Australian Journal of Teacher Education

Volume 46 | Issue 2 Article 3

2021

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Recommended Citation

Weadman, T., Serry, T., & Snow, P. C. (2021). Australian Early Childhood Teachers' Training in Language and Literacy: A Nation-Wide Review of Pre-Service Course Content. *Australian Journal of Teacher Education, 46*(2).
http://dx.doi.org/10.14221/ajte.2021v46n2.3

Australian Early Childhood Teachers' Training in Language and Literacy: A Nation-Wide Review of Pre-Service Course Content

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Abstract: Early childhood teachers are well-positioned to maximise preschoolers' development in oral language and emergent literacy; both of which are vital predictors of academic success at school. Research investigating their pre-service training in language and emergent literacy remains limited. This issue is addressed in the present study, with the first nation-wide review of the oral language and emergent literacy course content across all 84 Australian early childhood teacher pre-service courses. Qualitative Content Analysis was employed to gain an overview of language and emergent literacy teaching content reported in publicly available course documents. Study findings demonstrated large variation in the oral language and emergent literacy course content reported. The results showed that course content on the structure of language and code-related skills including phonological awareness and concepts of print, do not feature prominently across pre-service course documents. Further, course content on evidence-based strategies to foster children's oral language and emergent literacy development, such as dialogic book reading, and intentional adult-child interactions were also limited. Findings are discussed with respect to their implications for preparing early childhood teachers to support the oral language and emergent literacy growth of preschoolers.

Introduction

Preschool Oral Language and Emergent Literacy

The oral language competencies and emergent literacy skills of preschool children are strongly linked to their reading and spelling attainment once formal literacy instruction commences on school entry (Morgan et al., 2015; Storch & Whitehurst, 2002). Children whose oral language and emergent literacy skills are on-track when they begin school are well-positioned to make a strong start when learning to read and often remain academically ahead of their peers over time (Cabell et al., 2013; Catts et al., 2008; Dickinson & Porche, 2011).

Oral language skills include both speaking; the expressive form of language, and listening, the receptive form, which includes interpretation of language (Fellowes & Oakley, 2020; Smith et al., 2015). Children begin acquiring language at birth, across the domains of phonology (sound patterns for a language), morphology (word structure and parts), syntax (grammar rules for a language), semantics (word meanings), and pragmatics (use of language across different contexts) (Fellowes & Oakley, 2020; Honig, 2007). Language acquisition is a 'primary' developmental skill and acquiring strong oral language skills in the preschool years

lays important foundations for comprehending and producing written language (Geary, 2008; Snow, 2020). Children who have fallen behind in meeting expected language milestones by school entry are far more likely to struggle when learning to read and with increasingly complex reading comprehension across the school years (Catts et al., 2008, 2017; Snowling et al., 2016). These students often have weaknesses in receptive vocabulary, grammatical understanding, and comprehension of spoken discourse (Catts, 2006). Low socioeconomic status (SES) is a risk factor for literacy difficulties, and significant differences exist in the language abilities of Australian children commencing school as a function of parental SES (Hay & Fielding-Barnsley, 2009). Accelerating the oral language skills of students experiencing disadvantage once they enter preschool and school is therefore of particular importance (Snow, 2020).

Emergent literacy refers to a defined body of pre-reading knowledge and skills that are developmental precursors to reading and writing for preschool children (Storch & Whitehurst, 2002). Code-related emergent literacy skills include print concepts (knowledge about how books work), alphabet knowledge, and phonological awareness (Storch & Whitehurst, 2002). Together, these skills support children to acquire a foundational understanding of the alphabetic principle (Cabell et al., 2011). Alphabet knowledge, phonological awareness, and name writing skills in preschool have a predictive relationship with later literacy development, whilst print knowledge and concepts about print are moderately correlated with at least one measure of later literacy skills (National Early Literacy Panel, 2008). The quality of the home language and literacy environment is pivotal, as preschool children acquire much of their oral language competencies via naturally occurring interactions and experiences in the family home (Hart et al., 2009; Puglisi et al., 2017). Preschoolers with difficulties in one or more code-based or oral language skills have an increased risk for reading difficulties and measures of both skills are important in identifying these children (Murphy et al., 2016). Accordingly, effective oral language and text experiences in preschool settings have potential to impact children's developmental trajectories throughout their school years (Dickinson & Porche, 2011; Dodge et al., 2016; McLeod et al., 2019).

Requirements in Preschool Settings

High-quality preschool programs have been shown to positively influence children's oral language competencies and emergent literacy skills, both in Australia (Tayler et al., 2016; Warren & Haisken-DeNew, 2013) and internationally (Magnuson et al., 2007; Meloy et al., 2019; Wong et al., 2008). Children from socially disadvantaged backgrounds may gain particular benefit from a rich oral and written language environment in preschool settings as this can assist in bridging the socio-economic gap (Ribeiro et al., 2017). The Australian Government has committed to providing universal access (fully subsidised) for all four-year-old children to attend a preschool program for 15 hours per week in the year before formal school entry (Australian Government Department of Education and Training, 2019). Manning et al. (2017) identified a statistically significant positive relationship between teachers' qualifications and the quality of preschool environments.

Although there are varying types of qualifications required to work in preschool settings, in Australia, it is a requirement that at least one qualified early childhood teacher (ECT) is employed in every preschool setting (ACECQA, 2020b). ECTs represent the most qualified of all professionals working in the early childhood education sector and have a minimum of a Bachelor degree specific to early childhood education. This applies to ECTs with a higher education degree from a university or institute including: Bachelor degree (with

or without Honours), a Master's degree, and a post-graduate Graduate Diploma or Graduate Certificate. Less qualified early childhood education staff are those who have completed a Diploma or Certificate III in Early Childhood Education and Care through the vocational education sector rather than the university sector. They are employed in preschool settings to work alongside an ECT as a preschool assistant.

