		4.0	3.13	3.31
Foundation stage	2.25		2.0	2.25	2.69

* mean / 4

Table ***.3

Bachelors' Degree

Age group	Year qualification completed				
	Before 2000 <i>M</i> *	2000 – 2004 <i>M</i> *	2005 – 2009 <i>M</i> *	2010 – 2014 <i>M</i> *	2015 – 2019 <i>M</i> *
Infants	3.5	3.5		3.6	
Toddlers	3.5	4		3.6	
Pre-schoolers	3.75	4		3.6	
Foundation stage	3.25	3.5		3.0	

* mean / 4

Table ***.4
Masters' Degree

Age group	Year qualification completed				
	Before 2000 <i>M</i> *	2000 – 2004 <i>M</i> *	2005 – 2009 <i>M</i> *	2010 – 2014 <i>M</i> *	2015 – 2019 <i>M</i> *
Infants					2.33
Toddlers					2.83
Pre-schoolers					3.16
Foundation stage					2.83

* mean / 4

Appendix E: Total scores for coursework content and preparedness

Key to combination of qualifications code:

- | | | | | | | | | | |
|----|-------------------------|------------------------------------|--|-------------------------------------|--------------------|--------------------------|---------------------|--------------------------|--------------------|
| 1. | Certificate
III only | 2. Certificate
III +
Diploma | 3. Certificate
III +
Diploma +
Bachelor | 4. Certificate
III +
Bachelor | 5. Diploma
only | 6. Diploma +
Bachelor | 7. Bachelor
only | 8. Bachelor +
Masters | 9. Masters
only |
|----|-------------------------|------------------------------------|--|-------------------------------------|--------------------|--------------------------|---------------------|--------------------------|--------------------|

Educator code	Combination of qualifications		Bachelor		Masters	
	code	content	content	preparedness	content	preparedness
101	8	4	5	3	3	3.5
102	8	3.5	2.25	3	3	4
103	8	2.75	2.75	3	3	4
104	9			3	3	1.25
105	9			3	3	2
106	9			2.75	3	3

Educator code	Combination of qualifications code	Certificate III content /4	Certificate III preparedness /5	Diploma content /4	Diploma preparedness /5	Bachelor content /4	Bachelor preparedness /5
201	3	3.5	4.25	2.75	4	4	5
202	3	1.75	4	3.5	4	3.25	4.25
203	3	1.75	2.25	2.25	3	3	4
204	3	3	4	3	4	4	5
205	3	2.25	2.5	2	3	4	5
206	3	2	3	3	4	4	5
207	3	3.75	5	3.75	5	4	5
208	3	4	5	3	1	3	1
209	3	3.5	3	4	5	4	5
210	3	3	5	3.5	5	3.5	4.5
211	4	3.25	3.25			3	4
212	4	3	4			4	5
213	4	3.5	4.25			4	5
214	4	1.75	4			3.5	4
215	4	1.75	2.25			4	5
216	4	3	4			4	5
217	4	2.25	2.5			3	4
218	4	3.75	4.75			4	5

Appendix E cont.

Educator code	Combination of qualifications code	Certificate III content /4	Certificate III preparedness /5	Diploma content /4	Diploma preparedness /5	Bachelor content /4	Bachelor preparedness /5
219	4	2	3.25			4	5
220	6			4	5	3.75	4
221	6			4	5	4	5
222	6			3.75	4.5	2.75	4
223	6			3.75	3.75	3.25	3
224	6			3.25	4	4	5
225	6			3.5	4	4	5
226	6			3	5	4	5
227	6			3	3	2.5	3
228	6			4	5	4	5
229	6			4	5	4	5
230	6			3.75	3.75	3.25	3.75
231	6			2.5	3	3	3
232	6			3.75	5	4	5
233	6			3.25	4	3	4
234	7					2	5
235	7					3	3
236	7					2.5	2
237	7					4	5

Appendix E cont.