All ECT qualification types are recognised by the Australian Qualifications Framework (AQF, 2019), which oversees education and training levels in Australia. Every course must also be accredited through the Australian Children's Education and Care Quality Authority (ACECQA, 2017), which is the national authority certifying ECTs to register to work in preschool settings. ACECQA assesses university course teaching content across six main areas as part of their accreditation process. "Language development" is listed under the area of "Child development and care" and "Language and literacy" is referenced under "Education and curriculum studies" as part of the curriculum requirements for ECT courses (ACECQA, 2020a). A key role of ACECQA is to guide application of the National Quality Framework (NQF), which regulates quality standards in preschool settings (Australian Government Department of Education and Training, 2017). The guidelines and standards set in Australian ECT pre-service training and preschool programs under the NQF demonstrate a clear focus on providing quality services in preschool settings. A key component of the NQF is their document: *Belonging, Being and Becoming: The Early Years Learning Framework (EYLF).* The *EYLF* guides decision-making and pedagogy for ECTs to provide high-quality learning experiences for children across all curriculum areas relating to learning and development (ACECQA, 2017). Five key learning outcomes are described in the *EYLF* that ECTs should be seeking to achieve in preschool settings. The importance of oral language and emergent literacy is embedded in the *EYLF* in the '*Children are effective communicators'* learning outcome (Australian Government Department of Education Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 41). Multiple examples of activities are provided for ECTs to use to promote learning across this and the other four outcomes. Examples of how ECTs can foster language and emergent literacy development include activities that address: phonological awareness, alphabet knowledge and letter-sound correspondences. The use of storytelling and reading to children is also highlighted, as well as emphasising the role of asking questions and facilitating discussions around book reading (Australian Government Department of Education Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 44-46).

Early Childhood Teachers' Role in Promoting Oral Language and Emergent Literacy Skills

ECTs' content knowledge about language and literacy structures, along with their ability to implement evidence-based practices, are two important areas that assist in promoting children's oral language and emergent literacy outcomes. Implementation of evidence-based practices is essential to maximise this growth, and support children at-risk of low language and literacy resulting from social disadvantage.

Reading stories to children is often routine practice in preschool settings. There is widespread recognition that ECTs can support children's oral language and code-related emergent literacy growth when engaging them in shared book reading activities that encourage children's participation in book-related talk and increase awareness of print (Mol et al., 2009; Zucker et al., 2013). The print knowledge skills, including alphabet knowledge and print concept knowledge of typically developing children and children with language difficulties can be enhanced when ECTs make explicit reference to print form and function (Justice et al., 2009, 2017).

Dialogic book reading has been defined as an interactive shared book reading approach that promotes the child taking a more active role as storyteller, and the adult as listener (Towson et al., 2017; Whitehurst et al., 1988). This is an effective method for supporting vocabulary growth and oral language skills (Opel et al., 2009). Dialogic book reading includes the adult using specific prompts (such as asking open-ended questions or WH-questions) to encourage the child to be more actively involved in the book reading (Deshmukh et al., 2019) and increase the amount of talk to optimise language development (Towson et al., 2017). Instructional and responsive adult-child interactions also play a key role in supporting language growth (Cabell et al., 2015; Girolametto & Weitzman, 2002; Wasik et al., 2006). In preschool settings, ECTs should have regular, meaningful, and linguistically rich verbal exchanges with the children as a mechanism for stimulating oral language development (Cabell et al., 2015). The quantity and quality of these interactions between an adult and child is a recognised key predictor of quality in preschool settings (Pianta et al., 2005).

ECTs' language and literacy practices in the classroom are influenced by their knowledge of these domains (Schachter, 2017). Content knowledge, or disciplinary knowledge includes ECTs' knowledge of language and literacy structure (Piasta et al., 2020a) and is important for providing optimal instruction in preschool settings (Cunningham et al., 2009; Moats, 2014). An ECTs' content knowledge is a stronger influence on instruction and children's outcomes than beliefs and years of teaching experience (Cash et al., 2015; Schachter et al., 2016). Recent research has also demonstrated that ECTs' knowledge about children's language and literacy growth is strongly correlated with their classroom practices (Piasta et al., 2020a, 2020b). Preschoolers display enhanced emergent literacy learning when taught by ECTs with higher content knowledge (Piasta et al., 2020a). However, evidence suggests that ECTs' knowledge in these domains is low (Hammond, 2015; Meeks & Kemp, 2017). Carson and Bayetto (2018) found a large discrepancy between Australian ECTs' self-reported phonological awareness knowledge and their actual skills when measured objectively with just over three-quarters of ECTs rating their knowledge as *adequate* to *high*, despite the fact that the mean score on a test of phonological awareness was 49%. The pre-service training ECTs receive in language and literacy is an important consideration for developing this content knowledge, to positively influence their practices and support preschoolers' language and literacy learning.

Early Childhood Teachers' Pre-Service Preparation

ECTs require knowledge and skills to optimise preschool children's learning across many areas, including oral language and emergent literacy. It follows then, that they should enter the workforce well-equipped to facilitate this learning, in the context of receiving the required foundational knowledge in their pre-service training. Research evaluating preparation of pre-service training within Australia in the area of literacy has typically focused on initial teacher training for school-aged students (Buckingham & Meeks, 2019; Louden et al., 2005). Buckingham and Meeks (2019) reviewed subject (unit) outlines and summaries to determine the focus on literacy and early reading in initial teacher programs in Australia for school-age students. A subset of combined teacher degrees (primary school and early childhood teacher courses) was included in the review. Findings demonstrated only a small percentage of subject outlines specifically focused on early reading instruction or included reference to evidence-based reading instruction. To date, less has been reported about pre-service ECTs' preparedness to teach children's language skills. The results from a recent study (Weadman et al., 2020) reported Australian ECT graduates do not feel their pre-

service training adequately prepared them in the area of preschool oral language development and would like more training in identifying children with language difficulties.

Quality pre-service training plays a pivotal role in ensuring ECTs receive sufficient content knowledge to support skill growth for preschoolers during the critical period before school-entry. There is, however, a paucity of evidence describing the teaching content included in ECT pre-service training, with a notable gap on the documentation of language and emergent literacy teaching. Much of the existing literature focuses on the type of early childhood qualification, rather than the scope of teaching content in ECT pre-service programs (Lin & Magnuson, 2018; Whitebook et al., 2012). Therefore, there is a need for further research evaluating pre-service programs and what is taught to ensure ECTs are well-prepared to support language and literacy learning.

International research has identified only general coverage of language and/or emergent literacy in pre-service ECT courses, with no specification of the topics or teaching content included in this initial preparation (Early & Winton, 2001; Johnson et al., 2010; Maxwell et al., 2006; Saracho, 2013; Whitebook et al., 2005). Similarly, in Australia, research reviewing ECTs' pre-service teaching content has focused on infant and toddler development more broadly, with limited attention directed specifically towards language and emergent literacy coverage (Garvis et al., 2013; Garvis & Manning, 2015). Garvis and colleagues (2013) conducted a content analysis of 55 Australian undergraduate ECT courses. They included course outlines and program descriptions available online to investigate the theory and practical experiences about infants and toddlers included in ECT programs. In a separate study, Garvis and Manning (2015) focused their content analysis of online documents on coverage of infants and toddlers in ECT Masters programs. They identified a greater focus was placed on teaching pre-service ECTs theoretical and practical experiences about children in the year prior to schooling than on infants and toddlers. Currently, there has been limited research examining the specific teaching content included within ECT pre-service training with a language and literacy focus.

The Current Study

Understanding the training that pre-service ECTs receive in the areas of oral language and emergent literacy is important given the link with children's later literacy and academic success. Supporting the oral language and literacy outcomes of disadvantaged children in preschool settings is particularly critical, and therefore, understanding ways in which these skills can be maximised by ECTs is vital. In addition, examining the initial training received by pre-service ECTs may assist in understanding the focus of teaching content currently included in courses. Exploring this pre-service teaching content may support further understanding of current ECTs' content knowledge and oral language and emergent literacy practices.

The aim of this study was to evaluate the publicly available descriptions of what is taught in Australian ECT courses regarding preschool language and emergent literacy and to provide an overview of the described teaching content in subject (unit) outlines. The purpose of this research is to provide an exploratory, initial investigation into understanding what is currently referenced in university pre-service subject outlines regarding oral language and emergent literacy teaching content.

Method

Data Collection

A nation-wide review of the coverage of accredited Australian ECT training courses was undertaken in 2018 using publicly available online documents. Information was sourced from 42 universities and institutions for information relating to the subjects (sometimes referred to as units). A total of 84 early childhood teacher courses were included in the review. A list of accredited, approved ECT qualification courses in Australia was found on the ACECQA (2018) website. Only ACECQA approved courses that qualify pre-service teachers as ECTs were included in this review. To ensure recency, courses were excluded if they had been discontinued and did not accept new enrolments for students in 2018. Each university and institution website was searched to confirm the ECT course was available for new enrolments in 2018. A follow-up phone call to each university and institution was made to corroborate this. The selection process for courses included in this review is shown in Figure 1.

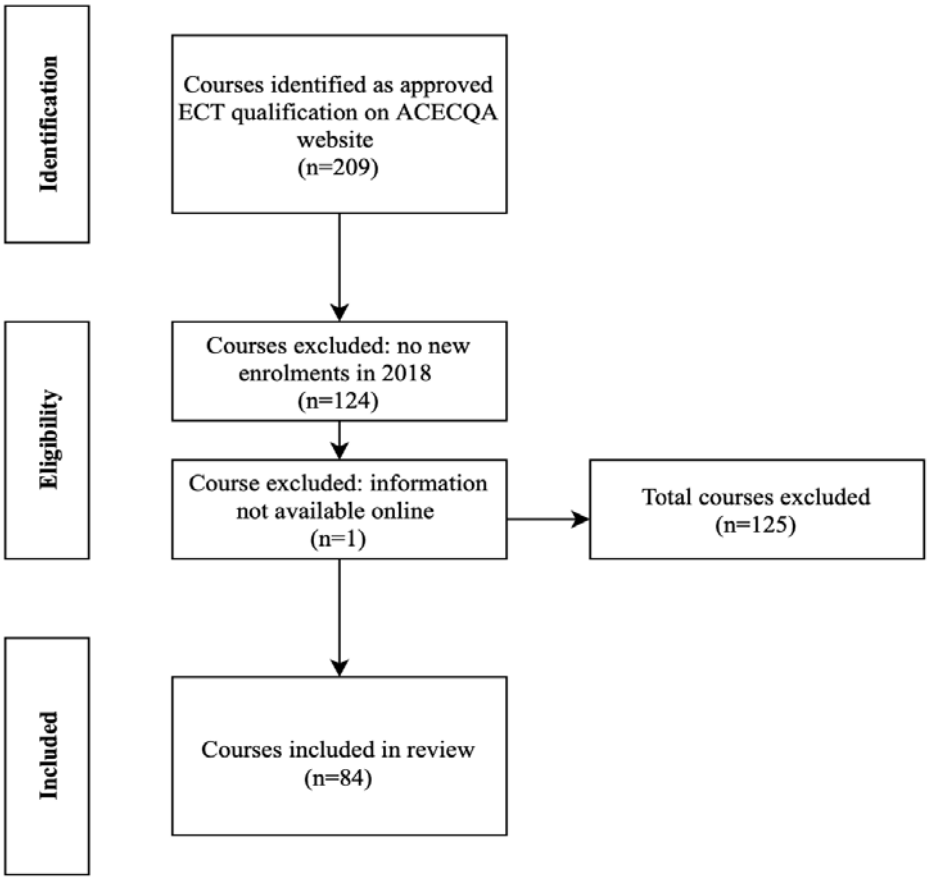

Figure 1: The eligibility selection process for courses

All early childhood teacher degree types were included in the review in order to provide an authentic overview of courses nationally. Table 1 displays the types of early childhood teacher courses included.

Course Type	Total Number of Courses
Bachelor Degree in Early Childhood Teaching	33
Bachelor Degree in Early Childhood Teaching and Primary Teaching	13
Master Degree in Early Childhood Education	13
Graduate Diploma in Early Childhood Education	9
Masters Degree in Early Childhood and Primary Education	7
Graduate Certificate in Early Childhood Education	5
Bachelor Degree in Early Childhood Teaching and Additional Bachelor Degree	2
Bachelor Degree in Early Childhood Teaching and Primary Teaching and additional Bachelor Degree (unrelated area)	2

Note: Course types are listed in order of frequency

Table 1: Course types included in the review

Each university or institution website contains online information about their ECT course and the subjects they include. An overview of each subject is accessible online. The amount and type of information about each subject differs between each university but may include: subject descriptions, information about the topics included in each subject, student learning outcomes or objectives and expected outcomes or professional skills for students. All subjects from every course were reviewed for information regarding the language and emergent literacy teaching content for preschool children (i.e., before formal school entry). Information was extracted for each subject, in each course using a data extraction tool developed for this study and saved as separate documents. The data extraction tool included the details about the subject such as the description, objectives and learning outcomes. All 84 documents were then uploaded to NVivo 12 for Mac (QSR International, 2019) for coding.

Data Analysis

Qualitative Content Analysis (QCA) (Schreier, 2012) was employed to organise and analyse the data derived from the review of the described course documents. QCA is a systematic method used to draw meaning from qualitative data (Schreier, 2012) and a common method for analysis of documents (Elo & Kyngäs, 2008). An inductive approach was undertaken to allow categories and subcategories to be generated from the data. Inductive analysis incorporates open coding and creation of categories, followed by abstraction (Elo & Kyngäs, 2008).