Educator code	Combination of qualifications code	Certificate III content /4	Certificate III preparedness /5	Diploma content /4	Diploma preparedness /5	Bachelor content /4	Bachelor preparedness /5
238	7					3.25	4.25
239	7					3	4
240	7					4	5
241	7					4	5
242	7					3.75	4.25
243	7					3.5	4.5
244	7					3.75	5
245	7					4	5
246	7					3.75	4.5
247	7					4	4.25
248	7					2.75	3.5
249	7					2	4
250	7					3.25	4
251	7					4	4
252	7					4	5
253	7					3.25	3
254	7					3	4
255	7					3.5	4
256	7					3.5	4.25

Appendix E cont.

Educator code	Combination of qualifications code	Certificate III		Certificate III		Diploma		Diploma		Bachelor	
		content	preparedness	content	preparedness	content	preparedness	content	preparedness	content	preparedness
		/4	/5	/4	/5	/4	/5	/4	/5	/4	/5
257	7							2	3		
301	2	3	5	3.25			5				
302	2	1.25	1.5	2			2				
303	2	3.75	3.5	4			4				
304	2	3	5	3			5				
305	2	4	4.5	4			5				
306	2	3	4	3			4				
307	2	1.75	3.5	1.75			4				
308	2	3	2.75	3			4				
309	2	4	3	4			3.5				
310	2	3	4	3			4				
311	2	4	5	3.5			4.75				
312	2	2	2	2.5			3.25				
313	2	2	3	3.75			1.75				
314	5			3.75			5				
315	5			3.75			4.5				
316	5			3			4.5				
317	5			3.75			5				
318	5			4			4.25				

Appendix E cont.

Educator code	Combination of qualifications		Certificate III		Certificate III		Diploma		Diploma		Bachelor			
	code		content	/4	preparedness	/5	content	/4	preparedness	/5	content	/4	preparedness	/5
319	5						2.25		3.75					
320	5						3.25		3.5					
321	5						2		3.25					
322	5						3.75		3.75					
323	5						2		4					
324	5						2.75		3.25					
325	5						1.75		4					
326	5						4		5					
327	5						3		2.5					
328	5						3		4					
329	5						3		4					
330	5						3.75		5					
331	5						4		4.25					
401	1			3.5		4								
402	1			3		3								
403	1			3.75		5								
404	1			3.5		4								
405	1			2		4								
406	1			3		3.25								

Appendix E cont.

Educator code	Combination of qualifications code	Certificate III		Certificate III		Diploma		Diploma		Bachelor	
		content	code	preparedness	content	preparedness	content	preparedness	content	preparedness	content
407	1		3	5							
408	1		3	4							
409	1		2.75	3.75							
410	1		2.75	4.25							
411	1		3.75	5							
412	1		3.25	3							
413	1		4	5							
414	1		3	3							
415	1		3.25	5							
416	1		2.25	3.25							
417	1		2	3							
418	1		1.5	2							
419	1		2.5	4.25							
420	1		3.75	4.75							
421	1		3.75	4							
422	1		3.5	4.75							
423	1		2	2.5							
424	1		4	5							
425	1		2.75	3							

Appendix E cont.

Educator code	Combination of qualifications		Certificate III		Certificate III		Diploma		Diploma		Bachelor	
	code		content	/4	preparedness	/5	content	/4	preparedness	/5	content	preparedness
426	1		4		3.25							
427	1		4		5							
428	1		3.75		5							

Appendix F: Educator practices: Routine times themes and codes

Themes	Description of theme	Code (extracted from responses)	No. of mentions	Total for theme
Songs and rhymes	The use of songs, rhymes, chants, or song-like games	Songs	40	61
		Rhymes/chants	13	
		Handwashing songs	3	
		Use transitional songs	3	
Role model language	Any practice where the educator is using verbal language	Play games	2	60
		Describe what is happening	12	
		Discussion about lunch	10	
		Labelling (body parts/items)	6	
		Model language	5	
		Provide simple instructions	5	
		Talk about pictures in area	4	
		Describe what child is doing	3	
		Counting	3	
		Talk about colours	3	
		Use clear language	2	
		Extend on vocabulary	2	
		Announce transitions	2	
		Use full sentences when talking	1	
		Talk about items of interest	1	
		Sit with children at lunchtime	1	
Talk	Talking in general	Conversations (single word)	15	38
		Talk (single word)	9	
		Interact (single word)	6	
		Talk during nappy change	4	
		Communicate (single word)	1	
		Use simple 2-3-word sentences	1	
		Use easy words	1	
		Talk slow to children	1	
Responsiveness	Any practice where the educator intentionally responds to an individual child	Mimic babble	4	38
		Allow time for response	3	
		Give choices	3	
		Provide one-on-one time	2	
		Acknowledge non-verbal	2	
		Use child's home language	2	
		Listen	2	
		Respond to individual needs	1	