Two coding frames were created by the first author for the data extraction: one for language course teaching content and the other for emergent literacy course content. Both coding frames included the categories and subcategories that specifically pertain to language or emergent literacy development prior to school entry such as: intervention practices, development or assessment. All extracted data were first placed into a parent node in NVivo to categorise into "language" or "emergent literacy" content. After multiple readings of the data, preliminary categories were generated by grouping similar content together in nodes in NVivo. During a final reading, subcategories were created to further refine the data. They were placed in a node hierarchy with categories listed as parent nodes and subcategories as child nodes. All categories and subcategories were modified or collapsed to ensure they were mutually exclusive in all subsequent analyses of the data (Schreier, 2012). Analysis continued until the coding was completed, with all data assigned to at least one category or subcategory. The co-authors assisted with categorisation and placement of data. Any divergent opinions during categorisation were discussed as part of an audit trail (Elo et al., 2014). The coding frames, including descriptions and examples are shown in the appendices. The frequency count and percentages for the total number of courses included in the analysis

(n=84) is provided in Table 2 and Table 3 for categories and subcategories. Some text segments received double coding if the phrase or sentence could be coded for both language and emergent literacy content. This occurred when the terms language and literacy were included in the same text segment. For example, the text segment *"assessment of language and literacy"* was coded for '3: Language evaluation and/or assessment' (language coding frame) and '3: Literacy evaluation and/or assessment' (emergent literacy coding frame) to avoid any loss of speaker intention with respect to learning outcomes. Therefore, this decision-rule was created for the entire dataset and applied as necessary (Schreier, 2012). Text segments that were included in the frequency count for a subcategory were also included in the frequency count for the main category that it comes under. For example, the frequency count for *Subcategory 2.1 – Early childhood curriculum documents,* were included in the frequency count under *Main Category 2 – Language curriculum*.

Reliability Analysis

Intra-coder and inter-coder reliability were conducted for the reliability analysis. Trial coding was completed prior to the actual data analysis to determine how reliable the coding frame was between the first author and an independent coder (an experienced paediatric speech-language pathologist). Using Schreier's (2012) guidelines, the independent coder was first familiarised with the research, data collection and the coding frame before analysing a randomly selected 10% of data as practice coding. Discrepancies in coding between the first author and the independent coder were subsequently discussed and issues resolved. Minor alterations were made to the coding frame, resulting in the first author applying the updated coding frame to the remaining dataset.

Intra-coder and inter-coder reliability were established using Cohen's kappa (1960). Cohen's kappa measures agreement between coders and takes chance agreement into account (MacPhail et al., 2015). The first author recoded 20% of data within 14 days of the trial coding (Schreier, 2012). A Cohen's kappa of 0.88 was achieved, indicating an interpretation of almost perfect agreement according to Landis and Koch (1977). Additional consistency testing was completed with the independent coder to minimise subjective bias, as per guidelines by Burla et al. (2008). A further 20% of randomly selected data was coded, yielding a Cohen's kappa of 0.77 and substantial agreement (Landis & Koch, 1977). To facilitate trustworthiness, the study methods and results have been described in detail. The use of category descriptions and examples demonstrate transparency and allow links to be drawn between the collected documents and results (Elo & Kyngäs, 2008).

Results

Subject descriptions from 84 approved early childhood teacher degrees from throughout Australia were identified. Data were obtained from 216 subjects (units) across these 84 courses that made mention of preschool language and/or literacy. The information included in these outlines differed between universities and only publicly available teaching content was included in this review. Differences in language and literacy foci across these subject outlines were noted between undergraduate and postgraduate degree types. Overall, a greater focus on language and literacy was documented in undergraduate courses, which are longer in duration of years, compared to postgraduate degrees. Undergraduate degree types were more likely to have what appeared to be one or more subjects dedicated to language and/or literacy. However, differences in the number of subjects that document language and

literacy teaching content were found when comparing undergraduate courses. For example, some universities had multiple subjects referring to language and/or literacy in their subject descriptions, while others documented fewer. The specific language and literacy content documented in these subject outlines is described in detail below.

Content on Oral Language

This search of subject outlines for preschool language content revealed differences in what is documented across universities. Table 2 displays the coding frame developed for preschool language teaching content comprising 10 main categories and 23 subcategories. The qualitative content analysis of subject documents showed that "Language acquisition" (n=70), "Practices to support children's language growth" (n=63), and "Supporting language diversity" (n=45) were the most frequently mentioned categories. Under the main category of "Practices to support children's language growth", the most frequently mentioned subcategories were "Play-based learning" (n=14) and "Information and Communication Technology (ICT)" (n=13)."Dialogic book reading strategies" was reported least frequently (n=1). The main category with the lowest frequency count was "Components of language" (n=15) which includes subcategories such as "Syntax", "Vocabulary", and "Pragmatics".

Category/Subcategory	**# courses (n=84)**
1. Language acquisition	70
1.1 *Theories of language development and learning*	47
2. Language curriculum	35
2.1 Early childhood curriculum documents	22
3. Language evaluation and/or assessment	24
3.1 Providing feedback on language skills and learning	5
4. Components of language	15
4.1 Phonology	5
4.2 Morphology	3
4.3 Grammar/Syntax	6
4.4 Semantics/Vocabulary	5
4.5 Pragmatics	3
5. Practices to support children's language growth	63
5.1 Adult-child interactions	8
5.2 Creating and promoting a language rich environment	12
5.3 Reading to children	10
5.4 Scaffolding learning	3
5.5 Music, arts and drama	9
5.6 Information and Communication Technology (ICT)	13
5.7 Working with families	10
5.8 Play-based learning	14
5.9 Dialogic book reading strategies	1
6. Supporting language diversity	45
6.1 Children with differing language abilities	20
6.2 Children from CALD (Culturally and Linguistically Diverse) backgrounds	35
7. Relationship between language and literacy	16
8. Factors influencing language skills	31
8.1 Cultural factors	27
8.2 Home/Family factors	12
8.3 Community factors	5
8.4 Social factors	16
9. Planning, goal setting and documenting language experiences	17
10. Listening skills: Pedagogical practices to support the growth of listening skills	22

Note: Categories are written in regular font and subcategories are written in italics.

Table 2: Preschool language content - categories and subcategories

Some outlines provided considerable detail about specific topics included in a subject, whilst others made far more general reference. The frequency distribution for the 10 main categories is shown in Figure 2 and reveals variability in what was reported in subject outlines in ECT courses throughout Australia in the area of preschool language. The varied frequency demonstrated key areas relating to language were inconsistently referenced across course documents in Australian ECT courses. Of the ten main categories identified as covering teaching content related to oral language, courses appear to vary widely in their offerings. No single category was identified as being covered in every course document. Only three main categories were noted as being taught in more than 50% of the 84 course documents.