		Encourage/praise child for		
		Trying out new sounds	1	
		Respond to babble	1	
		Use key words	1	
		Scaffold	1	
		Interest-based talk	1	24
Encourage language	Any practice that intentionally encourages a child to use or attempt to use language	Ask questions (type not specified)	10	
		Encourage repetition of words	6	
		Ask open-ended questions	3	
		Encourage manners	1	
		Assist with attempted pronunciation	1	21
Body language	Educators' use of body language (Note: does not include responding to child's body language)	Use body language	6	
		Use eye contact	2	
		Be on children's' level	2	
		Use non-verbal communication	1	11
Books and stories	Use of books or storytelling	Tell stories	4	
		Group times - songs & books	4	
		Tell/read stories at mealtime	2	10

Appendix G: Routine time practices: Total codes by qualification level

Sub-group	Certificate III <i>n</i> = 16		Diploma <i>n</i> = 21		Bachelor <i>n</i> = 33		Masters <i>n</i> = 3		Total <i>n</i> = 73	
Code	n	%	n	%	n	%	n	%	n	%
Songs	9	56.25	12	57.14	18	54.55	1	16.67	40	54.79
Conversations (single word)	2	12.50	3	14.29	10	30.30	0	0.00	15	20.55
Rhymes/chants	1	6.25	4	19.05	6	18.18	2	33.33	13	17.81
Describe what is happening	2	12.50	2	9.52	7	21.21	1	16.67	12	16.44
Ask questions (type not specified)	3	18.75	4	19.05	3	9.09	1	16.67	11	15.07
Discussion about lunch	2	12.50	1	4.76	7	21.21	0	0.00	10	13.70
Talk (single word)	1	6.25	2	9.52	6	18.18	0	0.00	9	12.33
Labelling (body parts/items)	0	0.00	3	14.29	3	9.09	0	0.00	6	8.22
Encourage repetition of words	1	6.25	2	9.52	3	9.09	0	0.00	6	8.22
Use body language	1	6.25	4	19.05	1	3.03	0	0.00	6	8.22
Interact (single word)	1	6.25	1	4.76	4	12.12	0	0.00	6	8.22
Model language	0	0.00	1	4.76	4	12.12	0	0.00	5	6.85
Provide simple instructions	0	0.00	2	9.52	3	9.09	0	0.00	5	6.85
Mimic babble	0	0.00	0	0.00	3	9.09	1	16.67	4	5.48
Tell stories	0	0.00	1	4.76	3	9.09	0	0.00	4	5.48
Talk about pictures in area	0	0.00	0	0.00	3	9.09	1	16.67	4	5.48
Group times - songs & books	2	12.50	1	4.76	1	3.03	0	0.00	4	5.48
Talk during nappy change	1	6.25	0	0.00	3	9.09	0	0.00	4	5.48
Describe what child is doing	0	0.00	1	4.76	1	3.03	1	16.67	3	4.11
Allow time for response	0	0.00	1	4.76	1	3.03	1	16.67	3	4.11
Play music	1	6.25	1	4.76	1	3.03	0	0.00	3	4.11
Handwashing songs	2	12.50	1	4.76	0	0.00	0	0.00	3	4.11
Give choices	0	0.00	3	14.29	0	0.00	0	0.00	3	4.11
Counting	2	12.50	0	0.00	1	3.03	0	0.00	3	4.11
Talk about colours	0	0.00	0	0.00	2	6.06	1	16.67	3	4.11
Ask open-ended questions	0	0.00	1	4.76	2	6.06	0	0.00	3	4.11
Use transitional songs	1	6.25	2	9.52	0	0.00	0	0.00	3	4.11
Provide one-on-one time	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Use clear language	0	0.00	0	0.00	2	6.06	0	0.00	2	2.74
Extend on vocabulary	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Acknowledge non-verbal	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Use child's home language	0	0.00	1	4.76	0	0.00	1	16.67	2	2.74

Listen	0	0.00	0	0.00	2	6.06	0	0.00	2	2.74
Tell/read stories at mealtime	1	6.25	1	4.76	0	0.00	0	0.00	2	2.74
Announce transitions	1	6.25	1	4.76	0	0.00	0	0.00	2	2.74
Use eye contact	2	12.50	0	0.00	0	0.00	0	0.00	2	2.74
Be on children's level	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Play games	1	6.25	1	4.76	0	0.00	0	0.00	2	2.74
Respond to individual needs	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Encourage/praise child for trying out new sounds	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Encourage manners	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Respond to babble	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Assist with attempted pronunciation	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Use full sentences when talking	0	0.00	0	0.00	0	0.00	1	16.67	1	1.37
Use simple 2-3-word sentences	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Use easy words	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Talk slow to children	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Use key words	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Scaffold	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Talk about items of interest	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Sit with children at lunchtime	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Interest-based talk	1	6.25	0	0.00	0	0.00	0	0.00	1	1.37
Use non-verbal communication	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Communicate (single word)	1	6.25	0	0.00	0	0.00	0	0.00	1	1.37

Appendix H: Educator practices: Play themes and codes

Themes	Description of theme	Code (extracted from responses)	No. of mentions	Total for theme
Role model language	Any practice where the educator explicitly uses verbal language with the children	Model language	14	46
		Describe what child is doing	7	
		Use descriptive language	7	
		Labelling	6	
		Describe what is happening	3	
		Describe what child hears	3	
		Describe what child sees	3	
		Identify shape, colour, number		
Encourage language	Any practice that intentionally encourages a child to use or attempt to use language	Questioning (single word)	10	41
		Open-ended questions	10	
		Encourage words	10	
		Extend vocabulary	5	
		Encourage peer interactions	3	
		Encourage conversations	2	
Responsiveness	Any practice where the educator intentionally responds to an individual child	Behaviour guidance	1	28
		Repeat children's words	8	
		Listen	3	
		Mimic babble/cooing	3	
		Praise/encourage attempts	3	
		Respond consistently	3	
		Respond to all cues	2	
		Respond to body language	2	
		Interest-based	1	
		One-on-one experiences	1	
		Use key words	1	
		Mouthing games	1	

Songs and rhymes	The use of songs, rhymes, chants, or song-like games.	Songs	17	17
Talk	Practices involving talking with few or no explanatory details	Interact (single word)	12	
		Constant talk	1	
		Use 2-3-word sentences	2	15
Books and stories	The use of books or storytelling	Read (single word)	11	
		Use felt stories	2	13
Engagement in play	Reference to engaging in children's play	Scaffold/extend play	8	
		Engage in children's' play	3	
		Small group play	1	
		experiences	1	13
		Play games		
Body language	Educators' use of body language	Use body language	5	
	(Note: does not include responding to child's body language)	Use eye contact	1	6
Resources and experiences	Specific reference to resources used or experiences provided	Resources provided	3	
		Provide variety of texts	1	
		Use flashcards	1	5
Environment	Specific reference to environmental considerations	Environment	1	
		Monitor noise levels	1	2