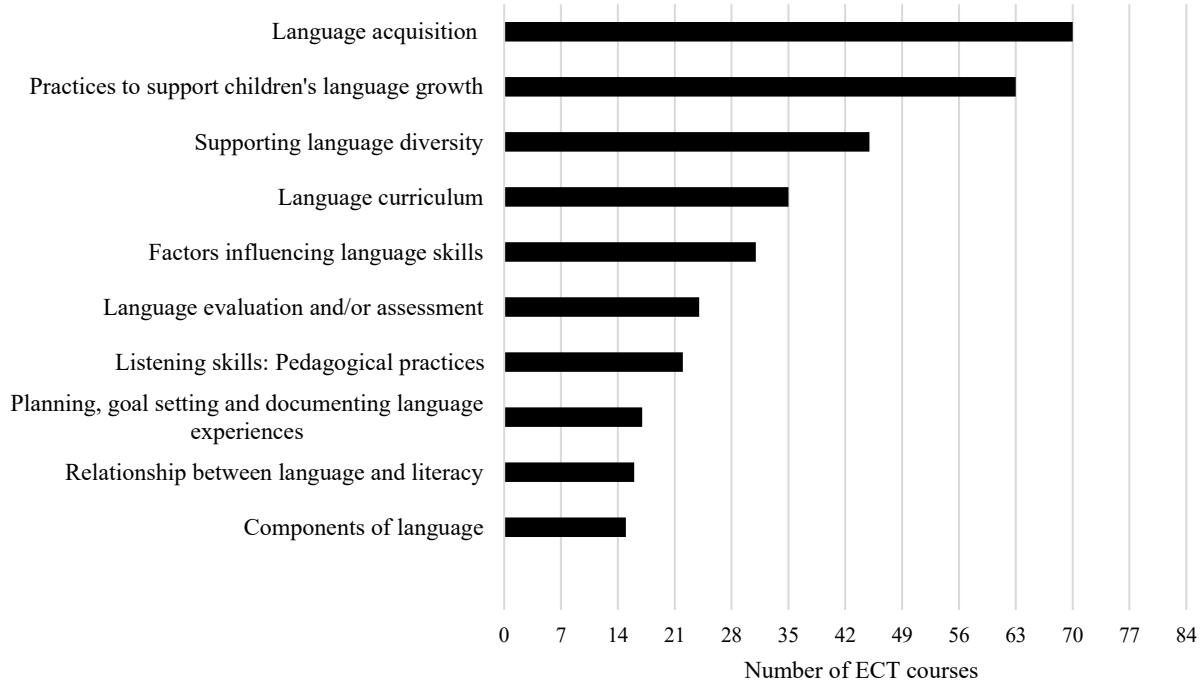

Figure 2: The frequency of language categories

Content on Emergent Literacy

The emergent literacy coding frame, containing 15 main categories and 20 subcategories is displayed in Table 3. Analysis of the main categories showed that "Pedagogy and practices to enhance literacy growth and learning" (n=69), "Emergent literacy development" (n=55) and "Literacy curriculum" (n=38) were most frequently mentioned. "Phonological awareness" (n=10) and "Concepts about print" (n=5) received the lowest frequency count for the main categories. Under the main category of "Pedagogy and practices to enhance literacy growth and learning", more frequently noted subcategories were "Information and Communication Technology (ICT) and digital resources" (n=19), "Play-based learning" (n=18), and "Books, reading and story-telling" (n=17).

Category/Subcategory	# courses (n=84)
1. Emergent literacy development	55
1.1 Theories of children's literacy development and learning	44
2. Literacy curriculum	38
2.1 Early childhood curriculum documents	25
3. Literacy evaluation and/or assessment	37
3.1 Providing feedback on literacy skills and learning	5
4. Phonological awareness	10
5. Concepts about print	5
5.1 Alphabet knowledge	*2*
6. Pedagogy and practices to enhance literacy growth and learning	69
6.1 Books, reading and story-telling	17
6.2 ICT and digital resources	19
6.3 Working with families and home literacy practices	13
6.4 Creating and promoting a literate-rich environment	15
6.5 Using arts and crafts	2
6.6 Music, expressive arts and drama	3
6.7 Play-based learning	18
7. Children's literature and stories	25
7.1 Critiquing children's literature	10
7.2 Using different genres and book types	17
7.3 Selecting appropriate literature	6
8. Reading skills: Development and/or teaching	37
9. Writing skills: Development and/or teaching	33
10. Visual literacy (viewing skills): Development and/or teaching	17
11. Supporting literacy diversity	37
11.1 Children with differing literacy abilities	21
11.2 Children from CALD (Culturally and Linguistically Diverse) backgrounds	26
12. Factors influencing literacy skills	31
12.1 Cultural factors	10
12.2 Social factors	21
12.3 Home/Family factors	11
12.4 Community factors	2
13. Literacy programs and resources for early childhood	12
14. Planning, goal setting and documenting literacy learning	33
15. Literacy research	18

Note: Categories are written in regular font and subcategories are written in italics.

Table 3: Emergent literacy content – categories and subcategories

The wide-ranging frequency distribution for emergent literacy is displayed in Figure 3 and similar to language teaching content shows there was considerable variability in the main categories identified in subject documents. Thirteen of the 15 main categories relating to emergent literacy teaching content, appeared in fewer than half of the individual ECT courses included in this review.