Appendix I: Play practices: Total codes by qualification level

Sub-group	Certificate III <i>n</i> = 15		Diploma <i>n</i> = 20		Bachelor <i>n</i> = 33		Masters <i>n</i> = 3		Total <i>n</i> = 71	
Code	n	%	n	%	n	%	n	%	n	%
Songs	6	37.5	5	23.81	6	18.18	2	33.33	19	26.03
Interact (single word)	0	0.00	4	19.05	8	24.24	2	33.33	14	19.18
Model language	1	6.25	5	23.81	8	24.24	0	0.00	14	19.18
Read (single word)	3	18.75	1	4.76	7	21.21	1	16.67	12	16.44
Questioning (single word)	3	18.75	3	14.29	4	12.12	0	0.00	10	13.70
Open-ended questions	1	6.25	2	9.52	7	21.21	0	0.00	10	13.70
Encourage words	2	12.50	2	9.52	6	18.18	0	0.00	10	13.70
Describe what child is doing	2	12.50	3	14.29	2	6.06	1	16.67	8	10.96
Repeat children's words	0	0.00	5	23.81	3	9.09	0	0.00	8	10.96
Scaffold/extend play	2	12.50	2	9.52	4	12.12	0	0.00	8	10.96
Use descriptive language	1	6.25	3	14.29	3	9.09	0	0.00	7	9.59
Labelling	0	0.00	4	19.05	2	6.06	0	0.00	6	8.22
Extend vocabulary	1	6.25	1	4.76	3	9.09	0	0.00	5	6.85
Use body language	1	6.25	1	4.76	3	9.09	0	0.00	5	6.85
Describe what is happening	0	0.00	0	0.00	3	9.09	1	16.67	4	5.48
Listen	1	6.25	1	4.76	1	3.03	0	0.00	3	4.11
Describe what child hears	0	0.00	2	9.52	1	3.03	0	0.00	3	4.11
Resource provided	0	0.00	1	4.76	2	6.06	0	0.00	3	4.11
Mimic babble / cooing	0	0.00	1	4.76	2	6.06	0	0.00	3	4.11
Describe what child sees	0	0.00	2	9.52	1	3.03	0	0.00	3	4.11
Praise/encourage attempts	2	12.50	1	4.76	0	0.00	0	0.00	3	4.11
Identify shape, colour, number	2	12.50	1	4.76	0	0.00	0	0.00	3	4.11
Respond consistently	0	0.00	2	9.52	1	3.03	0	0.00	3	4.11
Engage in children's play	0	0.00	0	0.00	3	9.09	0	0.00	3	4.11
Encourage peer interactions	0	0.00	1	4.76	2	6.06	0	0.00	3	4.11
Use 2-3-word sentences	0	0.00	2	9.52	0	0.00	0	0.00	2	2.74
Respond to all cues	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Respond to body language	0	0.00	1	4.76	1	3.03	0	0.00	2	2.74
Use felt stories	2	12.50	0	0.00	0	0.00	0	0.00	2	2.74
Encourage conversations	0	0.00	0	0.00	2	6.06	0	0.00	2	2.74
Constant talk	1	6.25	0	0.00	0	0.00	0	0.00	1	1.37
Environment	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Monitor noise levels	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Allow time to respond	0	0.00	0	0.00	0	0.00	1	16.67	1	1.37
Interest-based	1	6.25	0	0.00	0	0.00	0	0.00	1	1.37
Small group experiences	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37

One-on-one experiences	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Use key words	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Use eye contact	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Provide variety of texts	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Use flashcards	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Play games	0	0.00	1	4.76	0	0.00	0	0.00	1	1.37
Mouthing games	0	0.00	0	0.00	1	3.03	0	0.00	1	1.37
Behaviour guidance	1	6.25	0	0.00	0	0.00	0	0.00	1	1.37

Appendix J: Educator practices: Use of books themes and codes

Themes	Description of theme	Code (extracted from responses)	No. of mentions	Total for theme
Reading	Reference to reading, frequency of reading, or number of children read to.	One-on-one reading	9	51
		Small groups	12	
		Groups	11	
		Reading (single word or few words)	13	
		Read throughout the day	6	
Book reading practices	Any practice that demonstrates consideration of language-supporting strategies during reading	Labelling pictures/illustrations	10	43
		Use animated voice when reading	6	
		Questions after reading	5	
		Children choose books to read	4	
		Use books with puppets	4	
		Use props (unspecified)	3	
		Provide/read interest-based books	3	
		Use books with felt board	2	
		Point to words as reading	2	
		Allow children to turn pages	2	
		Children attend group time by choice	1	
		Read in other languages	1	
Types of books	Reference to the type of books or media provided	Appropriate books provided	8	19
		Variety of media provided	4	
		CD / audio books provided	3	
		Interactive books provided	2	
		Sensory books provided	2	
Environment and book access	Specific reference to access to books and consideration of an environment conducive to book use	Books available all day	12	16
		Books available outside	3	
		Provide comfortable reading environment	1	
Reading for specific purpose	Books used for a specific purpose or at a specific time	Support alphabet & numerals	2	4
		Use books for settling	1	
		Use books for rest time	1	

Encourage reading	Specific reference to practices that encourage reading	Encourage book exploration	3	4
		Encourage book borrowing	1	

Appendix K: Books practices: Total codes by qualification level

Sub-group	Certificate III <i>n</i> = 15		Diploma <i>n</i> = 20		Bachelor <i>n</i> = 33		Masters <i>n</i> = 3		Total <i>n</i> = 71	
Code	n	%	n	%	n	%	n	%	n	%
Reading (single word)	4	25.00	5	23.81	4	12.12	0.00	0.00	13	17.81
Read to small groups	1	6.25	4	19.05	7	21.21	0.00	0.00	12	16.44
Books available all day	3	18.75	4	19.05	5	15.15	0.00	0.00	12	16.44
Reading to groups	3	18.75	3	14.29	5	15.15	0.00	0.00	11	15.07
Labelling pictures/illustrations	0	0.00	4	19.05	6	18.18	1.00	16.67	11	15.07
One-on-one reading	3	18.75	3	14.29	3	9.09	0.00	0.00	9	12.33
Appropriate books provided	0	0.00	5	23.81	3	9.09	1.00	16.67	9	12.33
Read throughout the day	2	12.50	0	0.00	4	12.12	1.00	16.67	7	9.59
Use animated voice when reading	3	18.75	1	4.76	2	6.06	0.00	0.00	6	8.22
Questions after reading	1	6.25	1	4.76	3	9.09	0.00	0.00	5	6.85
Children choose books to read	1	6.25	2	9.52	1	3.03	0.00	0.00	4	5.48
Variety of media provided	0	0.00	1	4.76	3	9.09	0.00	0.00	4	5.48
Use books with puppets	0	0.00	0	0.00	4	12.12	0.00	0.00	4	5.48
Books available outside	0	0.00	1	4.76	2	6.06	0.00	0.00	3	4.11
CD / audio books provided	0	0.00	1	4.76	2	6.06	0.00	0.00	3	4.11
Encourage book exploration	3	18.75	0	0.00	0	0.00	0.00	0.00	3	4.11
Provide/read interest-based books	1	6.25	1	4.76	1	3.03	0.00	0.00	3	4.11
Use props (unspecified)	2	12.50	1	4.76	0	0.00	0.00	0.00	3	4.11
Interactive books provided	1	6.25	0	0.00	1	3.03	0.00	0.00	2	2.74
Sensory books provided	1	6.25	1	4.76	0	0.00	0.00	0.00	2	2.74
Allow children to turn pages	0	0.00	0	0.00	2	6.06	0.00	0.00	2	2.74
Use books for rest time	0	0.00	1	4.76	0	0.00	1.00	16.67	2	2.74
Use books with felt board	0	0.00	1	4.76	1	3.03	0.00	0.00	2	2.74
Point to words as reading	0	0.00	1	4.76	1	3.03	0.00	0.00	2	2.74
Support alphabet & numerals	1	6.25	0	0.00	1	3.03	0.00	0.00	2	2.74
Group time by choice	0	0.00	1	4.76	0	0.00	0.00	0.00	1	1.37
Encourage book borrowing	1	6.25	0	0.00	0	0.00	0.00	0.00	1	1.37

Use books for settling	0	0.00	1	4.76	0	0.00	0.00	0.00	1	1.37
Books to teach message	0	0.00	0	0.00	0	0.00	1.00	16.67	1	1.37
Books to explore feelings	0	0.00	0	0.00	0	0.00	1.00	16.67	1	1.37
Read in other languages	0	0.00	1	4.76	0	0.00	0.00	0.00	1	1.37
Provide comfortable reading environment	0	0.00	0	0.00	1	3.03	0.00	0.00	1	1.37

Appendix L: Other practices: Themes and codes

Themes	Description of theme	Code (extracted from responses)	No. of mentions	Total for theme
Experiences	Reference to providing specific experiences used to promote language-learning	Experiences	5	14
		Project	4	
		Flashcards	2	
		Show and tell	2	
		Video	1	
Literacy	Practices articulating a focus on literacy awareness and learning	Symbols and signs	7	10
		Displays	2	
		Provide pencils	1	
Behaviour guidance	Specific reference to language used to manage behaviour	Asking child to use language instead of crying	1	2
		Asking child to use language instead of pointing	1	
Miscellaneous	Other reported practices engaged in to support language-learning	Sign language	3	5
		Children playing with older children	1	
		Staff training	1	