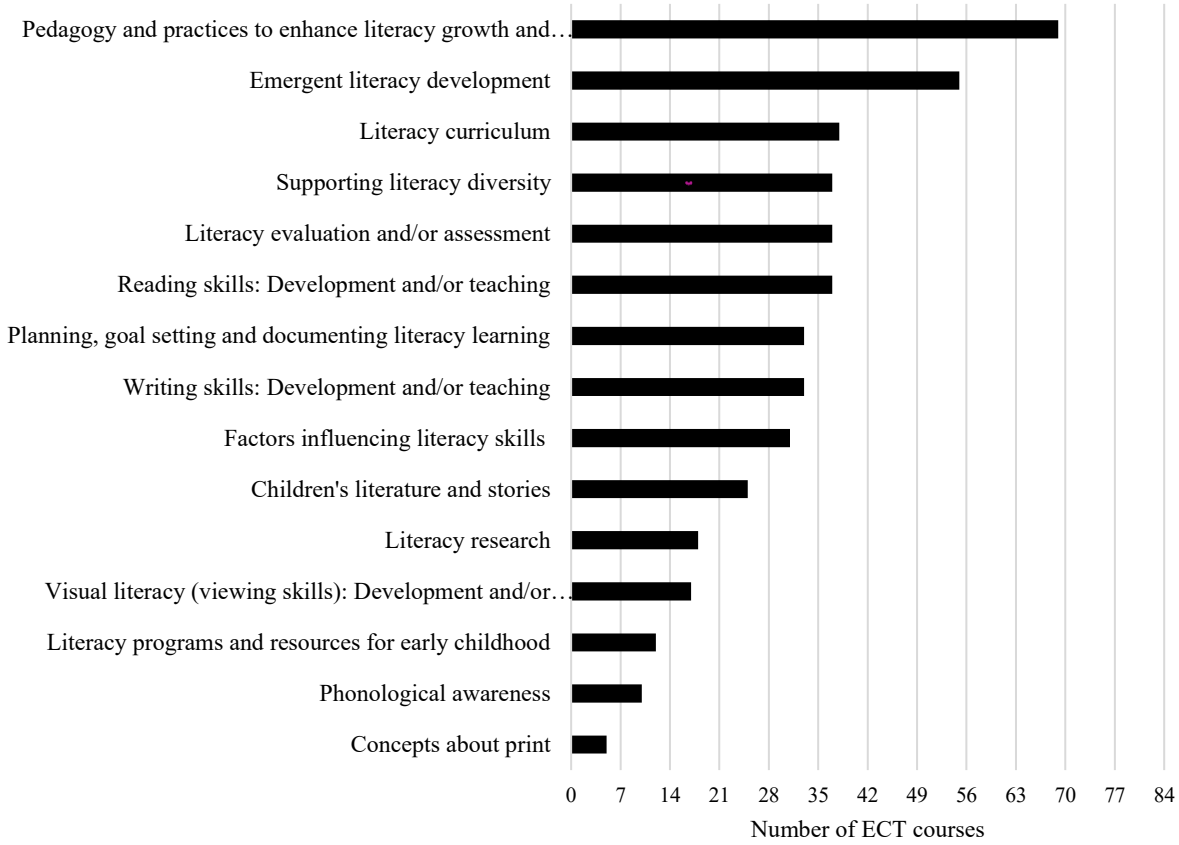

Figure 3: The frequency of emergent literacy categories

Discussion

We examined the teaching content about language and emergent literacy documented in publicly available online subject outlines in Australian ECT university courses. Overall, we found substantial variability in what appears to be taught to pre-service ECTs. Variability in course teaching content has been reported previously across Australian ECT courses with contrasting theoretical and practical experiences related to infants and toddlers identified (Garvis et al., 2013; Garvis & Manning, 2015). Inconsistency across courses has potential implications for ensuring all ECTs, regardless of their training institution, are well-equipped with the essential and specialised knowledge and skills required to enhance language and emergent literacy learning in the preschool years.

When examining finer details of course teaching content, our review suggested only a minimal emphasis on phonological awareness in pre-service course documents. This finding is consistent with international research that has demonstrated training in phonological awareness has often been via in-service professional development, rather than pre-service coursework (Vesay & Gischlar, 2013) and may to some extent explain the low levels of understanding of phonological awareness possessed by Australian ECTs (Carson & Bayetto, 2018; Hammond, 2016; Meeks & Kemp, 2017). This potential lack of focus on teaching pre-service ECTs about phonological awareness has implications for their readiness and their overall capacity to effectively engage children in phonological awareness activities that are strongly linked with later reading development (Hogan et al., 2005; Lonigan et al., 2000). The literature on improving ECTs' literacy knowledge and practices has typically focused on the impact of professional development and coaching (Markussen-Brown et al., 2017). Less

focus has been placed on evaluation or improvement of ECTs' pre-service training in literacy. Understanding this initial preparation is important as it may contribute to enhancing ECTs' content knowledge and ultimately support children's literacy outcomes. In the Australian context, ECTs are expected to be knowledgeable about phonological awareness, given the inclusion of the recommendation that ECTs "talk explicitly about concepts such as rhyme" within the *EYLF* (Australian Government Department of Education Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 44) used by ECTs to guide curriculum decision-making. If ECTs are not receiving sufficient training in phonological awareness, as our analysis suggests, this represents a missed opportunity for quality implementation of phonological awareness activities in Australian preschool programs.

Notably, other code-focused skills such as print concepts and alphabet knowledge did not appear to feature prominently in this review of ECT course documents. Both of these skills have been identified as predictors of later code-based literacy development (Alonzo et al., 2020; National Early Literacy Panel, 2008). The benefits of code-related skills are well-documented, and some explicit teaching of these skills is recommended (Terrell & Watson, 2018). Training ECTs to include more explicit and direct phonological awareness, alphabet knowledge and letter-sound knowledge instruction has shown promise in improving preschoolers' code-based emergent literacy skills (Carson et al., 2018; Kelly et al., 2019). However, explicit emergent literacy focused activities may be under-utilised in preschool settings (Callaghan & Madelaine, 2012) and research has demonstrated that ECTs' code-related beliefs do not always align with current evidence (Hindman & Wasik, 2008; Lynch & Owston, 2015). One possible explanation for these findings is that they reflect the limited focus on code-related skills in Australian pre-service university courses, consistent with the fact that there is an emphasis on play-based learning within the *EYLF* (Australian Government Department of Education Employment and Workplace Relations for the Council of Australian Governments, 2009).

The results of this review provide some insight into the documented teaching content of ECT subject outlines that have a language focus. Pedagogy and practices to enhance language learning were frequently reported in subject documents, but we could find only limited reference to teaching pre-service ECTs components of language. These findings suggest a greater focus may be placed on building ECTs' knowledge for practice (strategies and support for early language) (Piasta et al., 2020) than content knowledge in Australian ECT courses. This finding is important, given that it has been demonstrated that ECTs' with higher content knowledge of language structure can more effectively engage in oral language and vocabulary-focused instructional activities (Schachter et al., 2016). Therefore, it is important that ECTs receive adequate training in foundational language knowledge, as well as training in evidence-based language practices to optimise children's language development. Another important finding was the limited reference to adult-child interactions and dialogic book reading in pre-service course documents. Given the focus on children communicating effectively as one of its five outcomes in the *EYLF* (Australian Government Department of Education Employment and Workplace Relations for the Council of Australian Governments, 2009), it is important ECTs are prepared with evidence-based strategies to effectively facilitate language development. The quality of adult-child interactions is a large contributor to children's learning in preschool settings (Howes et al., 2008; Mashburn et al., 2008). A large longitudinal study in Australia indicated 87% of preschool services received a low-quality range score for the level of instructional support children were provided, indicating ECTs were not regularly providing language scaffolding and modelling, and engaging children in frequent conversations, with advanced vocabulary and language use (Tayler et al., 2016). Enhancing ECT pre-service training to provide high

quality, linguistically-rich interactions with children may help to increase this level of instructional support in preschool settings.