Appendix M: Other practices: Total codes by qualification level

Sub-group	Certificate III <i>n</i> = 5		Diploma <i>n</i> = 7		Bachelor <i>n</i> = 12		Total <i>n</i> = 24	
Code	n	%	n	%	n	%	n	%
Experiences	2	40.00	2	28.57	1	8.33	5	20.83
Project	1	20.00	2	28.57	1	8.33	4	16.67
Symbols and signs	1	20.00	0	0.00	3	25.00	4	16.67
Sign language	0	0.00	1	14.29	2	16.67	3	12.50
Flashcards	0	0.00	1	14.29	1	8.33	2	8.33
Show and tell	0	0.00	1	14.29	1	8.33	2	8.33
Displays	0	0.00	0	0.00	2	16.67	2	8.33
Video	0	0.00	0	0.00	1	8.33	1	4.17
Provide pencils	0	0.00	0	0.00	1	8.33	1	4.17
Asking child to use language instead of crying	0	0.00	1	14.29	0	0.00	1	4.17
Asking child to use language instead of pointing	0	0.00	1	14.29	0	0.00	1	4.17
Children playing with older children	0	0.00	0	0.00	1	8.33	1	4.17
Staff training	0	0.00	0	0.00	1	8.33	1	4.17

Appendix N: Factors outside training that have supported educators: Themes and codes

Themes	Description of theme	Code (extracted from responses)	No. of mentions	Total for theme
Personal professional development	Activities undertaken voluntarily to remain informed and support ongoing knowledge and practices	Own research	7	19
		Reading articles	6	
		Personal reflection	3	
		Subscription-based reading	2	
		Online ideas	1	
Commercial professional development	Specific EC professional development training provided by a third party (fee to attend)	Inservice courses	7	15
		Professional development	4	
		Webinars	3	
		Conferences	1	
Learning from others	Learning from mentors, colleagues, or other EC-related people	Mentoring	8	13
		EC social media groups	2	
		Networking with other professionals	2	
		Learning from work placement (WP) students	1	
EC experience	Educators specifically stating experience in ECEC services	EC experience	8	8
Non-EC experience	Experiences or training not specific to language-learning for infants and toddlers.	Non-EC specific training	5	7
		Life experience	2	
Parenthood	Any reference to being a parent/mother, or having children	Parenthood	6	6

Appendix O: Factors outside training: Total codes by qualification level

Sub-group	Certificate III <i>n</i> = 8		Diploma <i>n</i> = 14		Bachelor <i>n</i> = 14		Total <i>n</i> = 36	
Code	n	%	n	%	n	%	n	%
Mentoring	1	12.50	3	21.43	4	28.57	8	22.22
EC experience	4	50.00	1	7.14	3	21.43	8	22.22
Inservice courses	0	0.00	2	14.29	5	35.71	7	19.44
Own research	1	12.50	2	14.29	4	28.57	7	19.44
Reading articles	1	12.50	2	14.29	3	21.43	6	16.67
Parenthood	2	25.00	4	28.57	0	0.00	6	16.67
Non-EC specific training	1	12.50	2	14.29	2	14.29	5	13.89
Professional development	0	0.00	4	28.57	0	0.00	4	11.11
Personal reflection	0	0.00	1	7.14	2	14.29	3	8.33
Webinars	0	0.00	0	0.00	3	21.43	3	8.33
EC social media groups	2	25.00	0	0.00	0	0.00	2	5.56
Networking with other professionals	0	0.00	0	0.00	2	14.29	2	5.56
Subscription-based reading	0	0.00	1	7.14	1	7.14	2	5.56
Life experience	0	0.00	2	14.29	0	0.00	2	5.56
Online ideas	0	0.00	1	7.14	0	0.00	1	2.78
Conferences	0	0.00	0	0.00	1	7.14	1	2.78
Learning from work placement (WP) students	0	0.00	0	0.00	1	7.14	1	2.78