Implications

These study findings provide preliminary insights into the language and literacy teaching content documented in ECT pre-service courses in Australian universities. Taken with previous research examining ECTs' knowledge and practices, we recommend future research that extends these findings by using data beyond publicly available materials. Potential gaps in ECT pre-service courses and their preparation in oral language and emergent literacy have implications for the knowledge base acquired during this initial training. Further, there may be discrepancies in the delivered content across different universities and institutions, as suggested by the variability in subject outlines. Shortfalls during pre-service training have consequences for ECTs' skillset when entering the workforce and the knowledge and practices they apply when supporting children in preschool settings. In-depth knowledge and a high level of skill are required to support children's developmental outcomes. This is particularly important for children with language difficulties and children whose home language and literacy environment does not provide a strong oral language foundation. These children require particular support to catch up to their typically developing peers (Snow, 2020). The results of the current study raise important questions about the nature and consistency of ECTs' preparation; however, further information is required to better understand this training and the impact it has on developing their ability to support preschoolers' oral language and emergent literacy skills.

Study Limitations and Directions for Future Research

Several limitations need to be taken into account when considering these findings. While our data extraction and analysis methods were rigorous, the level of detail included in the online course documents was variable. Many courses provided information about subject intended learning outcomes; however, others only included subject descriptions or listed topics. Since our coding was based only on what was available, it is possible that some courses were not comprehensively described online. Further, some universities made reference to more global or general teaching content, and therefore more specific teaching content that is included in these ECT courses may have been missed from this analysis. Conversely, the mention of a topic in a course document does not take quality or depth into consideration. These are two important factors required in future studies to more fully evaluate the breadth and depth of ECT preparation courses. Future research may evaluate subject plans that provide more detailed information about student readings, assignments, and workshop content, or appraisal of lecture content to gain a more accurate picture of what is included in ECT courses. In addition, these findings were not triangulated by contact with a leading representative or student from each ECT pre-service program. This would potentially enable the study findings to be corroborated and/or extended and is recommended for future research in this area.

Conclusion

Children enter preschool from diverse backgrounds, with variable language and emergent literacy skills. These skills play a pivotal role in setting children up for academic success in the early years of school and beyond. An ECT can play a key role in maximising developmental outcomes and reducing the variability of skill profiles in children entering school. In-depth knowledge about language growth and emergent literacy development is essential for ECTs and important for facilitating learning in the context of high-quality preschool programs. Our review of publicly available pre-service ECT course documents in the Australian context, supports and extends previous international research and suggests substantial variation in the teaching content of pre-service training and possible gaps regarding preschool language and emergent literacy. Although our findings require further verification, the implications for graduating ECTs to be able to provide high quality, targeted oral language and emergent literacy activities are of concern. Our findings indicate potential missed opportunities for ECTs to obtain adequate knowledge of key emergent literacy concepts and language structure required to implement high-quality practices in preschool settings. Further research is required to ensure alignment between evidence-based guidelines and preschool pre-service preparation to minimise threats to children's oral language and emergent literacy developmental trajectories.

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Acknowledgements

The authors gratefully acknowledge Clare Walton for assisting with inter-coder reliability in this study.

Appendix A
Language Coding Frame

Category/Subcategory	Description	Example
1. Language acquisition	Knowledge of how language develops in preschool children.	*Typical developmental progression in language.*
1.1 Theories of language development and learning	Theory to support understanding of children's language development and theory for supporting the development of children's language learning.	*Current theories of language development.*
2. Language curriculum	Preschool language curriculum, inclusive of practices to support language that relate to the curriculum.	*Demonstrate understanding of key curriculum principles.*
2.1 Early childhood curriculum documents	Early childhood curriculum framework documents, for example, 'The Early Years Learning Framework'.	*The VEYLDF Outcome 3: Children are Effective Communicators.*
3. Language evaluation and/or assessment	Assessment or evaluation of the language skills of preschool children.	*Assessment of young children's language … learning and development.*
3.1 Providing feedback on language skills and learning	Reporting and providing feedback on language assessment or learning.	*… provide timely and appropriate feedback about their learning in a range of contexts.*
4. Components of language	Knowledge of the structure or different components that encompass language.	*An in-depth study of the structure of language.*
4.1 Phonology	A specific focus on phonology.	*Components of language: phonology.*
4.2 Morphology	A specific focus on morphology.	*Components of language: … morphology.*
4.3 Grammar/Syntax	A specific focus on grammar or syntax.	*Components of language: … grammar.*
4.4 Semantics/Vocabulary	A specific focus on semantics or vocabulary.	*Components of spoken language … semantics.*
4.5 Pragmatics	A specific focus on pragmatics.	*Components of language: … pragmatics.*
5. Practices to support children's language growth	Practices or strategies to support the language development of preschool children.	*Suitable experiences and strategies for enhancing children's language …growth.*
5.1 Adult-child interactions	Employing adult-child interactions to develop the language development of preschool children.	*… the importance of adult interaction in supporting infant communication and language development.*

5.2 Creating and promoting a language rich environment	Promoting a language-rich environment to facilitate language development.	*Strategies that support the provision of a language rich environment.*
5.3 Reading to children	Using children's literature or books to facilitate children's language development.	*Articulate how storytelling and picture books support language acquisition.*
5.4 Scaffolding learning	Applying scaffolding strategies to support language development.	*Employ teaching and appropriate scaffolding skills that assist the development of children's oral language.*
5.5 Music, arts and drama	Use of music, drama or expressive arts to promote language growth in preschool children.	*… music across the day and as a support for children to develop language.*
5.6 Information and Communication Technology (ICT)	Use of ICT or digital resources to develop children's language skills.	*Digital technologies as a tool to support language and literacy learning.*
5.7 Working with families	Working with families to support the language development of preschool children.	*Working with families to support language development.*
5.8 Play-based learning	Implementation of play-based learning to target language skills.	*Language through play-based pedagogies.*
5.9 Dialogic book reading strategies	Dialogic reading strategies to promote language skills.	*Dialogic approaches.*
6. Supporting language diversity	Supporting the language learning and development of preschool children from diverse linguistic and cultural backgrounds.	*Teaching and assessing language … and communication learning experiences for diverse learners.*
6.1 Children with differing language abilities	Supporting preschool children with a diverse range of language skills, including children with a language delay or children with advanced language skills.	*Addressing children's atypical language development.*
6.2 Children from CALD (Culturally and Linguistically Diverse) backgrounds	Supporting children from different cultural backgrounds, or children with English as a second language.	*… support the learning and development of children's acquisition that English as a second or additional language in early childhood.*
7. Relationship between language and literacy	Knowledge of the inter-connected relationship between children's oral language and literacy learning.	*Interrelationship between literacy and language development.*
8. Factors influencing language skills	Understanding the relationship between language in different contexts and settings, and the impact of varying factors on language skills.	*Interdependent relationship between context, meaning and grammar, incorporating the notion of context as culture, discourse and situation.*

8.1 Cultural factors	Understanding the influence of cultural factors on language skills.	*Understanding of the relationship between language/s and culture.*
8.2 Home/Family factors	Understanding the influence of home/family factors on language skills.	*Family … influence on language development and use.*
8.3 Community factors	Understanding the influence of community factors on language skills.	*Influence of … community contexts on children's acquisition of language.*
8.4 Social factors	Understanding the influence of social factors on language skills.	*Impact of … sociocultural and language contexts on learning Standard English.*
9. Planning and documenting language experiences	Planning for children's language learning and setting goals specific to targeting language development, and documenting these language experiences.	*Plan, document … language and literacy promoting experiences based on children's interests.*
10. Preschool listening skills: Development and teaching	Understanding of how listening skills development in preschool children, as well as pedagogical practices to support listening skills.	*Strategies for teaching and learning of … listening.*

Note: Categories are written in regular font and subcategories are written in italics.

Table 4: Language coding frame

Appendix B

Emergent Literacy Coding Frame

Category/Subcategory	Description	Example
1. Emergent literacy development	Knowledge of how literacy develops in preschool children.	*Knowledge and understanding of … literacy development.*
1.1 Theories of children's literacy development and learning	Theory to support understanding of the literacy develops in preschool children.	*Theory of children's literacy development.*
2. Literacy curriculum	Preschool literacy curriculum, inclusive of practices to support literacy that relate to the curriculum.	*… key curriculum principles and strategies relating to … literacy for young children.*
2.1 Early childhood curriculum documents	Early childhood curriculum framework documents, for example, 'The Early Years Learning Framework'.	*Early Learning Framework*
3. Literacy evaluation and/or assessment	Assessment or evaluation of the literacy skills of preschool children.	*Assessing practices for literacy teaching and learning.*
3.1 Providing feedback on literacy skills and learning	Reporting and providing feedback on literacy assessment or learning	*Assessment related feedback.*
4. Phonological awareness	Knowledge of phonological awareness more broadly, but also inclusive of phonological knowledge and phonemic awareness.	*Learn about key foundational skills including phonological awareness.*
5. Concepts about print	Understanding of print concepts.	*Topics covered include… concepts about print.*
5.1 Alphabet knowledge	Knowledge of the alphabet.	*Knowledge of the alphabet*
6. Pedagogy and practices to enhance literacy growth and learning	Practices or strategies to support the literacy development of preschool children.	*Pedagogical practices that support children's literacy learning.*
6.1 Books, reading and story-telling	Use of books, reading and story-telling to promote literacy development.	*Children's literature and how it can be used to develop and enhance literacy competency.*
6.2 Information and Communication Technology (ICT) and digital resources	Using ICT and digital resources to develop children's literacy learning	*Strategies to enable ICT to expand literacy teaching.*
6.3 Working with families and home literacy practices	Working with families or developing the home-learning environment to support literacy development.	*Strategies for working with families to support children's … literacy learning.*

6.4 Creating and promoting a literate-rich environment	Promoting a literate-rich environment to facilitate language development.	*Create literacy-rich settings.*
6.5 Using arts and crafts	Using arts and crafts to develop literacy skills.	*Stages of young children's drawing and make links with literacy development.*
6.6 Music, expressive arts and drama	Use of music, drama or expressive arts to promote literacy growth in preschool children.	*Music, rhythm, beat and movement will be incorporated as tools of creativity which enhance the development of … literacy.*
6.7 Play-based learning	Implementation of play-based learning to target literacy skills.	*Implement a play-based … literacy program.*
7. Children's literature and stories	Knowledge of children's literature, books and stories.	*Develop and deepen preservice teachers' knowledge of children's literature.*
7.1 Critiquing children's literature	Understanding how to evaluate children's literature for quality.	*Read and critique a wide range of children's literature, consider what constructs quality children's literature.*
7.2 Using different genres and book types	Knowledge of different genres and types of children's literature (e.g. picture books, traditional tales), as well as different types of text (digital, multimodal).	*Develop knowledge of the diversity of genres in children's literature.*
7.3 Selecting appropriate literature	Developing knowledge and understanding to select appropriate children's literature.	*Criteria for selecting literature for children from birth.*
8. Reading skills: Development and/or teaching	Understanding of preschool reading processes and pedagogy.	*Teaching of reading and how children learn to read.*
9. Writing skills: Development and/or teaching	Understanding of preschool writing processes and pedagogy.	*Teaching … writing in the prior to school setting.*
10. Visual literacy (viewing skills): Development and/or teaching	Understanding of preschool viewing (visual literacy) and pedagogy.	*Strategies for teaching and learning of … viewing in the early years.*
11. Supporting literacy diversity	Supporting the literacy learning and development of preschool children from diverse backgrounds, and with varied literacy skills.	*Pedagogical responses to meeting diverse literacy needs of students.*
11.1 Children with differing literacy abilities	Supporting children with a diverse range of literacy skills.	*Lessons that meet diverse literacy learning needs.*

11.2 Children from CALD (Culturally and Linguistically Diverse) backgrounds	Supporting children from culturally and linguistically diverse backgrounds.	*Cater for the language and literacy development of children from multicultural … diverse cultural and linguistic backgrounds.*
12. Factors influencing literacy skills	Understanding the relationship between literacy in different contexts and settings, and the impact of varying factors on literacy skills.	*Relationship between … contexts in developing authentic learning and literacy experiences.*
12.1 Cultural factors	Understanding the influence of cultural factors on literacy skills.	*Impact of cultural and linguistic background on students and their literacy learning.*
12.2 Social factors	Understanding the influence of social factors on literacy skills.	*Social … factors that influence literacy learning.*
12.3 Home/Family factors	Understanding the influence of home/family factors on literacy skills.	*Relationship between home literacy practices and early literacy learning.*
12.4 Community factors	Understanding the influence of community factors on literacy skills.	*Multifaceted, diverse worlds of children's literacy learning spanning … communities.*
13. Literacy programs and resources for early childhood	Knowledge and analysis of programs and resources for early childhood settings, specific to literacy.	*Evaluate teaching programs to improve learning … determine the effectiveness of strategies and resources.*
14. Planning, goal setting and documenting literacy learning	Planning for children's literacy learning and setting goals specific to targeting literacy development, and documenting these literacy experiences.	*Plan meaningful … literacy experiences.*
15. Literacy research	Research in the field of literacy, specific to preschool literacy research.	*Research on the literacy experiences.*

Note: Categories are written in regular font and subcategories are written in italics.

Table 5: Emergent literacy coding frame